

# Re-inventing Forestry Agencies

Experiences of institutional restructuring in Asia and the Pacific



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## **Re-inventing forestry agencies**

Experiences of institutional restructuring in Asia and the Pacific

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## FOREWORD

The roles of forests in Asia and the Pacific are changing their focus from wood production towards an orientation encompassing much broader social, environmental, economic, and cultural dimensions. In parallel with changes in the forest landscape, forestry stakeholders have also changed significantly whilst their range of interests has expanded and diversified. Forestry stakeholders are now recognized to include impoverished, forest-dependent locals, sophisticated global carbon market investors, and a vast array of parties and individuals in between.

Society's burgeoning expectations for forests and the associated need to engage and involve these "new foresters" places enormous new demands on traditional forestry institutions. In the Asia-Pacific region, state agencies with long legacies and rich histories continue to dominate the sector. However, many suffer severe criticism for failing to meet expectations in delivering the services demanded of them by modern society. If these agencies are to remain relevant, there is an urgent need for most to re-invent themselves into more flexible, responsive, and dynamic entities.

To effectively respond to changing needs, forest agencies must ask themselves: What are the objectives of re-invention? How can others' experiences be used? Is re-invention through a gradual, evolutionary approach preferable to "big bang" reform? Can fundamental and superfluous institutional changes be distinguished? Can hijacking of "re-invention" by vested interests be avoided? These and many other questions appear essential for re-invention to have a significant chance of success and much effort is also required in retaining momentum once the process is underway.

This publication is a compilation of nine case studies of forestry re-inventing processes in countries and institutions around the Asia-Pacific region. Analysis reveals some clear factors determining the effectiveness (or ineffectiveness) of forestry institutions, and outlines commonalities and differences in the trajectories followed by different countries in responding to calls for change. The analysis further identifies major trends related to forest management including the devolution of powers and responsibilities to a range of actors and recognition of the multiple functions of forests and the conflicts that may arise between these functions. A trend towards separation of regulatory and strategic roles from implementation functions — and corresponding restructuring of agencies and redirection of funds — is clearly evidenced.

This publication is intended to offer insights into the approaches and rationales that have supported restructuring and re-invention of forestry agencies. Through comparative analysis, the publication offers recommendations on national forestry institutional structures, functions, and strategies that appropriately respond to the rapidly changing environment surrounding forests and forestry.

He Changchui

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## OVERVIEW: RE-INVENTING FORESTRY INSTITUTIONS

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Rapid changes in economies, environmental conditions and social structures require that institutions are often called upon to transform themselves to meet new priorities and shifting demands. The forestry sector is increasingly swayed by the tides of change in national and regional affairs that accompany globalization. On the one hand, increasing wealth, lower poverty rates and greater access to information have, together with demands for social equity, stimulated moves to promote more participatory and devolved forms of governance. At the same time, however, dramatic deterioration in the extent and quality of forest resources in the region has led to criticism and questioning of the roles, objectives and institutional cultures of many traditional state forestry agencies. In addition, processes of economic, social and technological transformation have created political imperatives to enforce major changes in activities, responsibilities and the *modus operandi* of most forestry agencies in the Asia-Pacific region.

Generally, perceived weaknesses and failures of forestry institutions have meant that institutional re-inventions have been imposed on forestry agencies in the form of major restructurings, rather than allowing forestry agencies to evolve responses to change in more “organic” fashion. However, for several agencies – for example the USDA Forest Service – evolutionary approaches are a key feature of on-going re-invention. Important institutional weaknesses documented in *Re-inventing forestry agencies* include such factors as:

- failures of forest management systems to adequately protect forest resources;
- shortfalls and breakdowns in the provision of forest-related services;
- inability to deliver results with requisite economic efficiency;
- failures to adequately safeguard livelihoods of forest-dependent poor; and
- sluggishness in reacting robustly to new demands and ensuring representation of key stake holders in decision-making.

The *Re-inventing forestry agencies* initiative was organized with the intention of unravelling some of the trends and approaches to institutional restructuring in forestry in the Asia-Pacific region. The case studies describe various forces acting upon the region’s forestry institutions and the trajectories followed by individual countries in adjusting and adapting. The publication elaborates recent experiences in China, India, Malaysia (Sarawak and FRIM), Nepal, New Zealand, the Philippines, United States of America and Viet Nam. The initiative identifies key themes and forces at play in forestry and analyzes how countries have restructured their forestry institutions to respond to a fast changing landscape with rapidly evolving demands.

Worldwide economic, social and political integration, or “globalization,” is one of the defining characteristics of the twentieth and now the twenty-first century. Never before have so many states operated according to such similar sets of rules. The emergence of the World Trade Organization and regional trade blocks such as the European Union are phenomena that are re-defining state interactions and modes of governance. For countries where central planning and non-market-based economic systems have prevailed, especially in Asia, this has involved major re-orientation. The impacts on governments, how they are structured and operate, and the fundamental roles that they play have been – and currently are being – rewritten.

Forestry institutions have not been immune to the impacts of global trends in governance. These include: effects of globalization and economic liberalization; the privatization of government functions; increased importance of trade; multi-disciplinary and multi-stakeholder approaches; all combining with a need to remain relevant in an increasingly competitive environment. In light of globalization and increasing inter-connectedness of countries – through closer economic ties and increased information flows – there is consistency and universality in many of the trends taking place. There are strong similarities between, for example, experiences in New Zealand and Sarawak, and between Nepal, Philippines and Chhattisgarh. The more prominent themes resonate widely throughout the countries of Asia and the Pacific.

### **Privatization, corporatization and commercialization**

Privatization is a recurrent theme in discussions of forest management options, both globally and within Asia and the Pacific. However, it has been relatively rare that discussions have progressed to implementation. New Zealand was one of the pioneering countries in the world to embark upon large-scale privatization of its plantation forests. In the late-1980s, the New Zealand government decided that perceived conflicts between the multiple objectives pursued by the Forest Service were compromising organizational efficiency and resulting in economically suboptimal outcomes in forestry. A major restructuring of forest agencies was embarked upon. As a first step, the Forest Service was disbanded and new agencies were established to ensure production and commercial forestry functions would be kept separate from environmental and conservation forestry. Subsequently, between 1990 and 1996, the government sold more than 530 000 hectares of commercial forests to the private sector. The vast majority of New Zealand's government-owned planted forest resources have been privatized, with the majority now in the hands of overseas interests.

In Sarawak, Malaysia, the formation of the Sarawak Forestry Corporation provides valuable insights into the processes of corporatization, even while it remains too early to assess the outcomes. International criticism over high rates of deforestation in the rainforests of Sarawak led to a mission by the International Tropical Timber Organization (ITTO) to assess how the forest resources of Sarawak could best be managed. The findings of this mission recommended a significant increase in Forest Department staffing, a move that the Government was reluctant to undertake with obvious implications for finance and overall bureaucracy size. A model was eventually proposed that vested operational forest management functions within a new corporate entity, whilst responsibilities for regulations and policy remained in the Forest Department. An innovative arrangement that established the Sarawak Forestry Corporation Sdn. Bhd., a “government-owned, private company”, enabled the state government to “cut through red tape” and enhance efficiency. The Sarawak model offers a unique example of an innovative institutional restructuring that is taking place in the sector as a result of pressures to improve performance within strict financial constraints.

New Zealand and Sarawak encapsulate a trend towards greater commercialization in forestry, which is embodied in the re-invention of the Forest Research Institute of Malaysia (FRIM). The transformation of FRIM into a new, statutory body was driven by a vision and need for the institution to generate innovations, rather than merely conduct research. Institutional restructuring enabled FRIM a far greater degree of independence to identify new research directions, and to pursue research excellence on its own terms. One of the most important innovations was much greater scope to react to the research demands of Malaysian industry, and to commercialize research findings. The importance of this restructuring is reflected in the scale and success of the Malaysian rubberwood industry, which is – to a significant part – attributable to the re-invention of FRIM.

## **Devolution and participatory management**

Devolution is the transfer of powers from the central level to the regional or local levels and may involve transfer of powers to community groups or individuals. Devolution also re-allocates rights and responsibilities and re-distributes benefits and risks. The key argument for devolution, particularly as it relates to natural resources, is that it will lead to increased efficiency, equity and local-level inclusion by transferring decision-making powers towards those most directly affected. Devolution is regarded as an effective means of bringing about democratizing effects by empowering local people to control resources – and their own livelihoods.

The rising prominence of public participation in forest management has occurred for a number of reasons, including: opportunities for improved outcomes through local people's inclusion; reaction against centralization and the isolation of decision-makers; the rise of advocacy movements supporting indigenous people, the rural poor and better environmental management; higher levels of education among the general public; and the growing influence of global trends. Public participation in forestry occurs in numerous forms: Joint Forest Management in India, community forestry agreements throughout the region; and in the case of more developed countries such as the United States, strong civil society dialogue on the use and management of forests.

In the case of the Philippines, devolution of power and the spread of participatory approaches grew out of resistance from indigenous groups to developments perceived as threatening traditional livelihoods. Such resistance ultimately led to the passing of the Indigenous Peoples Rights Act (IPRA). With control over ancestral lands being a flashpoint issue, the Department of the Environment and Natural Resources responded by creating the Indigenous Communities and Ancestral Domain (ICAD) Division within its Special Concerns Office. The various legal mechanisms that ensued culminated in increased rights and recognition of indigenous peoples, particularly with regard to management and de facto ownership of forestlands – effectively validating traditional indigenous forest use practices. While acceptance of direct public participation was not a painless transition in the case of the Philippines, it did allow greater involvement of civil society in forest resource management.

In Nepal, rampant forest degradation – attributed to ineffective management on the part of the government – prompted the eventual transfer of forest management responsibilities to local communities. While solutions to forest degradation were initially focused on technical aspects and centrally implemented, it became clear that important strategic elements were absent. Poverty reduction and income generation for surrounding communities gradually came to be viewed as keys for halting forest loss. Decentralization of rights and responsibilities to Community Forest User Groups, supported by the premise of equitable benefit sharing, became the cornerstone of Nepal's forest policy.

Chhattisgarh is another case where very specific allowances were made for the involvement of local people. The new State's forest policy envisaged that participatory Joint Forest Management (JFM) would form the basis of forest management in Chhattisgarh. However, recognition of "gaps" within the JFM approach, led to the design of several innovative institutional arrangements to enhance local people's well-being and promote enhanced management of forest resources. Chhattisgarh developed new concepts of People's Protected Areas and Public-Private Partnerships, along with innovative pilot projects and new benefit-sharing arrangements. Chhattisgarh is a living example of the need to re-invent broad concepts to adapt to specific local circumstances.

## **Decentralization and rationalization**

Devolution processes can be implemented in different ways and to different extents. Decentralisation is one such restructuring process – usually considered a less comprehensive form of devolution – in which decision-making powers or administrative resources are moved from central government agencies to provincial or local government levels.

In Viet Nam, the process of forestry sector decentralization and re-invention was wrapped up with – and driven by – the sweeping national reforms of *Doi Moi*. With transition to a market economy, the Vietnamese government faced significant challenges as forest agencies had been designed and trained to carry out a highly centralized management approach. In addition, the forest resource base had deteriorated significantly in the post-war national rebuilding period. The chosen approach of the Vietnamese Government in addressing these challenges was to adopt a policy of decentralization. Forestry functions, previously under the jurisdiction of national-level agencies, were decentralized to people’s committees (equivalent to municipal government-level). The lower levels of administration (provincial and district level) became responsible for forest protection and development and were made upwardly accountable. Underpinning these processes of decentralization in Viet Nam was a keen desire, as well as a necessity, for decision-making to more accurately reflect on-the-ground realities.

In China, massive changes in forestry have occurred during the past 50 years. During the period of the Cultural Revolution, the sector was dominated by institutional paralysis and widespread exploitation of forests. The 1980s saw recognition of an urgent need for “re-greening” the country, while also coping with huge economic changes associated with development of market-based systems. Reform of forest tenure and devolution of forest management responsibilities to households and collectives was also a major aspect of change. More recently, the focus has been on environmental rehabilitation, with downsizing of state-owned forestry enterprises and the development of large-scale programmes encouraging rural households to assume responsibility for tree-planting and forest management (such as “Grain for Green”).

A major objective of re-inventions in New Zealand, Sarawak, and at FRIM, was the rationalization of activities and assets to enhance the efficiency and international competitiveness of the forestry sector. This drive to improve the efficiency of government agencies has similarly been demonstrated in efforts to downsize and streamline ministries and departments. The trend has forced a fundamental rethinking of the roles being played by forestry institutions in the light of shrinking human and financial resources. The China case study depicts “across-the-board” downsizing of government agencies during three major State Council-drive restructurings, between 1982 and 1988. The aim was both to reduce the size of the administration and to curtail bureaucratic involvement in micro-level management, thereby inducing greater separation between macro- and field-level functions. The same trend of administrative downsizing has been played out in almost all countries of the region, though none has matched the scale of China’s reforms.

## **Institutional evolution**

The case studies summarized above largely implemented “Big Bang” approaches to institutional restructuring. An alternative approach, as reflected in the institutional experiences of the USDA Forest Service, is gradual evolution in response to changing demands and challenges.

Following the Second World War, the USDA Forest Service had a well-demarcated role – supplying timber to a burgeoning economy. The Forest Service was seen as a provider of jobs and supporter of national economic progress. However, by the 1970s, concerns over the management of the nation’s forest resources had begun to percolate through society. Multi-functional forest management

and forest protection – allied to new planning and participatory approaches – supplanted wood production as the key priority. The changed emphasis required the employment of new staff, with new skills appropriate to managing social, environmental and recreational functions. During the 1980s, forest management priorities veered towards greater protection of forest resources, and the instruments effecting the change were, in this case, legal – rather than political or economic – in origin. The flagship case of the Northern Spotted Owl, and other legal challenges, required the agency to bring on board new staff, versed in managing the issues for which the Forest Service had acquired responsibility. In recent times, the Forest Service has been grappling with new and revised roles such as forest rehabilitation and reduction of forest fire risk. However, the underlying experience for the USDA Forest Service has been more one of adaptation and adjustment, rather than complete re-invention.

### **Successful re-inventions**

Moves towards devolution, decentralization, increased participation and privatization are common responses to perceptions of ineffective forest management by state agencies. A trend toward the separation of regulatory and strategic roles – from operational functions – is clearly reflected in the New Zealand, Sarawak, Nepal and China studies. The main driver appears to be the demarcation of clear spheres of responsibility that remove conflicts of interest and allow agencies to focus on narrower sets of objectives. The major costs of this “simplification” include losses of potential synergies. For example, if an agency is tasked solely with managing forests for wood production – and its performance is reviewed only against this criteria – externalities relating to soil and water conservation, biodiversity conservation, production of non-wood forest products, etc. are likely to diminish in performance or be lost altogether. A similar argument applies to agencies tasked solely with forest management for conservation. Sound arguments can be made for retaining broad multiple-use frameworks, rather than embracing this compartmentalized approach. However, the merits of a structure that enables agencies to successfully achieve a narrow range of objectives, rather than fail across a broad range, should not be underestimated.

Consultation and participation promote involvement in processes of transformation, with broader shouldering of responsibilities, better information on which to orient changes, and (in theory) better decision-making. These factors were listed as being very important in Nepal, China and the Philippines and took different forms in each country. In Nepal, open discussions, negotiations and consensus-building led to decision-making being more closely linked to forest management through the devolution of rights and responsibilities to Forest User Groups. Policy monitoring and research were important in Viet Nam and China, stressing the importance of awareness of on-the-ground realities in determining the success of institutions.

The need to train staff to effectively carry out tasks associated with new institutional roles was cited in the studies from New Zealand, Sarawak, Nepal, Viet Nam and Philippines and variously referred to as “reorientation”, “development of new attitudes”, “retraining” and “initiation of changes in the mindsets of staff”. In the United States, new staff were employed to meet expanding needs, but the principle remained the same – institutional expertise must be harmonized with institutional objectives. Where forest management responsibilities are devolved to new groups, success is contingent on the space and opportunities created for these groups to learn and access necessary skills, information and knowledge.

A good model may fail due to weak implementation. Successful re-invention of forestry agencies requires not only appropriate reasons for initiation, but also the right ingredients to make the process a success. Visionary leadership, committed political support, and an ability to win followers and influence detractors were critical in effecting change in New Zealand, Sarawak and the United States.

Wider support for institutional change not only assists transforming forestry agencies to reach objectives, but may also serve as a bellwether for broader change across society. National and international networking provided support for change in the Forest Research Institute of Malaysia and in Nepal. In Viet Nam, strong support from international donors helped to ensure the establishment of the Ministry of Agriculture and Rural Development and its subsidiary Department. In the Philippines, collaboration with NGOs and civil society organizations – in addition to international assistance – supported the bureaus in the Department of Environment and Natural Resources in extending and devolving powers to the community level. Other key factors in successful re-inventions include the existence of role models in the form of other re-invented agencies (FRIM), institutional independence (China) and adequate financial support (Malaysia, Philippines and USA), and the need to maintain momentum in the reform process (Nepal).

## **Conclusions**

An obvious lesson is that there is no panacea for institutional restructuring and reform processes. Social, economic, physical and political factors are markedly different among countries of Asia and the Pacific, so that institutions must adapt themselves to very specific situations. In the modern world, change has often out-paced institutional capacities to adapt. While adopting a gradual reform process – avoiding the “Big Bang” – is attractive when relationships among organizational structures, functions and values are sound, in many cases the linkages have become sufficiently dysfunctional as to necessitate radical change.

To be successful and remain relevant, institutions need to ensure flexibility, strategic management capabilities, strong “sensory” capacities, and an institutional culture that responds to change. The overarching lesson is that unless an institutional structure is properly aligned with organizational values and principles, objectives and functions, organizations will struggle to effectively implement their mission.

## **PUBLIC SECTOR FORESTRY AGENCIES AT THE CROSS-ROADS: ARE THEY FADING INTO IRRELEVANCE?**

**C.T.S. Nair<sup>1</sup>**

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*Despite the dramatic changes in the way people work, the organizations in which they carry out that work have changed much less than might be expected... 21<sup>st</sup> century organizations are not fit for 21<sup>st</sup> century workers. The Economist, 21 January 2006*

### **INTRODUCTION**

Reforming public sector forestry agencies is a major challenge facing most countries (Bass *et al.* 1998; World Bank 2005). While government-run forestry departments have dominated the institutional scene for a long time, new players — like the private sector, community groups, civil society organizations and other government agencies — are taking over many of their functions. At the same time public sector forestry agencies are required to assume new responsibilities, often far outside their traditional domain. All these factors have necessitated a revisiting of their values and functions and making appropriate structural changes to maintain their relevance to the environment in which they operate. Adapt and re-invent or fade into irrelevance is the norm in an increasingly competitive environment.

Historically most public sector forestry agencies have been established as “command and control organizations” and the older the organization, the more deep-rooted is this approach. Shifting to the more appropriate “coordinate and connect” mode (Malone 2004) involves enormous challenges. Reform of forest policies and legislation in many countries remains ineffective in the absence of concomitant institutional reforms. Although institutional change is a key theme of study in business schools, this knowledge has not percolated into the forest sector and in many cases reform efforts have not necessarily improved the situation. While the role of public sector agencies has changed and will continue to change, better clarity is required on how to reform them while avoiding some of the pitfalls, which may sometimes even worsen the situation.

### **DRIVERS OF CHANGE AND THEIR IMPLICATIONS**

A host of inter-related factors, external and internal to the institutions, but primarily the former, compel institutional re-invention. Some, like long-term societal changes (which embed larger economic changes going far beyond growth in income and its distribution) are more fundamental, leading to a series of proximal drivers, especially changes in policies within and outside the forest sector and technological changes. A brief account of these factors and how they necessitate institutional change is outlined hereunder.

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## Long-term societal changes and their impact

Fundamental long-term changes in societies are affecting perceptions, values and, more importantly, the basket of goods and services people need and how they are produced. In general, most developing countries are characterized by the preponderance of land-dependent agrarian communities, with small segments of forest-dependent, and still smaller industrial and postindustrial societies. Structural changes in the economies reduce the proportion of agriculture and forest-dependent communities. As economies grow and diversify, the proportion of industrial societies (largely based on capital intensive production) and postindustrial societies tend to expand.

Demand for goods and services significantly differs between these diverse societal segments as do the technologies and institutions to meet them (Nair 2004). For example, forest-dependent communities derive most of their sustenance from forests, including a host of cultural, social and spiritual values while agrarian societies have very different needs, with access to land (often through forest clearance in the context of expanding agricultural population) and sustainable agriculture as the primary concerns. Industrial society's main thrust is to use forests as a source of raw material, with increasing attention paid to improve productivity and quality. As a postindustrial society develops, objectives of management change, with provision of environmental services gaining primacy. Apart from setting aside large areas primarily for the provision of environmental benefits, even production forestry is subjected to stringent regulations to safeguard environmental functions. To some extent this has made wood production economically less viable in a number of postindustrial countries, encouraging shifts in forestry investments to low-cost emerging economies.

## Proximal drivers of change

Long-term changes in societal structure, in particular the proportion of different segments, are attributable to several proximal drivers, including changes in economic, social and environmental policies. While the fundamental changes may be slow, a variety of factors and events, for example severe budgetary crises and catastrophic events like floods, may trigger policy responses necessitating appropriate institutional adaptation.

### *Changes in political and social conditions*

Changes in political perceptions and their impact on economic and social policies are important drivers of institutional change. Economic liberalization policies envisage increasing involvement of the private sector in resource management with a corresponding diminution of the role of government. A wide spectrum of situations exists regarding changes in the relative roles of government *vis-à-vis* the private sector. Several countries that were formerly governed under centralized planning have re-instated private ownership of forests earlier appropriated by the state (World Bank 2005). Others are divesting ownership and management in a phased manner, initially focusing on participation of non-state actors (especially local communities, farmers and industries) in forest management without resorting to an outright transfer of ownership rights.

Public sector forests (in particular industrial plantations) become a too obvious target for disinvestment, especially in the context of budgetary crises and the continued pursuit of economic liberalization policies. Historically, public sector ownership of forests has been justified on account of the perceived strategic importance of timber and for the provision of environmental services. Several factors, including increased timber supply from alternate sources, especially from private land, have to some extent undermined the strategic reason for public sector control. As economic efficiency and competitiveness become important, private sector involvement in wood production has gained wider acceptance. Such is also the case with the provision of some of the environmental services, for example recreation, which are amenable to market transactions.

While policies on divestment of public ownership in some countries have been driven by efficiency considerations, in others, equity and social justice aspects have been important drivers of policy changes. These range from transfer of land ownership (i.e. as envisaged under the Tribal Land Ownership Bill passed by the Indian Parliament in December 2006) to partnerships in forest management and sharing of benefits (i.e. under the various arrangements for joint forest management). All these affect the responsibilities and functions of public sector forestry agencies, requiring substantial re-invention.

### *Economic compulsions*

A changing economic situation, largely affecting commercial viability, is a major factor necessitating institutional change. Public sector organizations that are geared to the production of marketed goods are particularly vulnerable to such changes. In many countries, forestry departments had retained control over timber production by regulating prices of inputs and outputs and excluding competition. Total monopoly was maintained through rules and regulations relating to harvesting and transport of timber, even from private land. Economic liberalization policies and the removal of various controls are changing these approaches. Removal of barriers to the movement of capital and technology on account of globalization has accelerated the process. Traditional public sector organizations that have survived under protected conditions cannot continue in this fashion and the options available are rather limited: either re-invent or go out of business.

### *Environmental policies*

Increasing concern about environmental degradation has led to a number of policy changes and these, like others, necessitate appropriate institutional responses. Environmental issues move up the priority list when some of the adverse economic impacts become evident (for example impacts of climate change, catastrophic events like floods and hurricanes, or gradual processes like land degradation, desertification and loss of biological diversity) or when the demand for some environmental service like recreation increases. Obligations to fulfil international conventions and treaties have also led to important changes. In many countries protected area management has been shifted outside the control of forestry organizations according to the argument that they are largely focused on wood production and hence inadequately equipped to address conservation issues. Either the organization has to make significant changes in its functions and structures, or give way to new organizations better designed to fulfil specialized tasks.

### *Technological changes*

Technological developments are another major driver of institutional change. Developments in information and communication technologies seem to have significant impacts on organizations (UN 2005). Increased speed of communication necessitates rapid responses, and invariably traditional lines of command have become irrelevant, helping the shift from hierarchical to flatter organizational structures. Information communication technologies have also enhanced information access to the public, and a more informed public is making greater demands on institutions with regard to efficiency in the provision of goods and services and observance of social and environmental responsibilities. Information sources have proliferated undermining the power of those which thrived as the few controlling sources of such information. A substantial part of the information that was privy to public forestry agencies has moved into the public domain, and in a way has demystified the profession.

## HOW ARE PUBLIC FORESTRY AGENCIES RESPONDING TO CHANGE?

The aforesaid drivers described have a host of direct and indirect implications for the forest sector. Certainly the stakeholders in forests and forestry have increased as well as diversified substantially. Some of the impacts of the change are:

- Pressures to fulfil multiple objectives requiring very diverse sets of managerial and technical skills.
- Emergence of special interest groups, which are able to mobilize support to direct public policies in the direction they consider appropriate.
- Fragmentation of the forestry agenda.
- Increasing fuzziness of sectoral boundaries, especially in view of the growing share of production of wood and non-wood forest products from outside forests, in particular, farm lands.

All these factors have led to varying institutional responses as discussed hereunder.

### Overall direction of institutional change

In several Asia–Pacific countries and elsewhere, public forestry agencies are among the oldest civil services, established primarily to protect timber resources and hunting grounds. The approaches adopted in the management and deployment of resources have changed at varying paces in different countries. Table 1 summarizes the objectives and approaches to the management and consequent impacts on the structure and functions of forestry organizations.

**Table 1. Changing institutional framework**

Objectives of resource management	Main thrust	Functions and structures
Exploit/utilize what grows/is available under natural conditions (for example logging natural forests) and safeguard future timber supplies for strategic reasons.	Exclude others from exploiting the resources.	Policing the resources with a hierarchically structured organization
Improve the state of resources (invest in management including creation of assets like planted forests).	Build up resources using inputs like land, labour, capital.	Organization focused on resource management with substantial emphasis on technical and managerial skills
Empower/support other players — the private sector, communities, farmers, etc. — to develop and manage resources.	Create enabling conditions for other players to manage the resources efficiently	Negotiation/facilitation and conflict resolution skills. Organization with very diverse skills with the ability to respond quickly to the diverse needs of the various stakeholders.

Often, as is the case with public forestry agencies established a long time ago, there is a mixture of different characteristics and approaches. Many forestry departments in the Asia–Pacific region have a feudal past with policing to protect the forests as the main thrust. Over time there has been pressure to transform them to resource management and facilitation organizations. However, often the feudal values and perceptions linger on, promoting a culture of conformity that makes change extremely difficult (see Box 1).

**Box 1. The culture of conformity**

*Many Forest Departments do not encourage forest officers to question their roles. For some this is a colonial inheritance; a complex bureaucracy was put in place to reward officers for perpetuating a status quo that best suits those at the top. Procedures that do this become, over the long term, ends themselves.*

Bass *et al.* (1998)

**Changes in forestry organizations**

While most public sector forestry agencies in forested countries have been established primarily to manage timber resources, they have also taken up other functions including the processing and marketing of wood products and provision of environmental services. Low intensity wood production (and more particularly, the protection of timber resources for strategic reasons) enabled the fulfilment of other objectives including the provision of environmental services. Forest departments undertook a host of related functions including protection and management of wildlife, research, education, training, extension, etc.

Emergence of new players, the increasing demand for specific products and services and the difficulties in resolving conflicts between competing alternatives have made multipurpose management extremely difficult. Increasing emphasis on specialization and the entrusting of tasks to units or organizations with specific skills have necessitated the various changes as indicated hereunder:

- Several options have been pursued to fulfil the function of wood production outside the purview of traditional government controlled forestry departments. This has involved the establishment of publicly owned and managed commercial enterprises — parastatal-like forestry development corporations with greater operational flexibility as one option that has been pursued in many countries. To some extent this has been done to avoid outright privatization which still faces political resistance. Private sector involvement, by industries and smallholders, has however gained momentum in several countries and a variety of arrangements, including industry–community partnerships, have emerged. On the whole, the role of public sector forestry agencies in managing wood production is on the decline.
- Similarly, the increasing demand to improve the delivery of environmental services has led to institutional changes, for example, the establishment of separate wildlife or national parks services to ensure that management of wildlife receives better attention than it would have had, had it been under a general purpose forestry department that gives more attention to wood production. In many cases these institutions are given sufficient autonomy to enable them to plough income back into improving park management. As in the case of wood production, there have been increasing efforts to involve the private sector as well as communities in the management of national parks and other protected areas, again requiring substantial institutional changes.
- Research and development has been another important function that has undergone major institutional restructuring. While forestry research has been an integral function of most government forestry departments, increasing complexity of research, the need to provide an environment that permits open-ended thinking, flexibility and adaptability and the need to cater to demands from diverse stakeholders have all led to substantial changes in the institutional arrangements (see Nair *et al.* 1998). This has led to: (a) the establishment of autonomous public sector research institutions; (b) privatization; and (c) outsourcing of research through competitive processes.

## ISSUES IN REFORMING PUBLIC SECTOR FORESTRY AGENCIES

### Confronting changes: an overview of responses

Confronted with the various pressures, public sector organizations, including forestry agencies, respond in different ways. Broadly the responses can be grouped as follows:

1. When an organization rightly or wrongly believes that the changes are temporary and after a period of time the situation will revert to “normal” there is a strong tendency to maintain the status quo dismissing external pressures as short-lived.
2. Organizations also resist changes, especially if they require substantial reduction in the power and authority to control resources. This is particularly so in the case of organizations that derive their strength from controlling physical resources like land, water and forests. Decentralization of authority to local levels and transfer of ownership and management rights to communities tend to meet substantial resistance. A wide range of arguments resist changes, particularly if they undermine the power and authority of the organization.
3. Bringing about superficial changes, largely focusing on the structure of the organization, is another common response. This involves focus on creating and reshuffling the boxes and changing their names and designations. Giving such a semblance of change often helps to keep intact their values and functions and counters the pressures for more fundamental changes. In many countries agencies have been renamed or moved from one ministry to another (for example forestry agencies transferred from agriculture to the environment) and new subdepartments/ divisions have been created, merged or the names changed. These manifestations seldom involve changes in their basic values and functions.
4. Certainly, the most desirable situation is one of institutions proactively adapting to changes on a continuing basis, foreseeing emerging challenges and opportunities and preparing to face them via fine-tuning of institutional values, functions and structures.

### Procrastination makes drastic re-invention inevitable

Continuous adaptation however is an exception rather than the rule, as the proportion of institutions that either resist change or at best undertake cosmetic reforms tends to be very high. Primarily this stems from weak accountability in terms of delivery of services, very different from the situation facing private sector organizations, where failure to adapt to changes is punished severely in the market place. For obvious reasons, government departments tend to escape market scrutiny and lean upon their alleged social and environmental roles for continued public funding.

Procrastination of institutional reforms and adaptation, although convenient in the short term, only serves to aggravate the problems. Delay in bringing about changes results in the organization continuously deviating from changes in the external environment. If eventually it has to be brought in line with the changed circumstances, the process will be drastic, difficult and painful. The ability to continuously adapt to changes obviates the need for drastic re-invention. At any time the basic questions that need answering are:

- Are the institutions providing improved delivery of the services they are entrusted with?
- Are they delivering them cost-effectively?
- Are they helping to fulfil broader social, economic and environmental objectives that cannot be provided more efficiently through alternative arrangements?

If any of the answers are in the negative, then the organization is out of step with the environment and a change is overdue.

## Why is institutional change difficult?

While reform of public sector forestry institutions is critical, bringing about change is extremely difficult for a number of reasons:

- One of the major problems confronting public forestry organizations is that being part of the governmental system, there are inherent difficulties in bringing about major changes that deviate from the overall system. Forest departments, notwithstanding diversity of functions and required flexibility, are compelled to adhere to a common set of rules and regulations, including, for example, personnel management. In the absence of broader institutional changes encompassing the entire public sector, it is often extremely difficult to bring about institutional changes in the forest sector (Box 2).

### **Box 2. Limits to sector-focused reforms**

*The reform of forest organizations is unlikely significantly to change outcomes, if these are not accompanied by wider institutional and governance reforms.*

World Bank (2005)

- Most institutions tend to have one or more informal networks within the organization, outside its formal structure. These informal networks are sometimes much stronger and can have either a positive or negative influence. Especially in the case of income-generating public sector forestry organizations, these informal networks could be very powerful and strongly linked with other informal networks in the political system. Any change that could potentially undermine the influence of these informal networks is likely to be strongly resisted. Even in the case of public sector organizations that are purportedly “professional” what happens is largely determined by informal “less professional” networks.
- Institutions, once established, have a number of characteristics mirroring those of living entities. While they are able to respond to external changes, they are also able to influence the external environment, generally in order to ensure their own survival. In many cases they can manipulate information in such a way as to create a favourable image, contrary to the reality, enabling it to survive.

Quite often the inherent ability to respond to change is also linked to the age of institutions and on the whole the older the institution, the more difficult to bring about changes. In a number of countries, the public forest service is the oldest civil service, sometimes more than a century old. Customs, practices and informal networks that develop over a long period may masquerade as virtues of stability and continuity, becoming stumbling blocks to change (Box 3). Even after major political changes, such institutions may remain intact. Especially if the organization provides power and influence to those who are a part of it, changes will be very slow and the system could hijack the process of change to its advantage. Claims of professionalism often provide a convenient ploy to keep the institution intact.

### **Box 3. Established traditions: strength or constraint?**

*In many countries forest authorities are the oldest, largest and most powerful land management agencies. This long tradition has facilitated a process of identity building (and) the development of an administrative sense of mission, which is very effective in perpetuating conformity to established norms and traditions and resisting external pressures.*

Pettenella (1997)

## **Degree of re-invention linked to the extent of changes in the external environment**

As pointed out earlier, an organization has three important elements, namely (a) core values and principles, (b) functions that reflect the values and (c) structure that enables it to undertake the various functions. The intensity of re-invention will primarily depend on the extent of changes in the external environment and the appropriateness of the institution in the changed circumstances. A complete overhaul of the institution encompassing all three elements would be warranted in the context of major political and economic changes. On the other hand some fine-tuning of the functions and structures would suffice in the context of less dramatic changes. For example, budgetary crises may compel a streamlining of the processes inevitably resulting in changes in the structure. Outsourcing or contracting out of some of the non-core activities to other agencies or even countries would be options that some have pursued. Such structural adaptation has particularly been catalysed by developments in information and communication technologies.

## **Approaches to bringing about changes**

Change is a continuous process compelling institutions to iteratively adapt and innovate to make sure that their values, functions and structures are appropriate to the environment in which they function. Organizations that are able to continuously fine-tune themselves are “learning organizations” and have a well-developed mechanism to sense the changes and to adapt themselves. Those organizations that have to survive in the market place are more likely to be “learning organizations” as survival requires a high degree of ability to sense the changes in markets and timely adaptation. Public sector organizations, including government forestry departments, however, are less likely to be “learning organizations” for a number of reasons. Many have been established as “command and control” organizations with vertical channels for flow of information and action, extending the time lag for responses to change on the ground. Further, the larger and older the organization, the more the ability to adapt becomes curtailed. Especially in a situation where the pace of change in the external environment is rapid, the organization quickly falls out of line with societal needs and expectations.

When this happens, changes are necessarily externally driven. One question that needs to be addressed in such a situation is the pace of re-invention. In some cases a very rapid “big bang” approach is required, making changes within a very short period, rather than an incremental approach. Largely this depends on the degree of deviation from societal perceptions and the need to minimize the pains of transition. Also if the pace is slow, the opportunity for opponents to change to thwart any re-invention is strengthened (especially those likely to benefit from the status quo). Such “big bang” changes are more common in the context of major political and economic developments.

## **Balancing stability and change**

Distinguishing between superfluous and fundamental changes in the external environment is of critical importance in deciding the nature of adaptation and in maintaining a balance between stability and change. If an organization is continuously making adjustments to superfluous changes, stability and continuity will be undermined significantly. Striking the right balance between stability and change is a major challenge facing most public sector organizations. While change is necessary and inevitable, some stability is also important, especially to establish consistency in the implementation of forest policies and, more importantly, to take advantage of institutional memory. The success of institutions largely depends on human resources and instability from overly frequent changes could seriously undermine such success. This is particularly important in the case of forestry, where accumulated knowledge and institutional memory are of critical importance.

## Initiation and sustainability of change

Ideally an organization should have a built-in structure that is able to identify changes in its external environment and continuously adapt itself, appropriately modifying its values, functions and structures. However, most often this is not the case and institutions and people have a tendency to resist changes and to maintain the status quo. In the absence of a built-in internal mechanism to initiate and implement changes, this is often necessarily driven from outside. This is the typical situation when change is undertaken on account of political upheavals or often by external interventions such as donor initiatives.

There are also situations where charismatic leadership spearheads the change process. The impact of this largely depends on how the entire institution is prepared and involved in the transition. Very often they tend to be superfluous changes (often changing the name of the department or the organigram) to “leave a mark or stamp” by the leadership without really addressing the basic and often difficult issues. Such changes, whether driven from outside or by leaders internally, are unlikely to have a lasting impact, as they seldom influence the functioning of formal and informal structures and networks within the organization.

A major concern that many public forestry institutions face is the sustainability of change. In many cases, change is based on the perceptions of a few individuals and not always based on a thorough analysis of the environment in which the institution is functioning. Neither is the institution fully prepared to absorb changes, nor is the external environment conducive to such changes. While charismatic leaders are able to spearhead changes, often they are unsustainable on account of system rejection (either by forces internal to the institutional framework or by the external environment). This would imply that changes need to be relevant to the environment and substantial efforts are required to make them acceptable internally.

## The human side of re-invention

Most often the difficulties relating to institutional re-invention are attributed to employee resistance. This is largely a misplaced criticism (Box 4). In most cases this is because the institution has failed to inculcate a culture of change by preparing the employees to continuously adapt to changes. In fact, in most situations, the paternalistic approach of management undermines professional development and promotes a false sense of security.

### **Box 4. Change: a natural process**

*It is common to hear that people in organizations resist change. In reality, people do not resist change; they resist having change imposed on them. Being alive, individuals and their communities are both stable and subject to change and development, but their natural change processes are very different from organizational changes designed by “re-engineering” experts and mandated from the top.*

Capra (2002)

## The need for programmed termination

As in the case of living organisms, organizations pass through different stages of growth, stability and decline. Often the strong survival instinct enables them to live beyond their useful lives. Ability to manipulate information enables organizations to secure public funding, which is often justified on the basis of tradition, history and so forth. Young organizations are better conditioned to adapt to

changes. However, beyond a certain point adaptation becomes extremely difficult, requiring total re-invention. However, transformation into a completely different organization is constrained by system rigidities. Creating completely new organizations will be more cost-effective in the long term than changing an existing, dysfunctional public sector organization. This raises the issue of programmed closure through appropriate sunset clauses in the constitution of the organization.

## SUMMARY AND CONCLUSIONS

Certainly the institutional scene in the Asia–Pacific forest sector is undergoing profound change in response to a host of drivers, both fundamental and proximal. No longer is it the exclusive domain of government forest departments, as a host of new players are emerging and taking over many of the traditional functions that were fulfilled by government forestry agencies until recently. Such changes are particularly disconcerting to forestry departments that have long histories and whose built-in mechanisms for adaptation are weak. Re-invent and adapt, or fade into irrelevance is becoming the norm in a rapidly changing competitive environment. Certainly the chances for many forestry departments as they are now, to fade into irrelevance are high, as more agile institutions emerge to meet the new challenges. This however is not a bad thing and often a necessity to ensure that institutions’ relevance is directly related to societal needs.

Avoiding decline requires that public sector forestry agencies become learning organizations, are fully able to understand ongoing changes and are able to make necessary adjustments on a continual basis. What is important is the ability to distinguish between superfluous and fundamental changes, and to fine-tune the different elements accordingly. Cosmetic changes — largely modifying the organigram — will be of little help and often may be damaging by delaying much needed fundamental reforms. Some of the broad conclusions that have been learnt during the last few decades on organizational change can be summarized as follows:

- There are no standard off-the-shelf prescriptions for institutional change and attempts to copy successes elsewhere without understanding the specific conditions could be perilous (Box 5).

### **Box 5. No silver bullets for reform process**

*To argue that any of these models are “better” than others is to ignore the frameworks of accountability and governance which underpin each of them, and which are derived from a range of political, economic and physical factors which are in many respects unique and which have historical, social and cultural elements to them.*

World Bank (2005)

- There is a need to develop institutions that are learning organizations capable of sensing emerging changes and adapting themselves.
- Human values are fundamental to institutional performance and no institution can neglect this.
- Ideally what is required is the organic adaptation of institutions to the changes in the external environment so that the institution is always in tune with the larger society in which it exists.
- In many cases institutions are beyond repair and the costs of re-invention will be high and not commensurate with the benefits. In such a situation, it may be better to totally dismantle an outdated organization (rather than sustaining it on a respirator) and create a completely different institutional arrangement after clearly assessing the need for such an organization.

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# RE-INVENTING FORESTRY AGENCIES: INSTITUTIONAL RESTRUCTURING OF FORESTRY AGENCIES IN VIET NAM SINCE 1994

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Nguyen Quang Tan <sup>1</sup>

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## INTRODUCTION

This study aims to provide an understanding of the changing roles of the state forestry agencies in Viet Nam since 1994 and the process of re-aligning their organizational structures to meet new social demands. The study is based on review of existing literature and policy papers, as well as primary data collected through interviews with relevant agency staff at national and local levels. The analysis focuses on the implications of the establishment in 1995 of the Ministry of Agriculture and Rural Development (MARD) the Department of Agriculture and Rural Development (DARD) and forestry sub-departments and forest protection sub-departments at the provincial level. Decentralization trends in forest management since the early 1990s are also covered. Abbreviations and acronyms are included in Appendix 1.

## OVERVIEW OF VIET NAM'S FOREST RESOURCES AND FORESTRY ADMINISTRATION

### *Viet Nam's forest resources*

Viet Nam is divided into 59 provinces and five centrally-controlled municipalities, with a population of approximately 84 million and a population density of approximately 255 people per square kilometre. Of the total land area of 33.038 million hectares, 57.6 percent is classified as forest land. Forest cover, however, stands at 36.7 percent of land area — 30.5 percent natural forest and 6.1 percent plantation forest (Forest Protection Department 2005).

In Viet Nam, as in other countries in the region, there is a correlation between forest cover, population density and incidence of poverty (Table 1 and Figure 1).

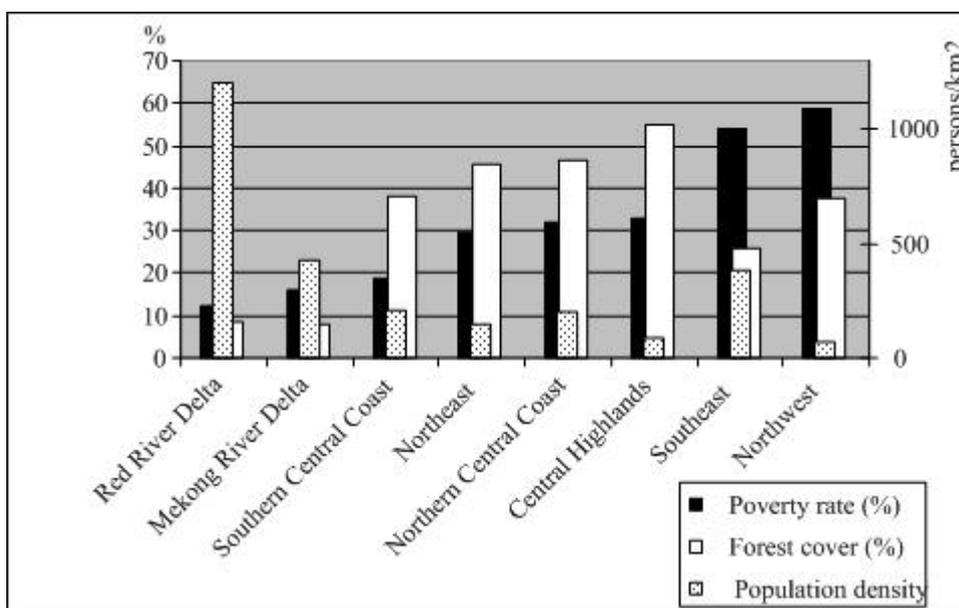
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**Table 1. Regional variations in population density, poverty and forest cover in 2004**

	Population density (persons/km <sup>2</sup> )	Poverty rate (%)	Forest cover (%)
Red River Delta	1 204.1	12.1	8.4
Northeast	145.3	29.4	45.4
Northwest	67.6	58.6	37.8
Northern Central Coast	203.9	31.9	46.7
Southern Central Coast	211.1	19.0	38.1
Central Highlands	85.8	33.1	54.8
Southeast	379.7	54.0	26.0
Mekong River Delta	429.7	15.9	7.9
<b>Whole country</b>	<b>248.3</b>	<b>19.5</b>	<b>36.66</b>

Sources: [www.kiemlam.org.vn](http://www.kiemlam.org.vn); [www.gso.gov.vn](http://www.gso.gov.vn); World Bank (2005b).

**Figure 1. Correlation between population density, poverty and forest cover**

In Viet Nam, forests are classified into three categories:

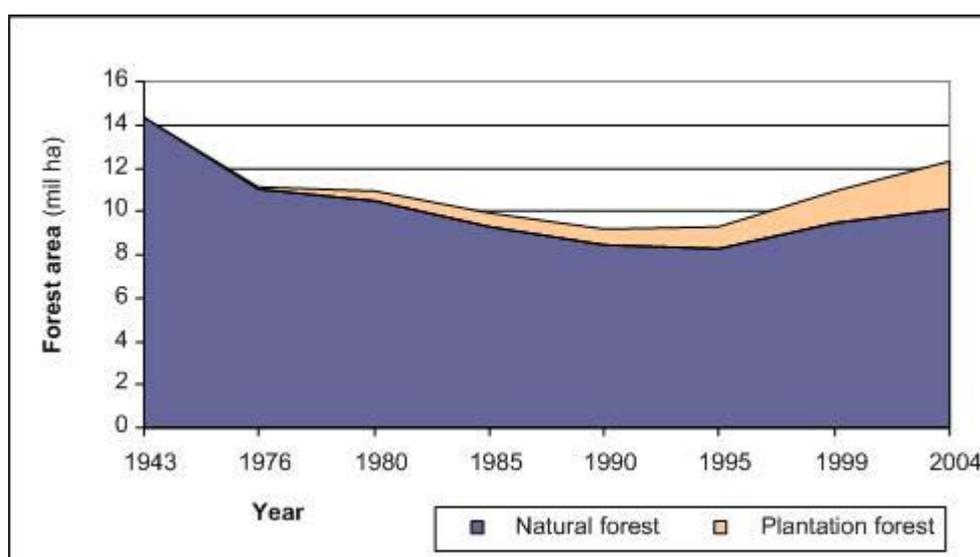
- Protection forests (48.1 percent of the forested area) for protection of watersheds and land, prevention of soil erosion, desertification and natural calamities and mitigation and adaptation to climate change.
- Special-use forests (15.6 percent) for biodiversity conservation and reservation of genetic resources, scientific research, protection of historical and cultural heritages and recreational value.
- Production forests (36.3 percent) for production of commercial timber and non-wood forest products.

**Table 2. Forest land in Viet Nam**

Forest types	Total area (ha)	Production forest (ha)	Protection forest (ha)	Special-use forest (ha)
I. Forested area	12 306 858	4 465 717	5 920 688	1 920 453
A. Natural forest	10 088 288	3 145 251	5 105 961	1 837 076
B. Plantation forest	2 218 570	1 320 466	814 726	83 378
II. Non-forested forest area	6 718 576	2 529 807	3 709 440	479 328
<b>Total</b>	<b>19 025 434</b>	<b>6 995 525</b>	<b>9 630 128</b>	<b>2 399 782</b>

Source: Forest Protection Department (2004).

Forest area in Viet Nam has changed significantly in recent decades (Figure 2). Total forest cover dropped from 43.3 percent in 1943 to 33.8 percent in 1976 and 27.8 percent by 1990. In absolute terms, almost 2 million hectares of forest were lost between 1976 and 1990; a net deforestation rate of over 142 000 hectares per year. A turning point came in 1995 when forest area increase exceeded forest loss (mostly due to new plantations), and overall forest cover increased from 28.2 percent in 1995 to 36.7 percent in 2004.

**Figure 2. Changes in forest area in Viet Nam over time**

Sources: Forest Protection Department (2004); Nguyen *et al.* (2001).

Viet Nam's current estimated total standing volume is around 813 million m<sup>3</sup> of timber and 8.5 billion m<sup>3</sup> bamboo and rattan. Most of the timber stock comes from natural forests (approximately 94 percent) with only 6 percent plantation forests. Most of the timber forests are found in three regions: the Central Highlands (33.8 percent of total stock), the North Central region (23 percent) and the South Central region (17.4 percent).

### **State administration structure**

State administration in Viet Nam is composed of administrative units operating at the central, provincial, district and communal levels. The National Assembly is at the highest level and is the

only body with legislative power. The government is the executive body of the National Assembly and the highest organ of state administration. There are 20 ministries and six organizations with ministry equivalent authority.

At the provincial level, the Provincial People's Council is elected by local people, while the Provincial People's Committee (PPC) — the executive organ — is composed of members elected from among the Provincial People's Council.

There are similar structures both at the district and communal levels comprising the District People's Council and Committee (DPC), and the Commune People's Council and Committee (CPC), respectively.

## **THE VIETNAMESE FORESTRY SECTOR BETWEEN 1945 AND 1990<sup>2</sup>**

### **1945–1954**

In November 1945, two months after the establishment of the Democratic Republic of Viet Nam, the Ministry of Agriculture and Farming (MAFa) was established. In December 1945, the Forest Bureau (FB) was officially placed under MAFa, with the task of “carrying out administrative and technical activities related to forest and hunting”. In 1946, MAFa issued a decree regulating the FB's functions focused on seven areas: forest protection, forest use, fee collection, reforestation, hunting, scientific research and training of forestry staff. The decree also outlined the leadership and organizational structure of the forestry sector with five administrative levels from the national to commune levels.

In 1946, through Decree No. 508/BCN, the FB was restructured to streamline state forest management into four levels: national, provincial, district and communes. Existing functions were re-organized into management of forests and enforcement of hunting regulations.

In 1952, a major change took place with the issuance of two decrees (Decrees No. 01 CV/QT/ND and No. 02 CN/QT/CD of MAFa). The FB was restructured into the Water and Forest Department (WFD). The tasks of the WFD focused on: (1) developing and monitoring implementation of forest policies and production plans; (2) management of state forest enterprises; and (3) exploring forest technologies and implementing forestry development activities.

### **1954–1975**

This period was marked by the division of the country into North and South Viet Nam. In the forestry sector, three disparate forestry models were developed: “centrally planned” forestry in the North, “capitalist” forestry in the South and “interim” forestry in the Central Region. In the years following the American War (or Vietnamese War), the northern model was applied widely throughout the country.

In the North, the sociopolitical context of the time mandated the forestry sector to fuel the nationalist movement through timber production. In 1955 (one year after the division of the nation), through the issuance of Circular No.6NL/TT, MAFa was expanded into the Ministry of Agriculture and Forestry (MAFo) in recognition of the need for stronger management of the forestry sector. The

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<sup>2</sup> This period was marked by several milestones in national history: the foundation of the Democratic Republic of Viet Nam in September 1945; the division of Viet Nam into the North and South in October 1954; the unification of Viet Nam in April 1975; and the launch of the economic renovation policy (*Doi Moi*) in December 1985.

WFD of the former MAFa was restructured into the Forest Department (FD) with two subsidiary units; one unit following the mandates of the WFD and a new unit responsible for state control of forest use — managing extraction of timber and fuelwood for state needs, by state trading companies or by communities — through improved logging methods that corresponded to principles of forest management.

In early 1956, through the issuance of Decree No. 772 TTg, the Forest Exploitation Bureau (FEB) was established under the FD of MAFo.

In 1959, distribution and transportation of forest products shifted from the Ministry of Domestic Trade to MAFo. The FD was then assigned by MAFo to take on these responsibilities through three directly operated General Stores for forest products in Hanoi, Hai Phong and Ben Thuy.

In April 1960, a major change took place establishing four separate organizations, directly accountable to the Council of Government (CG): the Ministry of Agriculture (MoA), Ministry of State Farms (MSF), General Department of Aquaculture (GDA) and General Department of Forests (GDF). This structural change implied a major change in the forestry sector, reflected in the increased status from a bureau accountable to MAFo to a general department accountable to the CG. GDF's mandates were to advise the CG on forestry issues including, development of forest legislation, strategies and plans; forest management and commercialization; forest inventories; forest protection and reforestation; forest use, transportation and distribution of forest products; scientific research and training on forestry practices; and ratification and implementation of international treaties in forestry-related fields. To fulfill its mandate, the GDF was equipped with five technical departments that addressed forest plantation, forest inventories and planning, forest resource use, transport and distribution and forest product processing. In 1963, for the first time, a department for forestry protection was established and called the Forest Protection Department (FDP).

In 1972, an ordinance was issued that underscored forest protection and the enforcement of concomitant laws. The FDP engaged in forest patrolling, monitoring the implementation of forest protection laws, controlling forest fires and promoting forest protection practices among local populations. To facilitate local implementation, a two-tier forestry administration system was established at the provincial and district levels comprised of the FD, which was responsible for forest management and forest production and the Forest Protection Sub-department (Sub-FPD), which dealt with law enforcement for forest management and protection.<sup>3</sup> At the district level, two separate bodies remained responsible for forestry issues: a district Forest Protection Unit (FPU), under the Sub-FPD, and an Agriculture Board, which also addressed forestry issues. In heavily forested districts, the forestry component of the Agriculture Board was combined with the FPU into a Forestry and Forest Protection Unit.

### **1975–1985**

During this period which was marked by the unification of Viet Nam in April 1975, the focus of the forestry sector was anchored around timber production for national reconstruction and the development of new economic zones (NEZ), and promoting sedentary farming and fixed upland settlements.

A year after the end of the war, three organizations were responsible for forestry across the country: The Hanoi GDF in the North, the Forestry Committee in the Central Region and the Sai Gon GDF in the South. In July 1976, the Ministry of Forestry (MoF) was established to consolidate the directions set out by the three organizations. The establishment of the MoF increased recognition

<sup>3</sup> See also GoV Decree No. 101/CP dated 21 May 1973.

on the role of the forestry sector and its importance, moving from its subordinate role to full inclusion within the CG. At the provincial level, FD offices were established in all provinces to oversee forestry activities.

In 1977 through Decision No. 207/CP, the MoF was assigned the implementation of fixed cultivation and sedenterization (FCS), and by Decision 272/CP, the development of NEZs in uplands. These new responsibilities, as well as renewed interest in forest use and development contributed to the development of the State Forest Enterprise (SFE) system, with particular impact in upland provinces. The SFE system soon became a potent production force generating employment for more than 40 000 labourers, and production of timber by SFEs amounting to over 8.1 million m<sup>3</sup> between 1976 and 1980 (or more than 1.6 million m<sup>3</sup> per year), as compared to 1.1 to 1.3 million m<sup>3</sup> per year previously.

### **1986–1990**

With the decision of the Sixth National Congress of the Vietnamese Communist Party in December 1985 to shift from a centrally-planned to a market-oriented economy, Viet Nam entered a period of economic reform (*Doi Moi*). By 1990, the reform policy had had a significant effect on the economy and inflation rates had dropped drastically. Annual GDP growth reached 5.1 percent in 1990 (up from 0.3 percent in 1986). In the agriculture sector, reform was initiated in 1981 and fully consolidated in 1989, by which time, Viet Nam transformed from a rice-importing country to a rice-exporting country; it became the third largest rice exporter in the world by 1990.

The period was also a transitional time for the Vietnamese forestry sector. While timber production remained an important feature, it was generally acknowledged within the sector that internal reform was required to keep pace with national development. One of the most important changes in forest management was the MoF's promulgation of Decision 1171/QD of December 1986 on management regimes of forests according to type: production forests, protection forests and special-use forests.

The development of the forestry sector generally lagged behind the rest of the national economic expansion as the sector's competitiveness was low compared to that of others under the new market economy. For the forestry sector, the rate of return of investment was only 2 percent compared to the national average of 4.8 percent. This was partially attributed to commercial forestry permitted only to SFEs and forestry cooperatives; the private sector was essentially excluded. Moreover, forest production systems faced multiple challenges. Overexploitation of the forest in the previous decade had resulted in serious degradation of forest resources nationwide. Even forests in remote areas were threatened with depletion. Consequently, timber production volumes were significantly reduced. By 1986, around 200 SFEs (more than 40 percent of all the SFEs) in 20 provinces (out of 39 provinces) had no access to productive forests and were further constrained by budget cuts. In addition, there was confusion on permission for commercial activities in forests for many local-level state forest organizations.

By 1990, once *Doi Moi* had put the economy on a new track, the forestry sector was under great pressure to undergo major reforms. Not only were the country's forests in a perilous state, but forest agencies were also perceived as being too weak to effectively implement state management under the new market economy (Nguyen *et al.* 2001).

**Table 3. Major administrative changes in the forestry sector 1945–1990**

<b>Date</b>	<b>Functional changes</b>	<b>Organizational changes</b>
Dec 1945	Reform of administrative and technical activities related to forest and hunting	Establishment of the MAFa and the FB
Mar 1946	Refocus on forest protection, forest use, fee collection, reforestation, hunting, scientific research and training of staff	No major corresponding structural change
Oct 1946	Re-organization of tasks. Implementation of forest laws and policies emphasized	No major corresponding structural change
May 1950	Focus on advising MAFa on forestry-related issues	FB renamed the Water and Forest Department (WFD)
Feb 1955	Introduction of new management role for control over forest use	WFD renamed the Forest Department (FD) with a new section responsible for forest use management
Apr 1956	Emphasis on the management of forest use	FEB established
Nov 1958	No major functional change	The FD and FEB were merged to reduce staff
1959	Distribution and transport of forest products included under the FD	Three General Stores established under the FD
Apr 1960	Role change to advisor to the Council of the Government (CG) on forestry issues	GDF established under the CG
1963	Emphasis on forest protection	FPD established under the GDF
1972	Increased emphasis on forest protection and law enforcement	FPD began operating at national to district levels
Jul 1976	Advisory role to the CG on forestry issues	MoF established
1977	Development of NEZ and implementation of FCS included as the FD's mandates. Forest use and development focus increased	Expansion of the SFE system
Oct 1979	No major functional change. Efforts made at harmonizing the roles at provincial levels	Provincial Sub-FPD placed under the FD

## **ADMINISTRATIVE REFORM IN THE FORESTRY SECTOR AND THE ESTABLISHMENT OF MARD**

### ***1991–1995: The years preceding the establishment of MARD***

Between 1989 and 1991, at the request of the MoF, a review of forest development in Viet Nam was undertaken through the Tropical Forestry Action Plan Project.<sup>4</sup> Based on the results, the MoF initiated reform in the forestry sector, focusing on four key areas of change which reflected the overall shift from state- to people-centred forestry (Nguyen *et al.* 2001).

<sup>4</sup> Project No. VIE/88/037, co-financed by UNDP, FAO and SIDA.

1. A shift from forest use to forest development and generation of forest products.
2. A shift from centralized state management to multistakeholder management, employing social forestry practices.
3. Redirection from timber production to value-added processing.
4. A shift from low-tech forest management and use to high-tech forest intensification.

In 1991, the Forest Protection and Development Law (FPDL) was passed to promote a multistakeholder approach to forest management (though the role of the state remained central). According to this new law, forest resources could be allocated to different land users (including organizations and individuals) for protection and commercial production. The law laid out a framework for forest protection and development as well as decentralized forestry functions to people's committees at different levels. Decentralization of land management was also reflected in the new land law passed in July 1993. The land law entitles land users to long-term renewable land-use titles, or Red Book Certificates (RBC) officially recognizing five rights of the title holder: rights to exchange, to transfer, to inherit, to mortgage and to lease the land-use title. Together, the FPDL and the land law set out the two important future directions for Viet Nam's forestry sector: state management for forest protection and development, and the involvement of the private sector in commercial production of forest-based products.

From 1991 to 1993, in an effort to streamline the SFE system, a requirement was set for all SFEs to be self-financed, thereby liquidating or restructuring all economically unviable SFEs. Nevertheless, the SFE reform was reviewed as incomplete and further restructuring efforts were required.

The "327 Programme" which started in 1992 made significant contributions to the participation of local populations in forest management towards a social forestry orientation. The programme started initially with the aim of protecting existing forests in critical areas and rehabilitating degraded lands, later adopting approaches to attempt permanent resettling of ethnic minorities living in and around critical forest areas.

1994 marked a year of restructuring of the forestry sector in Viet Nam. Through Decree No. 8/CP in February 1994, officially the MoF was put in charge of developing and implementing national reforestation programmes and projects.

By September 1995 — just before the establishment of the Ministry of Agriculture and Rural Development (MARD) — the MoF had ten departments dealing with: silviculture, forest industries, science and technology, international cooperation, planning and statistics, finance and accounting, organization and labour, forest protection, the Inspectorate and the Ministry's Office. Two institutes were established directly under MoF: the Forest Science Institute of Vietnam (FSIV) and the Forest Inventory and Planning Institute (FIPI). Other entities under the MoF included national parks and a number of forestry schools.

Other restructuring took place at local administration levels to facilitate local implementation. At the provincial level, two state agencies were responsible for forestry issues: the Forest Department and the Forest Protection Sub-Department, the latter being directly accountable to the PPC.<sup>5</sup> At the district level, the district FPU was merged with the district Agricultural Board, which provided advisory support to the DPCs. At the commune level, there were three different types of forest management bodies. In some communes, the Commune Forestry Board (CFB) assumed responsibility

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<sup>5</sup> In some provinces, the FD was combined with the Department of Agriculture into the Agriculture and Forest Department (AFD).

for commune-level forestry issues, whereas other communes had professional forestry staff, and still others were neither managed by the CFB nor professional forestry staff.

The restructuring of the forestry sector in 1994 marked an important change in national forest management. In general, the restructuring process reflected the commitment of the state to engage local populations, while shifting from forest use to sustainable development of forest resources.

### **1995: The establishment of MARD**

In 1995, the Ninth National Assembly passed a resolution to set up MARD to streamline and merge the functions and mandates of the MoF, the Ministry of Agriculture and Food Industry and the Ministry of Water Resources. The government issued Decree No. 73/CP specifying the mandate of MARD as the state agency responsible for management of agriculture, forestry, water resources and rural development and MARD thus became the primary authority for forestry in Viet Nam. With the establishment of the new ministry, most of the mandates under the former MoF were placed under the Forest Protection Department (FPD) and the newly established Forest Development Department (FDD), both under MARD. The FDD was established along with a Silviculture Division and a Forest Utilization Division to advise on the establishment, rehabilitation, utilization and development of all three forest types, as well as the development of social forestry.

Other departments were also established within MARD to address forestry issues (Figure 3). The Agricultural and Forestry Extension Department (AFED) was assigned to carry out extension activities for both agriculture and forestry. Within the AFED, forestry extension was carried out by the Forestry Extension Division (formerly under the Silvicultural Department). The Department of Agro-forestry Product Processing and Rural Industries (DAFPRI) prepared plans, development projects, issued permits, legal documents, policies, guidelines and standards related to forest product processing and conservation. The Policy Department formulated forestry policies and legal documents for endorsement.

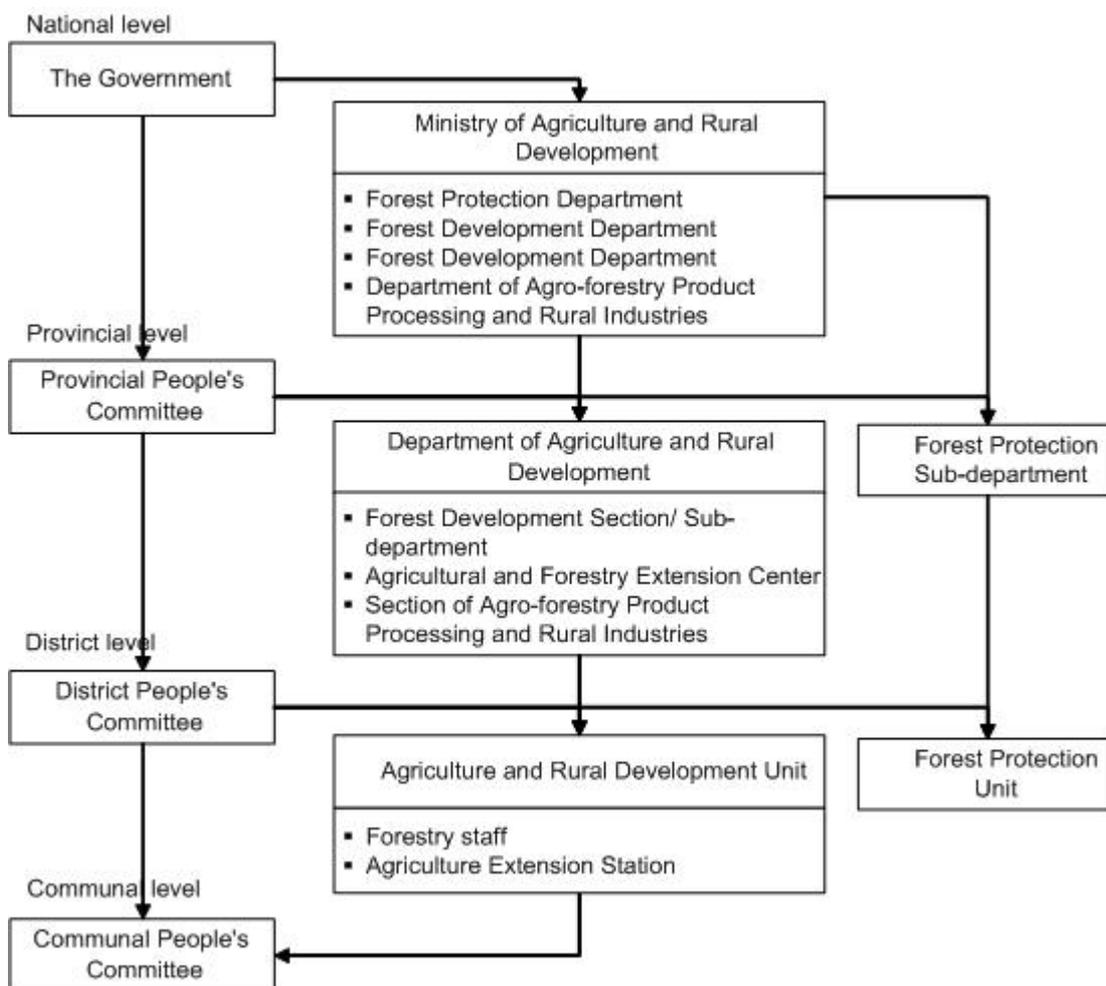
In addition, the following institutes were made directly responsible to MARD: the Forest Science Institute of Vietnam (FSIV); the Agro-forestry Science and Technology Institute of the Central Highlands; the Forest Inventory and Planning Institute (FIPI); the Management Board for Forestry Supported Projects (MBFAP); Vietnam Forest Product Corporation (Vinafor); Vietnam Forestry University (VFU); and the Central Forestry Seed Company. Apart from these institutes, research in forest sciences is also carried out by national parks under MARD, such as Tam Dao National Park and Cuc Phuong National Park.

Similarly, at the provincial level, through issuance of Decision No. 852/TTg, the Department of Agriculture and Rural Development (DARD) was set up consolidating relevant sectoral provincial offices to become the primary provincial authority in charge of state forest management. The DARD director was made accountable to the PPC and MARD for activities within his/her terms of reference. DARD comprised of 11 sections and subdepartments to deal with forestry development, FCS, NEZ development as well as the management of a subsidiary Extension Center.

The Forestry Section (FS) of DARD was established to oversee forest management, silviculture and implementation of forest plantation projects, with a staff of six to ten officials. In provinces with large forest area, forestry development sub-departments (Sub-FDD) were established in place of the FS.

At the district level, the Agriculture and Rural Development Unit (ARDU) incorporated district level authorities for the related sectors. ARDU was directly accountable to the DPC. An Agriculture and Forestry Extension Station was established under ARDU, assuming responsibility for agricultural and forestry extension work.

At the commune level, all tasks of the sector were assigned to a single CPC member. In general, the substantial changes in the sector had taken place prior to the establishment of MARD in 1995, and the emergence of the new ministry did not radically change operations for the forestry sector.

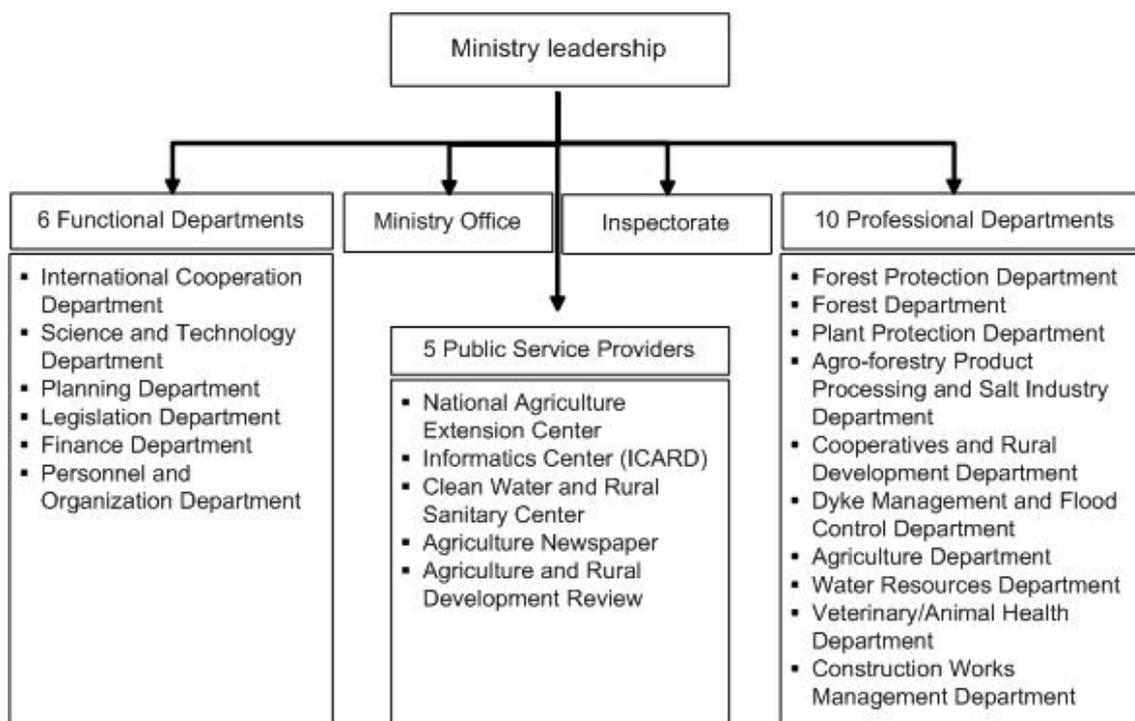


**Figure 3. Administrative structure of state management in forestry by 1995/1996**  
 Source: Based on relevant legal documents.

***Present forest administration system***

The organizational structure of MARD today remains largely unchanged since its establishment in 1995, including six functional departments and ten professional departments.

At the provincial level, DARD (1) advises and assists the PPC on matters pertaining to state management of agriculture, forestry, the salt industry, water resources and rural development; (2) provides public services in the agricultural and rural development sectors; and (3) carries out other tasks as mandated by the PPC.



**Figure 4. Organizational structure of MARD as of 2006**

The Sub-FD under DARD assists in matters pertaining to different forest uses, the development of social forestry and upland rural development. As of 2006, 34 out of 42 forest provinces (i.e. provinces with high forest cover) have Sub-FDs. The Sub-FD has no specific line agency at the district level and such tasks are dealt with by forestry officials of ARDU.<sup>6</sup>

The Sub-FPD supports the PPC in forest protection and management and related law enforcement at the local level. At present, the Sub-FPD operates in 59 provinces, 43 of which are under PPCs and 16 are under DARDs.

At the district level, there are 424 district FPU, 47 Forest Product Control Units (FPCUs) and 67 mobile forest protection teams. In addition to the regular FPUs, there are 45 FPUs under special-use forests (REFAS 2005).

At the commune level, forestry tasks are addressed by the CPC, with the assistance of forest rangers from the FPU at the district level.

## **KEY ISSUES IN THE FORESTRY SECTOR UNDER MARD**

From 1995 to date, the development of Viet Nam has been characterized by strong economic growth and increased global and regional integration, which have translated into changes for the forestry sector as well.

The sector has been under pressure to not only improve its productivity and competitiveness in international markets, but also to meet international commitments to sustainable forestry. Furthermore,

<sup>6</sup> In many districts, ARDU has joined with other production units into an Economic Unit under the DPC.

while there have been notable changes from state forestry to socially integrated forestry, major social challenges remain. Despite a drastic reduction over the last decade in the number of people living below the poverty line, poverty still remains endemic in many upland areas. In recent years, poverty alleviation and sustainable forest management have become central challenges for the forestry sector.

### ***New directions for the sector; National Forest Strategy (NFS)***

In 2001, MARD approved the National Forest Strategy (NFS) for the period 2001 to 2010. The NFS 2001–2010 identifies sustainable forest resource management and forest development as key development directions, reflected also in the commitment towards people-centred forestry. Soon after the approval of the NFS 2001–2010, a memorandum of agreement was signed between the government and international partners for the Forest Sector Support Programme and Partnership (FSSP&P).

The NFS proposes strategies in forest administration, technology, human resources and policies to be carried out through six development programme areas: the Five Million Hectare Reforestation Programme (5MHRP); sustainable forest management and development; wood and forest product processing development; forest resource inventory, monitoring and assessment; forest seed development; and human resource development.

But the development of the NFS had some major weaknesses. The strategy was not based on a comprehensive analysis of the sector and calculations of both tangible and intangible forest values. The preparation of the strategy did not integrate experiences from outside Viet Nam and future development trends. Moreover, it did not clearly identify financial resources necessary from sources including the government, international donors and the private sector (MARD 2005a).

In response, a review of the sector was carried out more recently, and in early 2007, the NFS 2006–2020 was promulgated, which stipulates the direction of national forest development.

### ***Sector challenges; Poverty alleviation and contributions to the national economy***

According to official statistics, the contribution of the forestry sector to the national GDP has been rather low over the last decade (Table 4). Growth in the sector has also been modest at 0.88 percent *per annum* between 1995 and 2004, as compared to 4.09 percent for the agriculture sector and 8.51 percent for the whole country over the same period.

Nevertheless, the figures do not capture the contribution of the sector to the national economy in terms of industrial production or fuelwood production (which contributes 7 percent of national energy demand). The count also fails to value environmental goods and services provided by forests (including carbon sequestration, ecotourism, or biodiversity conservation). Furthermore, arguably, if timber harvested and traded through illegal forest activities (said to be over 50 percent of national roundwood supply) were factored in, the full potential of the sectors' contribution to the economy would prove far greater (MARD 2005b, p.6). There have been efforts to address the issue of forest valuation in the recently approved Law on Forest Protection and Development. Currently, work is being carried out to prepare methodologies for valuing forest goods and services.

**Table 4. GDP of the forestry sector for the last decade (Billion VND, current)**

	1995	1997	1999	2001	2003	2004
GDP forestry sector	2 842 (1.24%)	4 813 (1.53%)	5 737 (1.43%)	6 093 (1.27%)	7 775 (1.27%)	9 412 (1.32%)
GDP agriculture sector	52 713 (23.03%)	65 883 (21.01%)	83 335 (20.84%)	87 861 (18.26%)	106 385 (17.34%)	118 258 (16.58%)
<b>Total GDP of Viet Nam</b>	<b>228 892</b>	<b>313 623</b>	<b>399 942</b>	<b>481 295</b>	<b>613 443</b>	<b>713 071</b>

Source: www.gso.gov.vn.

(Note: The numbers in parentheses are percentages over total GDP of the corresponding years.)

In terms of poverty alleviation, Viet Nam has made major progress. Between 1993 and 2004, the national poverty rate dropped from 58.2 to 24.1 percent, implying a reduction of the population living in poverty by more than half in 11 years. Such progress has been generally attributed to strong national economic growth. In the forestry sector, attention to poverty reduction was raised through the 5MHRP and the NFS 2001–2010. Nevertheless, systematic approaches to the challenge have yet to be adopted, as the sector's direct contribution to poverty reduction is unclear and the impacts of forestry on the poor remain vague (Dinh and Research Group of VFU 2005; Nguyen 2005a).

With the government's approval of the Comprehensive Poverty Reduction and Growth Strategy (CPRGS) in 2002, the forestry sector was challenged to identify specific strategies for meeting the national poverty reduction goal. In the NFS 2006–2020, an attempt was made to include poverty reduction in the forestry sector's developmental orientation. Preliminary findings from research show that there are various challenges, including provision of legal rights to local people, promotion of different forms of forest management with local community participation, identification and implementation of appropriate reward mechanisms for environmental services, and establishment of an effective forestry extension network (Dinh and Research Group of VFU 2005). These findings suggest that an adjustment in approach will be required by the sector to meaningfully contribute to the poverty alleviation objective.

### ***Human resources development and forestry training***

The shift towards people's forestry has created major challenges for the sector, especially in terms of human resources development. Compared to other disciplines, forestry training institutions in Viet Nam have experienced difficulty in recruiting top students, due the public perception of forestry being a less attractive profession (ETSP 2005). Nevertheless, in reality, the sector provides important career opportunities for students from rural upland areas, and thus diversification of forestry courses is being explored in forestry training institutions. Also, in response to needs for greater investment in training opportunities, especially for students from remote rural areas, the Vietnam Forestry University (VFU) has started offering a special preparatory programme for ethnic minority students.

The retraining of existing forestry officials (including field staff) has also proved to be a challenge. Measures taken in response include the provision of short training courses at centralized training centres (in Hanoi and Ho Chi Minh City) as well as in other localities, formulation of task forces assigned to develop new training modules and the establishment of training centres for forest protection staff in forestry high schools.

Nevertheless, refresher training opportunities for forestry staff, particularly those at lower levels are seen as inadequate. For example, only 10 percent of forestry managers have received updated

managerial training, and in some remote areas, forestry officials have not received updated training at all (MARD 2004a).

Training institutes under MARD currently include: (1) five forestry technical training schools for forestry workers; (2) four central forestry high schools and colleges, which offer training in technical forestry; (3) two management schools, which focus on (refresher) training for in-service forestry staff; (4) the Vietnam Forest University for higher forestry education; and (5) The Forest Science Institute of Vietnam offering forestry education to the Ph.D. level.

There are more than 20 agriculture and forestry schools and colleges directly under provincial authorities and four agriculture and forestry universities with annual enrolment in forestry programmes of around 800 students (MARD 2004a).

Forestry education also includes ongoing part-time education programmes that serve to upgrade the qualifications of forestry officials (ETSP 2005). Non-formal training courses are provided by development projects and other agencies for a wider audience, including project managers, technicians, extension workers and farmers.

Opportunities for training in social forestry have also been opened up to include forestry professionals, potential recruits as well as interested people at large. Social forestry training first started in 1994 when a Social Forestry Training Center was set up at the VFU, and by 1997, social forestry officially became an undergraduate major at the VFU and a network of training opportunities was established, including five universities that offered training in forestry.

The weaknesses in human resource development in the sector have been acknowledged and taken into consideration in the recent NFS. The new forest strategy proposes enhancement of managerial and technical skills of forestry officials at all levels by overhauling the forestry education and training system, and developing prioritized short training programmes, among other initiatives.

### ***Decentralization of decision-making in the forestry sector***

Over the last decade, substantial achievements have been made with regard to devolution of forestry decision-making. In December 2004, a new Forest Protection and Development Law was passed, outlining decentralized responsibilities and the transfer of forest protection and development to local levels with emphasis on coordination among the different national bodies.

**Table 5. Major decentralized forestry responsibilities**

<b>RESPONSIBILITIES</b>	<b>NATIONAL LEVEL</b>	<b>LOCAL LEVELS</b>
<b>Forest protection and development planning</b>		
Approval of master plan	MARD submits to the prime minister (PM) for approval	<ul style="list-style-type: none"> <li>The PPC approves the provincial level master plan based on appraisal by MARD</li> <li>The PPC approves the district level master plan</li> <li>The DPC approves the commune level master plan</li> </ul>
Approval of plans	MARD submits to the PM for approval	The PC submits to the People's Council at respective levels for approval
Implementation of (master) plans	MARD is responsible for implementation at the national level and for monitoring and evaluation of implementation at provincial levels	The PC is responsible for implementation at the same level and for monitoring and evaluation of implementation at lower levels
Forest land allocation/lease/reclamation		<ul style="list-style-type: none"> <li>The PPC decides on forest allocation/lease to and reclamation from expatriate Vietnamese, foreigners and organizations</li> <li>The DPC decides on forest allocation/lease to and reclamation from individuals and households</li> </ul>
Setting up production, protection and special-use forest	MARD submits to the PM for approval of important forest sites	The PPC approves the establishment of forest sites within the province
Change of forest type and use	The PM decides on changes of important forest sites	The PPC decides on changes of forest sites within the province
Forest survey and inventory	MARD in collaboration with MONRE	The PC at respective levels
Forest protection and law enforcement	<ul style="list-style-type: none"> <li>MARD is responsible for issuance of policies and organization of the forest protection system</li> <li>Other ministries coordinate</li> </ul>	<ul style="list-style-type: none"> <li>The PPC is responsible for issuance of policies and implementation guidance</li> <li>The PCs are responsible for implementation, monitoring and evaluation of forest law enforcement at their respective levels</li> </ul>
<b>Extraction of forest products</b>		
From natural forests		<ul style="list-style-type: none"> <li>The PPC decides on extraction by organizations<sup>7</sup></li> <li>The DPC decides on extraction by individuals and households</li> </ul>
From plantation forests		<ul style="list-style-type: none"> <li>Plantations funded by forest owners are decided by the owners</li> <li>Plantations funded by the state are decided by a competent state body</li> </ul>

<sup>7</sup> According to Decision 02/1999/QĐ-BNN-PTLN (1999) by MARD the decision on extraction of timber from natural forests by organizations is to be made by the MARD minister. The logging permit is granted by the PPC based on the MARD decision.

The 1991 Law on Forest Protection and Development and the 1993 Land Law initiated the devolution of forest management to local people. By the end of 2004, almost 3.2 million hectares of forests (accounting for 25.5 percent of the total forest) were being managed by local people, either individually or collectively (Forest Protection Department 2004).

Nevertheless, major challenges remain. There are no clear mechanisms for benefit sharing between households and communities managing forests, and the state (Nguyen 2005a). Though various benefit-sharing arrangements are being explored, there is still a gap between stipulations and the capacity for local level implementation.

### ***Forestry extension***

Since the establishment of MARD, forestry and agricultural extension activities have been integrated into one system, recognizing the many cross-sectoral issues in upland rural development. In 2002, by Decree 30/2002/QD/BNN-TCCB, the National Agricultural Extension Center (NAEC) under the Agricultural and Forestry Extension Department (AFED) was established as an extension service provider at the national level and in July 2003 the NAEC became directly responsible to MARD; the AEFD was replaced by the Department of Agriculture.

At the provincial level, Province Agricultural Extension Centers (PAECs) have been established under the DARD in all 64 provinces and municipalities. In addition to PAECs, the Provincial Agricultural Extension Advisory Council facilitates coordination among different agencies involved in extension-related activities and support services. At the district level, District Agricultural Extension Stations (DAES) have been established in approximately 80 percent of all districts. There are various organizational models for extension at this level. In some provinces, DAES are directly under PAECs; in other provinces, DAES are directly under the DPC; elsewhere, DAES belong to ARDU. At commune and village levels, the situation varies. Conventional extension programmes at these levels feature extension workers, extension clubs and extension volunteers (ETSP 2005; Hoang and Nguyen 2003). In 2005, with the issuance of Decree 56/2005/ND-CP, extension workers at the commune and village level were made mandatory. Concomitant to the national extension network is the provision of training for extension workers. While curricula on extension training for work with farmers have existed along with university course options, provision of training in specific extension services remains weak. So far most extension efforts have focused on the agriculture sector particularly on the provision of agricultural inputs and training on agricultural production. Between 1993 and 2000 approximately 90 percent of the budget from the central government for extension work was allocated to the agriculture sector.

In general, forestry extension activities in the field have been attributable to international donors and NGOs. Over the last decade, various international projects have been engaged in forestry extension approaches in different areas of Viet Nam. Some of the most important lessons come from the Swiss Development Cooperation (SDC) through the SFSP (1994–2002) and the ongoing Extension Training and Support Project (ETSP), implemented by Helvetas Vietnam in collaboration with its local partners. Other projects include the Swedish-funded Mountain Rural Development Programme, the FAO-funded Participatory Watershed Management Project in Quang Ninh Province and the German-funded Social Forestry Development Project. Various international NGOs also carry out projects not only in forestry extension activities, but more importantly provide human resource training for local extension systems.

Future plans in forestry extension under MARD look toward the involvement of different stakeholders in the development of the forestry extension networks. Emphasis will be on forest and forest land allocation policies, marketing and technology transfer for sustainable upland cultivation. The main targets will be marginalized groups at the grassroots level (MARD 2003).

### ***National forest programmes***

From the early 1990s to date, the 327 Programme and the 5MHRP have been the two major national programmes implemented by MARD. These programmes have contributed to a number of important areas in the sector, including environmental protection, poverty alleviation, restructuring of the SFE system, decentralization of forest management and rural livelihoods. Programme implementation has also resulted in the reform of some state forest agencies.

The 327 Programme (1992–1998) was launched in September 1992, against a backdrop of rapid forest degradation and deforestation. The programme objectives were to rehabilitate existing barren lands within 15 years, and to promote a sedentary life for ethnic minorities living in and around forest areas. The central components of the programme were forest and land allocation. Individual households were entitled to a contracted forest area for protection, restoration and regeneration (on an annual basis) with remuneration of VND50 000 per hectare per year. In 1995, the programme was reviewed to focus attention on protection and special-use forests through plantation, regeneration and agroforestry.

Substantial resources were spent on the 327 Programme; in the six years of implementation, total investment capital amounted to VND2 980 billion. Around 1.6 million hectares of protection forest were safeguarded through contractual arrangements, 409 000 hectares of forest were rehabilitated and 543 000 hectares were reforested.

The programme had several major implications for state forest agencies, particularly those at the field level. SFEs or FPUs became designated project managers tasked to subcontract forests to local people for protection or plantation, monitoring the implementation of these activities and providing necessary technical support.

The 5MHRP (1999–2010) also known as the 661 Programme, was launched in 1997 to increase forest cover from around nine million to 14.3 million hectares (from 28 percent to 43 percent) by 2010. Of the five million hectares to be reforested, two million hectares were targeted as protection forests and three million hectares as production forest. In addition the programme was designed also to contribute to poverty alleviation and increase income for the inhabitants of mountainous areas.

Under the 5MHRP, existing production forests and certain protection forests were allocated to individuals and local households on long-term contracts. Furthermore, people who invested in the establishment of production forests were entitled to benefits from this forest.

The 5MHRP had greater impact in improving forest cover and forest quality in comparison with the 327 Programme. Between 1999 and mid-2005, approximately two million hectares were reforested and 2.26 million hectares of forest protected under contract. Total investment capital has accumulated to VND5 916 billion or around US\$374 million.

### ***Coordination of international assistance***

Recently, most assistance from international donors to the forestry sector has been channeled through the FSSP&P, which was established in 2001 to streamline international assistance for sectoral needs. The partnership framework has been widely supported, which is reflected in the increase of international partners from 19 in 2001 to 24 in 2006.

FSSP&P activities are organized through five programmes: (1) the Programme for Sustainable Forest Management; (2) the Programme for Forest Protection, Conservation and Environmental Services; (3) the Programme for Wood and Forest Product Processing and Trade; (4) the Programme

for Forest Research, Extension, Training, and Education; and (5) the Programme for Strengthening Forest Sector Policy, Organizational, Planning, Financial, and Monitoring Frameworks.

There is also an International Support Group (ISG) under MARD, serving as a forum for discussion by the government and international donors on priorities, policies, strategies and experiences in agricultural and rural development. Currently, there are 15 projects with an estimated total budget for 2006 to 2010 of approximately US\$150 million.

### ***Logging bans and responses; from extraction to value added processing***

With the decrease in forested area and the imposition of a partial logging ban in 1992, roundwood extraction has declined (at least officially). In 1996, annual logging by state forest organizations was around 0.98 million m<sup>3</sup>, compared to around 1.1 million m<sup>3</sup> in 1991 and 1.4 million m<sup>3</sup> in the mid-1980s. Annual logging by state forest organizations continued to fall, with the consolidation of the logging ban in 1997, to around 300 000 m<sup>3</sup> in 2000 and 200 000 m<sup>3</sup> in 2004. In response to the declining timber harvest, the government is working to implement policy directives aimed at promoting domestic wood processing and export of finished products; shifting of timber production from natural to plantation forests; and importing raw wood materials for domestic use.

In addition, MARD strengthened control on logging procedures on both natural and plantation forests. In January 1999 MARD issued a Decision on procedures for harvesting timber and forest products.<sup>8</sup> According to this Decision, DARD is mandated to appraise and issue logging permits. In collaboration with the Sub-FPD, DARD is also responsible for monitoring logging activities.

However, in part as a response to these tightening measures, there has been corresponding increase in illegal logging. According to FPD statistics, the volume of illegal timber harvested declined slightly from 61 012 m<sup>3</sup> in 1998 to 56 747 m<sup>3</sup> in 2003. However, the trend has since reversed with much larger volumes of illegal harvesting taking place, though largely unrecorded. Estimates suggest that this illegal timber volume could be over 50 percent of the national roundwood supply (MARD 2005b); this poses a serious threat to sustainable forest management.

### ***Biodiversity conservation and establishment of protected areas***

The government's commitment towards biodiversity conservation is reflected in the following policy directives and programmes: the National Nature Conservation Strategy of Vietnam (1984), the Tropical Forestry Action Plan (1991), the National Plan for Sustainable Environment Development (1991), the Law on Forest Protection and Development (1991, 2004) and the Law on Environment Protection (1993, 2005) (MARD 2005b).

Forests designated for conservation in Viet Nam fall into the category of special-use forests. Over the last decade, the forestry sector has made substantial efforts to identify and expand special-use forest areas and strengthen its management capacity. By the time of MARD's establishment in 1995, there were 90 special-use forests covering an area of 953 000 hectares. At present, there are 26 national parks, 66 natural reserves and 37 historical, environmental and cultural forests nationwide, covering approximately two million hectares. Of these special-use forests, there are eight national parks under direct MARD management, with the remainder under management by PPCs.

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<sup>8</sup> Decision No. 02/1999/QĐ-BNN-PTLN.

### ***Forest industries and commercial production***

In the forest industry, there are various units; around 319 SFEs (including the largest, Vinafor), the Central Forest Seed Company and its local affiliations and more than 250 wood and forest product processing enterprises under provincial authorities. In addition, there are approximately 40 enterprises with foreign investment and 786 enterprises in other economic sectors that also are involved in the forest industry (MARD 2003).

State-owned enterprises manage expansive forest areas. For example, SFEs manage approximately five million hectares of natural forest or 50.7 percent of the total natural forest area (Nguyen 2005a).

To increase the independence of state enterprises in business operations, the government has transferred the control of most state enterprises from MARD to local authorities, and is promoting reduced government control on these enterprises (MARD 2003).

## **EFFECTIVENESS OF THE SECTOR REFORM: AN ASSESSMENT**

### ***Government commitment to the forestry sector challenges***

Over the last decade, the forestry sector has gained increased recognition as a sector of national importance, reflected through government funding, policy-making and legislation. Under the current legal framework, the most important document guiding forestry development is the Law on Forest Protection and Development (2004). The government has also issued various by-laws including three legal documents issued between 1999 and 2004 for the implementation of SFE reforms.

Forestry sector funding has also undergone significant review. Between 1993 and 1998 accumulated state funds invested in the 327 Programme amounted to VND2 980 billion (equivalent to 1.1 percent of the national GDP of 1995), and in the 5MHRP, between 1998 and 2005, VND5 916 billion had been invested (exceeding the GDP of the forestry sector and accounting for 1.6 percent of national GDP for 1998).<sup>9</sup> For the total lifetime of the programme (1998–2010), planned investment capital is VND33 000 billion (approximately US\$2.4 billion in 1998 terms), which is around six times the contribution of the forestry sector to the national GDP or almost 10 percent of the total GDP in 1998. In 2006, approximately VND2 110 billion (US\$132.7 million) was disbursed for forestry development.<sup>10</sup>

As demonstrated through the government's shift to adopt poverty alleviation goals in its key sector strategies, as well as its recognition of multistakeholders and devolution of authority, the sector has been relatively quick to adjust to emerging issues. These factors have contributed significantly to the effectiveness of sector reforms.

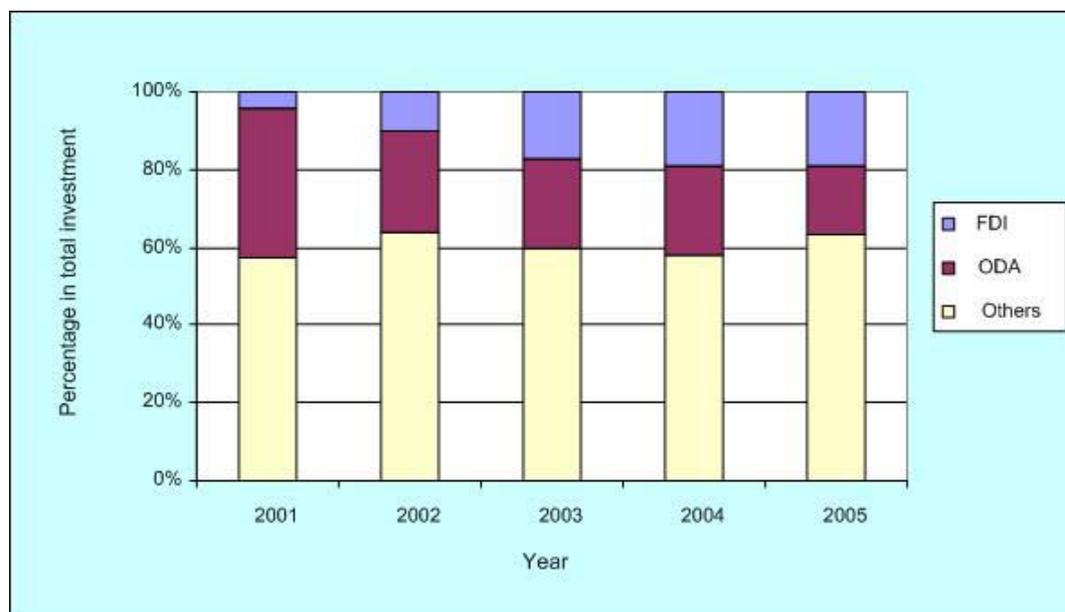
### ***International assistance and investments***

Early support to the sector came from the Swedish International Development Agency (SIDA), the German Agency for Technical Cooperation (GTZ), the German Bank for Reconstruction (KfW), the Japanese International Cooperation Agency (JICA), the World Bank, FAO, the World Food Programme (WFP) and other international donors.

<sup>9</sup> Not reflective of inflation rates.

<sup>10</sup> This amount includes foreign loans.

International investment is continuing to grow and in recent years, investment from the private sector has become substantial. Since 2001, most international assistance has been channeled through the FSSP&P for better targeting of forestry objectives. Between 2001 and 2005, Overseas Development Assistance (ODA) and Foreign Direct Investment (FDI) in the forestry sector accumulated to over VND6.5 billion (over US\$400 million), accounting for around 40 percent of the total investment in the forestry sector (Figure 2).



**Figure 5. International investment by source of funds, 2001–2005**

Source: MARD (2005a).

In 2004, a Trust Fund for Forest (TFF) was established with funding from four international donors — the embassies of the Netherlands, Sweden, Switzerland and Finland — with an initial contribution of over €15 million. For the period 2004–2007, the four donors pledged contributions of approximately €5.53 million. This funding will be managed by FSSP-CO. The TFF concept is to provide support for pro-poor and sustainable approaches to forest management. By pooling funds from the four donors, the TFF expects to provide more effective support to key priorities in the forestry sector as stipulated in the FSSP&P agreement (FSSP-CO 2005).

The international community has also provided technical support. Internationally funded projects have helped in the transfer of state-of-the-art technology and experiences from other countries as well as human resource training for the sector.

Viet Nam is currently signatory to around 28 multilateral environmental agreements (MARD 2005b): i.e. the Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species (CITES), United Nations Convention to Combat Desertification (UNCCD) and the UN Framework Convention on Climate Change (UNFCCC). In addition, Viet Nam is a member of a number of international organizations that promote sustainable forest management, such as the Asia Forest Partnership (AFP), Asia-Pacific Forestry Commission (APFC), International Network on Bamboo and Rattan (INBAR), Center for International Forestry Research (CIFOR) and the Regional Community Forestry Training Centre (RECOFTC) (MARD 2005b). It is also expected to become a member of the International Tropical Timber Organization (ITTO) in the future.

Substantial financial assistance from the international community to the forestry sector is not, however, expected to continue for long. Viet Nam is moving towards joining the medium-income

group of countries, and grant assistance and credits are expected to shift to loans at less concessional rates. Alternative financing resources will therefore need to be found.

### ***Weak legal framework and institutional capacity issues***

Though the government has been quick in identifying emerging issues and adopting overall strategies to address them, there remain gaps in the sector's legal framework which hinder sound implementation.

First, many legal documents lack clarity and practicality. For example, Decision 178/2001/QD-TTg, which stipulates entitlements and obligations of forest owners, comes with benefit calculation methods which are too complicated to be applied in practice. This has resulted in its slow implementation, even four years after its promulgation.

Second, there are legal inconsistencies. For example, local communities are legally recognized as forest owners under the 2004 Law on Forest Protection and Development. However they are not recognized as legal entities under the Civil Code and are consequently not able to enjoy full ownership rights. Another example is related to the role of the PPC. According to Resolution 08, the PPC is stipulated as being responsible for provincial plan development while in Article 18 of the Law on Forest Protection and Development, PPCs are accountable for only developing plans while MARD is stipulated as the authority for appraisal (REFAS 2005).

Third, legal documents are often issued without taking into account the practicality of implementation; often financial and human resources are not available to fulfill tasks as stipulated. There are many cases where legal documents are issued by the central government leaving local authorities responsible for identifying and securing the resources needed for implementation.

The lack of clear indicators and a proper system for monitoring implementation also contributes to slow policy implementation and poor feedback of results.

Another weakness lies in government's capacity to implement and monitor legal frameworks. At the central level, the number of staff in the FD and FPD has remained at approximately 44 to 48 people in each agency over the last ten years. At the provincial level, there are currently around 530 staff working in the Sub-FD or FS under DARD, ranging from five to 20 people per province, and around 1 300 FPD officials in the Sub-FPD. At the district and commune levels, there are no more than two forestry staff working in each ARDU and around 8 000 rangers.

Poor implementing capacity is also reflected in forestry extension services at the field level. Current extension focuses mostly on agriculture. As the number of people involved in forest management is increasing along with the area of forests, there is an increasing need for extension services supporting forest production and development.

### ***Weak institutional arrangements and a lack of policy research capacity***

Unclear institutional arrangements also negatively affect the overall performance of the sector. For example, Decision No. 1/CP/1996 stipulates that forest planning is the task of the FIPI. In addition, the FIPI is also in charge of carrying out an inventory of forest resources in the country every five years. Conversely, under Directive No. 32/2000/CT/BNN-KL and Decision No. 78/2002/QD-BNN, annual monitoring of changes in forest resources is the responsibility of the FPD. The FPD is also in charge of developing a relational database management system for forest monitoring. Despite the thematically close mandates of the two agencies, there is little, if any, systematic exchange of data or knowledge amongst the two. This leads to duplications of similar activities, with high associated costs.

As for forestry policy research and analysis, despite the various institutes and universities involved in research work, there is no single unit responsible for policy research and strategic planning. Existing research institutions mainly focus on research in technical matters, e.g. silviculture, genetic development, product processing and forest species. The FSIV, which is currently the leading research institute in the forestry sector, conducts most of its research work on forest sciences with very little attention to forest policies. Similar to the FSIV, other institutes in the forestry sector also focus on scientific forestry research.

In general, there is inadequate policy research and analysis conducted on a regular basis to provide continuous feedback on the impacts of forest policies and to predict future trends. Without such information, the quality of resulting forestry policies, legislation and development strategies for the sector will be hindered.

## SUMMARY AND CONCLUSIONS

Since the establishment of MARD in 1995, the forestry sector of Viet Nam has undergone a number of important changes. Some of the lessons to be learned from Viet Nam's experience as identified through this study include:

- *Participation of local people in forest management:* Decentralizing forest rights from state organizations to multiple stakeholders, particularly local people who live in and around the forest has been an important part of the fight against forest degradation. Viet Nam is currently allowing different forms of forest management by local people to increase forest cover and improve the livelihoods of local inhabitants.
- *Poverty alleviation as part of the sustainable forestry agenda:* With almost one-third of the country's population living in forest areas, many of whom are considered poor, measures for poverty reduction are important for sustainable forest management.
- *Sound and feasible legal framework:* Rapid changes in the sector's policies have often resulted in confusion in implementation, undermining the overall relevance of the policies. Confusion is heightened when policies are issued without taking into account implementation feasibility and well-defined procedures.
- *Policy research and feedback in strategic decision-making:* Weak institutions for policy monitoring and lack of institutionalized policy research and analysis has resulted in weak monitoring of forest policy implementation. Without such information, the feasibility of developing appropriate policies, particularly for long-term development, is limited.
- *Coordination in international assistance:* Strong support from international donors has contributed significantly to the sector's development. With the establishment of the FSSP&P and the ISG, the sector has taken an important step towards more effective coordination of international assistance.
- *Shifting focus from timber extraction to value-added processing:* In response to the drastic decrease in coverage and degradation of natural forests, the sector has made a conscious shift from extraction-focused industries to processing for value addition. This shift has not only reduced the pressure on forests but has served to increase the unit value of traded forest products.

In order to cope with current challenges and to enhance existing strengths, the following recommendations are made in relation to the ongoing institutional changes of the sector:

1. *Preparation for the phasing out of international assistance:* Necessary preparations include the development of priority programmes and actions to be undertaken and harnessing existing international assistance to achieve them. Recommended priority areas include capacity building of government staff at all levels through on-the-job training, institutionalizing and operationalizing a policy assessment and monitoring system and strengthening policy-making procedures.
2. *Establishment of an agency responsible for policy research, analysis and strategic planning:* An agency directly accountable to MARD should be tasked to provide policy-makers with information on policy implementation at the local level as well as broad-based analysis for future development of the sector. Specific tasks of this agency would include conducting regular studies on the effects of various policies, reviewing relevant forestry experiences from other relevant countries, synthesizing lessons from Viet Nam, assisting the FD and the legal department in MARD to develop forest policies and legislation and preparing and revising forest development strategies.
3. *Accelerate the process of devolution in forest management:* This includes accelerating and extending SFE reforms to the local level as well as enhancing the participation of local people in forest management to improve forest cover and livelihood opportunities. To facilitate this, it is recommended to develop and institutionalize clear and simple procedures to guide the implementation of forest devolution in the field and more importantly to monitor forest management after devolution.
4. *Improved institutional arrangement and coordination among different forest agencies:* A recommended approach, also suggested by REFAS (2005), is to combine the FD and FPD systems into one unit. The advantage of combining the two systems is the benefit of a unified body at the local level, thus relieving problems of coordination and also reducing administrative staff. Another option to improve coordination is to place the Sub-FPD at the provincial level under DARD, and the FPU at the district level under ARDU or the Economic Unit. Some forest protection staff could then be mobilized in the extension network.
5. *Strengthening and institutionalizing the policy monitoring system:* This includes developing a set of monitoring indicators with legal adjuncts, consolidating indicators and reporting to relevant authorities regularly.
6. *Improve capacity in forestry extension services:* With around three million hectares of forests currently under the management of local people and another one million hectares forthcoming (as result of SFE reform), the demand for forest extension services will increase significantly. It is recommended that some FPD staff, particularly those at the local level, should be mobilized to work in the extension network, given their silvicultural expertise and experiences in forest management. As an organizational measure, forest users and managers could be organized into groups at the village or commune level to better access extension services.

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## Appendix 1. Abbreviations and acronyms

5MHRP	Five Million Hectare Reforestation Programme
AFD	Agriculture and Forest Department
ARDU	Agriculture and Rural Development Unit
CM	Council of Ministers
CPC	Communal People's Committee
CPRGS	Comprehensive Poverty Reduction and Growth Strategy
DARD	Department of Agriculture and Rural Development
DPC	District People's Committee
DRV	Democratic Republic of Viet Nam
ETSP	Extension Training and Support Project
FAO	Food and Agriculture Organization of the United Nations
FCS	Fixed Cultivation and Sedenterization
FB	Forest Bureau
FD	Forest Department
FDD	Forest Development Department
FEB	Forest Exploitation Bureau
FIPI	Forest Inventory and Planning Institute
FPD	Forest Protection Department
FPDL	Forest Protection and Development Law
FPU	Forest Protection Unit
FS	Forestry Section
FSIV	Forest Science Institute of Vietnam
FSSP&P	Forest Sector Support Programme and Partnership
FSSP-CO	Forest Sector Support Programme Coordination Office
GDA	General Department of Agriculture
GDF	General Department of Forest
GDP	Gross Domestic Products
GoV	Government of Viet Nam
ISG	International Support Group
MAFa	Ministry of Agriculture and Farming
MAFo	Ministry of Agriculture and Forestry
MARD	Ministry of Agriculture and Rural Development
MoA	Ministry of Agriculture
MOA	Memorandum of Agreement
MoF	Ministry of Forestry
MSF	Ministry of State Farms
NEZ	New Economic Zones
NFS	National Forest Strategy
PAR	Public Administration Reform
PC	People's Committee
PPC	Provincial People's Committee

REFAS	Reform of Forestry Sector Administration System
SDC	Swiss Development Cooperation
SFE	State Forest Enterprise
SFSP	Social Forestry Support Programme
SIDA	Swedish International Development Agency
Sub-FD	Forest Sub-department
Sub-FDD	Forest Development Sub-department
Sub-FPD	Forest Protection Sub-department
TAG	Thematic Ad-hoc Group
UNDP	United Nations Development Programme
VFU	Vietnam Forestry University
VND	Vietnamese dong (local currency)
WFB	Water and Forest Bureau

# RE-INVENTING THE UNITED STATES FOREST SERVICE: EVOLUTION FROM CUSTODIAL MANAGEMENT, TO PRODUCTION FORESTRY, TO ECOSYSTEM MANAGEMENT

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Doug MacCleery<sup>1</sup>

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(Note: The views and perspectives expressed in this paper are those of the author and do not necessarily reflect the policy positions of the USDA/Forest Service or the United States Government.)

Forest policy and institutional frameworks in all countries are fashioned according to their larger sociopolitical context, traditions and history. A major factor in shaping the historical sociopolitical context in the United States has been decentralization. At the time of their independence from England, the 13 original colonies entered the union as largely autonomous entities or “states” — and over time they have guarded this status jealously.<sup>2</sup> In spite of this, over more recent decades, many policy and institutional functions have been centralized at national or federal levels. This trend has been slow at times — and has often been resisted by the states — with occasional attempts to reverse such centralization.

## HISTORICAL CONTEXT LEADING TO THE ESTABLISHMENT OF THE NATIONAL CONSERVATION FRAMEWORK AND THE FOREST SERVICE

Throughout the nineteenth century, United States policy encouraged rapid settlement and economic development of its western territory. To accomplish this, a variety of approaches were developed, including transfer of federal (public domain) lands to individual farmers, ranchers and corporations, especially railroad companies that built transportation infrastructure.

After 1850, the population grew rapidly (20 to 25 percent per decade) and settlement of the western territories accelerated. Concerns began to be voiced over some of the environmental and economic implications of rapid development, including: (1) accelerated deforestation (forests were being cleared for agriculture at the rate of almost 3 500 hectares per day); (2) massive wildfires due to logging and land clearing (wildfires annually razed 8 to 20 million hectares); (3) extensive areas of “cut-over” land or “stump lands” remained unstocked or poorly stocked with trees for decades (estimated at 32.5 million hectares in 1920); (4) significant soil erosion by wind and water in some places; and (5) major wildlife depletion due to commercial hunting and subsistence use (Trefethen 1975; Williams 1989; MacCleery 1992). It was gradually recognized that these conditions were jeopardizing future economic development, as well as being concerns in their own right.

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<sup>2</sup> The United States Civil War (1861–1865), the bloodiest conflict in the country’s history, was fought, in part, over whether individual states had the right to withdraw from the Union into which they had voluntarily entered at the conclusion of the Revolutionary War of 1776 to 1782. The outcome of the war determined that the answer was “no”.

## Early 1900s: conservation policy framework

A number of policy and institutional changes were put in place during the early decades of the twentieth century (MacCleery 1992). This conservation policy framework included:

- Closing the public domain to further private land disposal and reserving the remaining public lands (most of which were in the western part of the country) for protection and management, as national forests, national parks and national wildlife refuges.
- Promoting and encouraging the protection of forests and grasslands — across all ownership categories — from wildfire, insects and disease.
- Improving natural resource management by acquiring scientific knowledge on the management of forests and wildlife and on the more efficient utilization of raw materials.
- Improving the management and productivity of both agricultural lands and forests through technical and financial assistance to farmers and landowners.
- Adopting and enforcing federal and state wildlife conservation laws.

The rationale for public land reservation in 1900 was watershed protection and timber production. There were major concerns at the time that forest depletion would lead to timber shortages, even a “timber famine” (Williams 1989). In 1900, wood was considered an essential raw material for both industrial and domestic use.

Given the long time frames associated with tree growth, plus the relatively low timber prices at the time, it was assumed widely that once the original forest capital was removed private landowners would not make the forest management investments that would be needed to assure adequate long-term supplies of timber for the nation.<sup>3</sup> Therefore national forests were reserved to secure “favorable conditions of water flows, and to furnish a continuous supply of timber...” (1897 Organic Administration Act). By 1900, however, about 70 percent of the total national area of productive forests had already been transferred to private ownership and a decision was made not to transfer the remaining forest lands.

Rather than transferring the remaining 30 percent of forest lands to private ownership or giving administrative responsibility to the states or local authorities, the United States opted for direct federal administration of much of the remaining public domain lands. This decision was a significant one which has, over the years, substantially affected the political dynamics under which these lands have been administered.

The Forest Service, established under the United States Department of Agriculture, became the primary government agency for administering the national forests and supporting collaborative forest management across the country.

Federally administered lands are concentrated in the western United States and make up about 261 million hectares. These lands contain approximately 100 million hectares of forest land — or about a third of all forests in the United States. The Forest Service administers 78 million hectares of land, or about 8 percent of the total area of the United States (Table 1).

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<sup>3</sup> Although reasonable at the time, this assumption has since proven invalid. Owing to rising real prices for wood products and a favourable tax and related institutional climate that encourages investments in timber-growing practices, private forests now account for 92 percent of national timber harvest, while also providing high levels of watershed protection (USDA/Forest Service 2004).

**Table 1. Land area and ownership in the United States**

Ownership category	Land area(millions of ha)	Percent of all lands
Private lands	551	60
Public lands		
National Forest System	78	8
Bureau of Land Management	106	12
National Park Service	34	4
National Wildlife Refuges	38	4
DOD/Energy/other agencies	6	1
Total Federal	262	29
Indian Trust lands	22	2
State and local	79	9
Total public	363	40
All lands	916	100

Sources: Based on USDA/ERS (2001) and USDA and USDI statistics.

## FOREST SERVICE: ORGANIZATIONAL PHILOSOPHY AND STRUCTURE

One of the most significant structural re-organizations in the early years of forest management in the United States occurred when the Forest Service was created in 1905. At that time, management responsibility for the forest reserves was transferred from the Department of the Interior's General Land Office to the Department of Agriculture.<sup>4</sup> This signified a major change in organizational culture from the land disposal philosophy of the Department of the Interior to the production and scientific management philosophy of the Department of Agriculture.<sup>5</sup>

At the time it was established, the Forest Service was crafted on European models of forest administration and was characterized by:

- A professional line and staff cadre that was required to pass proficiency exams as a condition of hiring (Roth and Williams 2003).
- A set of core values and a common approach to problem-solving. These values were re-enforced by the curricula and cultural values taught in forestry schools.
- A decentralized decision-making structure with considerable discretion given to field managers. This reflected purposeful design, as well as the practicalities of the remote locations and poor communications that existed in forest areas at the time and the high variability of resources and local conditions. Previous requirements for upward reporting and approval that had existed under the Department of the Interior were reduced or eliminated (Roth and Williams 2003).

<sup>4</sup> In 1907 the forest reserves were renamed "national forests".

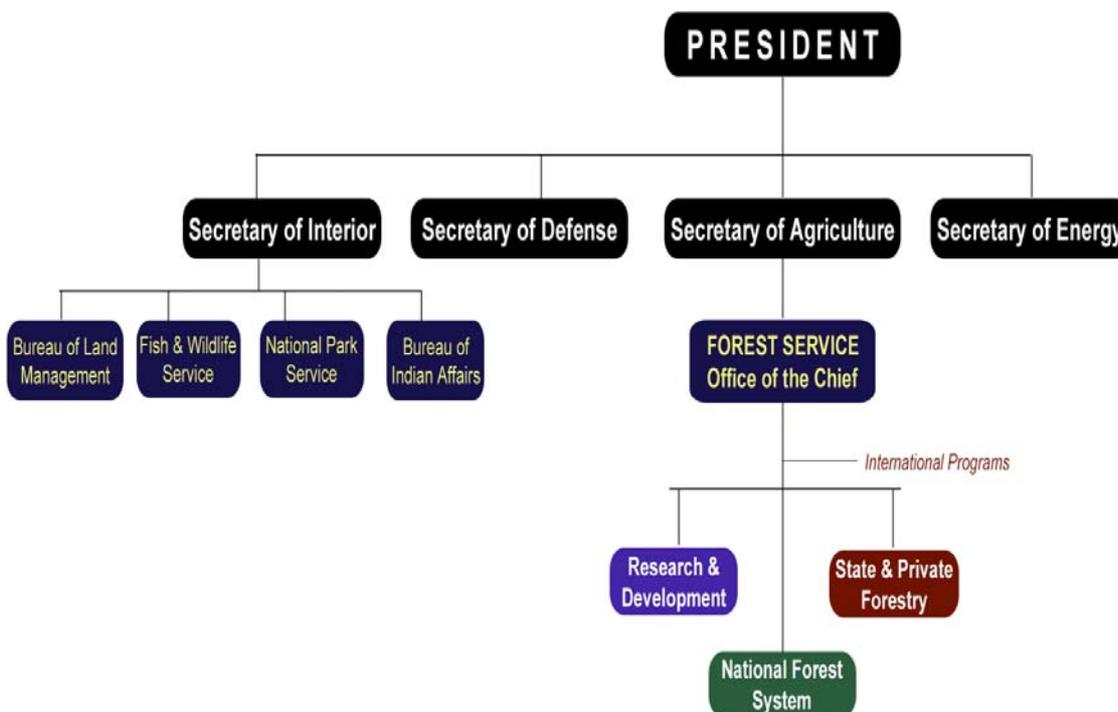
<sup>5</sup> Over time, one of the largest federal land-managing agencies has been located in the Department of Agriculture, while almost all other land-managing agencies are located in the Department of the Interior (DOI); this led to many proposals to either shift the Forest Service back to the DOI or to create a Department of Natural Resources within which all federal land-managing agencies would reside. None of these proposals has been implemented successfully.

- The Forest Service becoming the central identity and organizing structure in professional employees’ lives. Employees were required to move frequently if they wanted to advance professionally. This both expanded professional experience and reduced the risk of employees becoming “captured” by local economic interests.<sup>6</sup>
- A “promotion from within” policy, under which the agency prided itself that any professional employee with enough talent (and luck) could aspire to become the Chief of the Forest Service.

For decades the Forest Service was characterized by a management philosophy established early on in its history. Until the 1970s, most Forest Service professional employees were foresters with rural American values who had graduated from forestry schools that taught curricula that re-enforced these values. While the agency had a highly decentralized decision-making structure, what emerged was a remarkably consistent approach to solving problems and viewing the world.

In addition to the management of the national forests, the Forest Service was delegated responsibilities for forest management and wood technology research, and for providing assistance to private forest landowners. In cooperation with emerging state-level public forestry agencies, the Forest Service geared up to improve wildfire suppression and to provide technical and financial assistance to small forest landowners.

By the 1920s, the Forest Service’s organizational framework was largely in place. This included three operational divisions: (1) the National Forest System (NFS); (2) Research and Development (R&D); and (3) State and Private Forestry (S&PF). This organizational structure remains today (Figure 1).



**Figure 1. Organizational relationship of federal land management agencies**

<sup>6</sup> Until the mid- to late 1970s, professional employees working for the national forests generally did not apply for job openings. Such promotions or transfers were offered with a strong expectation that they would be accepted. These usually required the employee and his or her family to move, often to remote locations. It was widely understood that if a particular employee turned down two such offers, the next one would be very long in coming, if ever.

The National Forest System has always been the largest of the divisions by far. From inception, it has had four hierarchical levels:

- Ranger districts, subdivisions of national forests, where most fieldwork is carried out.
- Supervisor's Offices – the administrative offices for each individual national forest.<sup>7</sup>
- Regional Offices, providing an intermediate administrative level below the headquarters (there are nine regional offices in existence today).
- National Headquarters, located in Washington, DC.

## **THE EVOLVING USE AND MANAGEMENT OF NATIONAL FOREST SYSTEM LANDS (1905–1970)**

National forest lands traditionally and statutorily have been managed for multiple objectives such as timber, recreation, wildlife, water, grazing, mining and wilderness. The advantages of multiple use are that: (1) it provides administrative flexibility to shift management over time in response to changing public demands and preferences on public lands; and (2) it sets the stage for significant debates over preferred use, especially as competing demands become intense.

In the 1970s, Forest Service Chief John McGuire remarked that the management of millions of acres of federal lands for multiple objectives in a modern, pluralistic democracy was a “grand experiment” and that “the jury is still out” with regard to the success or failure of the experiment. These words still hold true today. The management of the national forest lands — established in the midst of controversy — remains controversial to this day.

### **The early history of national forests**

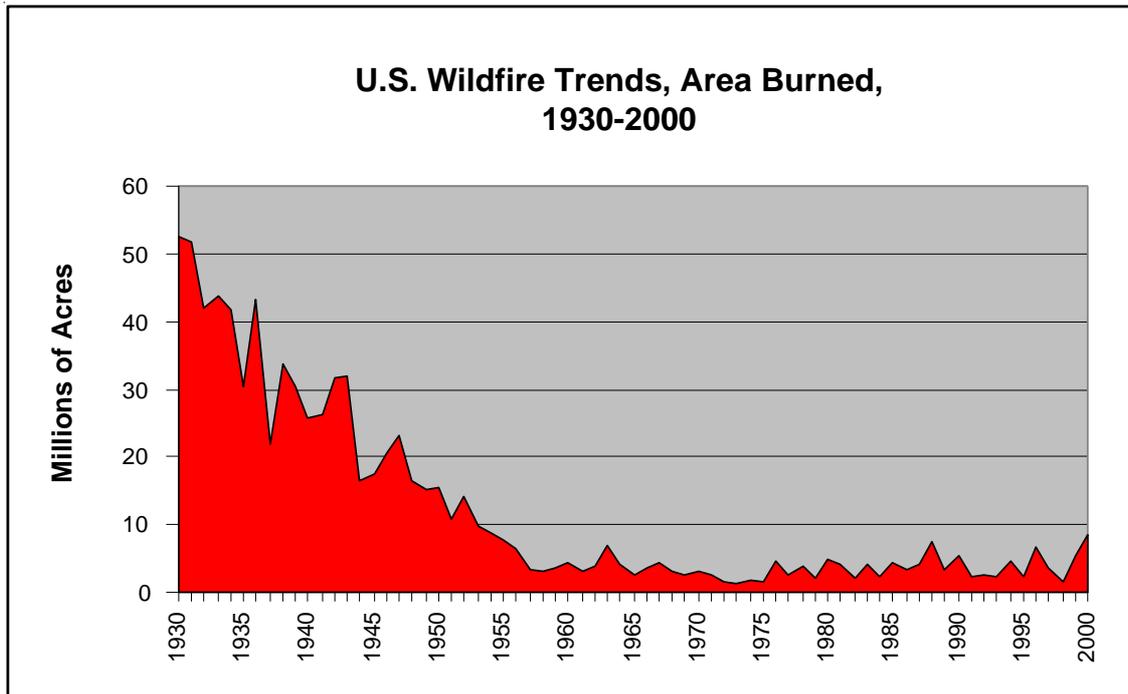
National forest management from 1900 up to the Second World War was mostly custodial in nature. An early focus was to establish the boundaries of the national forests and to prevent, or respond to, unauthorized uses (such as illegal timber felling, unauthorized mining, agricultural encroachment).

Another main focus of Forest Service efforts was reducing uncontrolled wildfires that were common prior to the 1930s. Curtailing the 8 to 20 million hectares that consistently burned annually, mostly on private lands, was considered a prerequisite for the long-term management of forests and grasslands — both public and private.

The focus of these efforts was on protecting all lands from wildfire, regardless of their ownership; but systematic control became effective only during the 1930s, when large public employment programmes were established. By the 1960s, the area burned by wildfire had declined by 90 percent compared to the 1930s (Figure 2). This was accomplished through highly successful federal, state and private landowner cooperation.<sup>8</sup> Within the Forest Service, the State and Private Forestry Division was responsible for this coordination.

<sup>7</sup> Over the last several decades many adjacent national forests have combined administrative offices.

<sup>8</sup> For example, today firefighters of the various federal and state agencies are trained to use standardized firefighting equipment and techniques. Federal, state and local agency firefighters from anywhere in the country can be mobilized, sent to emergency situations elsewhere in the country and operate effectively with standardized radio frequencies, equipment, terminology and training.



**Figure 2. Area burned by wildfire (1930–2000)**

Source: U.S. Wildfire Statistics, USDA/Forest Service.

### Increased demands on national forests after the Second World War

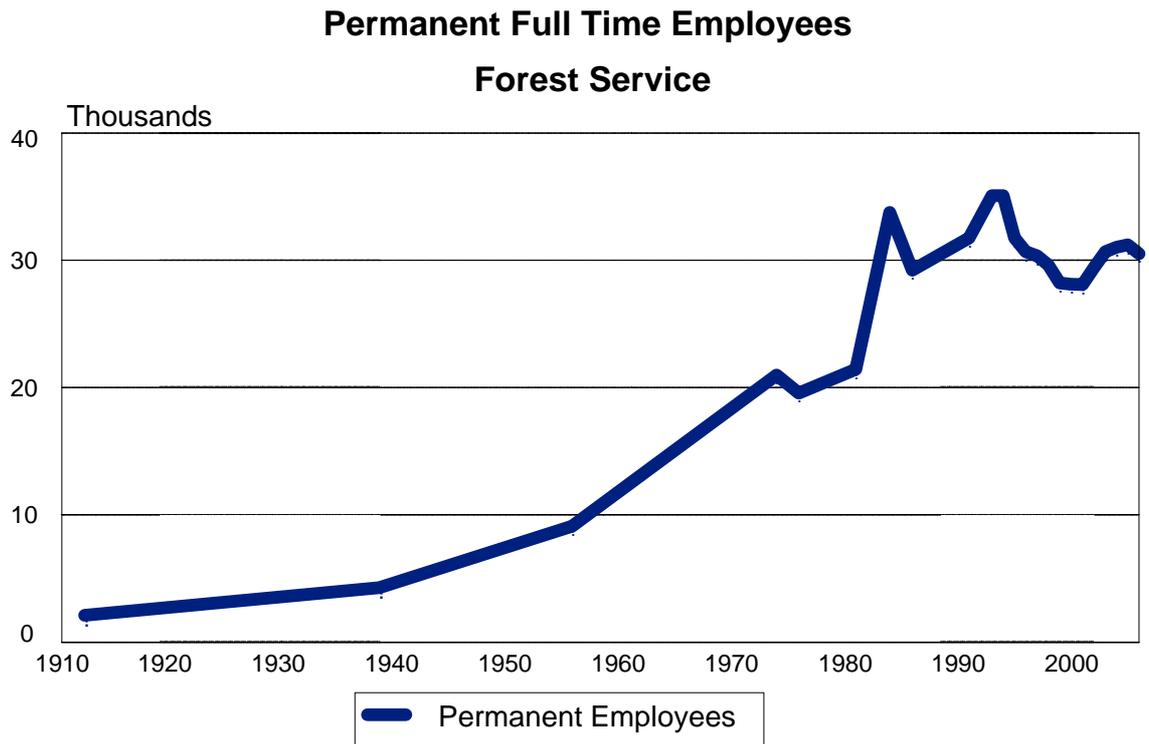
After the Second World War, there was substantial expansion in the demands placed on federal lands for a variety of products and uses. After the war, as millions of service men and women returned home and started families, demand for timber for housing rose dramatically. The nation increasingly looked to the national forests in the western United States to meet this demand (Steen 1976).

National forest timber sale levels increased from a range of 9 to 13.5 million m<sup>3</sup> in the late 1940s to 45 to 50 million m<sup>3</sup> in the 1960s. By the 1970s, national forests were meeting about 14 percent of the nation's total wood needs, and over 30 percent of softwood sawtimber — the primary source of lumber and plywood for housing (USDA/Forest Service 2004; Howard 2003).

This substantial increase not only served to meet a critical national need for timber, it also took pressure off private forest lands, many of which had been heavily logged to meet war-effort demands (Fedkiw 1989).

### The Forest Service's response to increased timber demands

In order to gear up to expand national forest timber sales, the late 1950s and 1960s witnessed a major increase in Forest Service employees (Figure 3). From 1955 to 1975, the number of Forest Service employees more than doubled, from 9 100 to over 19 500 (Williams 2004a; OPM 2006). Most were foresters, with an increasing number of civil engineers after 1965, who were hired to prepare and administer timber sales and build roads.



**Figure 3. Changes in permanent full-time Forest Service employees**

Sources: Williams (2004a); OPM (2006); HRM (2006).

By the 1960s, each individual national forest had developed a management plan that specified the maximum annual allowable timber harvest. Commercial harvest of timber from national forest lands has subsequently been carried out primarily using short-term (one to five years duration) contracts for logging and road building only. Among other tasks, Forest Service managers designate the timber to be harvested, locate and design forest roads and specify the logging systems to be used. Timber sale contracts specifying the requirements for harvest of timber and construction of roads (if needed) are also prepared by Forest Service employees. Such contracts are advertised, competitively bid and awarded to the qualified private contractor submitting the highest bid (often a wood processing mill or logging contractor). Administration of these contracts is overseen by Forest Service employees.<sup>9</sup>

### The Forest Service seen as a model public agency

After its first 50 years, the Forest Service generally was looked upon as a stunning success — an agency known for high morale, a strong sense of purpose and administrative excellence. A 1952 *Newsweek* magazine article stated, amongst other factors, that due to its sterling reputation, “The Forest Service is one Washington agency that doesn’t have to worry about next fall’s election. Nor will the next administration have to worry about the Forest Service. In 47 years, the foresters have been untouched by scandal”. Because of this, “Most Congressmen would as soon abuse their own mothers as be unkind to the Forest Service”.<sup>10</sup>

<sup>9</sup> Required reforestation of logged areas is generally done by the Forest Service, usually using funds deposited into a special fund by the logging contractor. Federal agencies generally use private planting contractors and planting stock raised in federal nurseries.

<sup>10</sup> *Newsweek*, 2 June 1952.

A 1960 book on public administration, *The forest ranger*, documented the Forest Service as a case study example of an efficient and effective public institution (Kaufman 1960). Kaufman attributed the Forest Service's success to a sense of shared purpose, values and a common culture. Ironically, however, two decades later, the reputation of the Forest Service would be in tatters.

### **Congressional endorsement of managing NFS lands for multiple objectives**

The 1950s witnessed a substantial increase in demand for non-timber uses, outputs and values from national forests and other federal lands. Per capita personal incomes rose rapidly after 1940, rising from about US\$2 000 annually in 1940 to US\$26 000 in 2000 (adjusted for inflation) (U.S. Department of Commerce 2001). An increasingly mobile and affluent population began to look to national forests for outdoor recreation. Visits to national forests had increased from about 5 million in the early 1920s to 18 million in 1946, but surged to 93 million visits in 1960 and 233 million in 1975 (Census 1975 and 1994).

The increased demands on national forests led to an interest in legislatively expanding their authorized uses from watershed protection and timber production as elaborated in the 1897 Organic Act. The Multiple Use-Sustained Yield Act of 1960 (MUSYA), which was hailed by the Forest Service as a significant accomplishment, gave the agency permissive and discretionary authority to administer national forests "for outdoor recreation, range, timber, watershed, and wildlife and fish purposes".

The passage of MUSYA created the impetus for multiple-use planning and the hiring of new specialists, such as soil scientists, to assist in integrating uses on the ground (Fedkiw 1999; Williams 2002). These multiple-use plans often zoned national forests into general administrative emphasis areas, but still required considerable on-the-ground coordination with regard to where specific uses (timber, recreation, wildlife, mining, grazing) were to occur and how conflicts were to be resolved (Fedkiw 1999).

### **1960s recreation and wilderness legislation**

In the 1960s, a growing segment of the public began seeking statutory protection for maintaining federal lands in their "natural" condition. The Wilderness Act, passed in 1964 after much debate, provided for the designation of significant areas of federal land in their natural and "untrammeled" condition.<sup>11</sup> Most commodity uses were prohibited from these areas. The Wilderness Act set the stage for much of the controversy and antagonism over the use and management of national forests that remains today.<sup>12</sup>

In 1968, the Wild and Scenic Rivers Act and the National Trails System Act were passed. These acts created separate systems within which rivers and trails with outstanding scenic, recreational, geological, cultural, historical, or other values could be designated by Congress into national systems, often after being proposed for such designations by federal land-managing agencies (DPC 1988). A Land and Water Conservation Fund was established, financed by oil revenues, to help finance the purchase of land in nationally designated areas.

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<sup>11</sup> The Forest Service had advanced the primitive area and wilderness concepts by establishing several "primitive areas" in the 1920s and 1930s. A summary of this history is available online at: [http://www.fs.fed.us/global/wsnew/fs\\_history/issue19.doc](http://www.fs.fed.us/global/wsnew/fs_history/issue19.doc)

<sup>12</sup> In 1975, legislation was passed to allow designation of wilderness areas in the eastern United States (DPC 1988).

## The environmental movement of the 1970s — a new agenda

The growing environmental awareness of the 1960s continued to evolve into a general concern over the deterioration of air and water quality and the negative environmental and health effects of industrialization. Industrial air and water pollution were significant in and around most cities. Rachael Carson's *Silent spring* galvanized public concern over pesticide use (Carson 1962). The first Earth Day (1970) successfully raised public awareness on environmental issues. Congress responded to these concerns by passing a variety of laws that addressed air and water quality as well as toxic control and endangered species.

A primary focus of the environmental legislation of the 1970s was to reform the way federal agencies made decisions affecting the environment. The National Environmental Policy Act of 1970 (NEPA) required federal agencies proposing actions that could have a significant effect on the environment to evaluate a range of alternatives to the proposed action and come to a reasoned choice after providing the public with an opportunity for comment. Although only a procedural law, NEPA has had a profound impact on federal decision-making.

The Endangered Species Act of 1973 (ESA) provided a statutory mandate for protecting species in jeopardy. It prohibited federal agencies from carrying out actions that might adversely affect a species listed as threatened or endangered. The ESA became a powerful tool that mandated that primacy in federal decision-making be given to endangered species protection, and, by extension, to biodiversity. More than any other law, the ESA was the genesis of the move toward “ecosystem management” on lands managed by the federal government.

In 1974, the Forest and Rangelands Renewable Resources Planning Act (RPA) required the Forest Service periodically to assess the national long-term demand and supply situation for all renewable resources, and to plan how agency programmes would address projected resource demands and needs. In 1976, the National Forest Management Act (NFMA) provided detailed guidelines for the management of national forest lands and for increased participation of the public in national forest decision-making. Both the RPA and NFMA were intended to encourage planning and stakeholder involvement (Fedkiw 1999). It was hoped that the process could help to resolve the differences between environmentalists and timber, mining and livestock-grazing communities. This did not transpire.

Many environmental laws in the 1970s authorized and encouraged individual citizens and NGOs to bring lawsuits to require federal agencies to enforce the laws. This encouragement included federal financing of citizen and NGO lawsuits against federal agencies.<sup>13</sup> These statutory provisions substantially increased the role of NGOs as an element of environmental law enforcement and of United States courts in interpreting the “intent of Congress” in passing these laws. As many of these laws contain vague goals and standards, this has sometimes put the courts in the de facto position of setting environmental policy through judicial interpretation.

The 1960s–1970s environmental movement had other subtle effects. One was generating interest among affluent young urban people in careers in conservation and natural resources. These “Earth Day graduates” have subsequently moved into influential positions in most federal and state land-managing agencies.

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<sup>13</sup> Under the Equal Access to Justice Act, citizens and NGOs can be reimbursed for the costs of bringing litigation against the federal government if certain requirements are met. In contrast to many other countries, citizens and NGOs are not required to cover the government's legal costs if the litigation brought by them is unsuccessful.

Another major shift since the 1960s has been the movement of urban people to many rural areas adjacent to national forests. These former “urbanites” have caused a significant change in the preferences expressed by local people for how national forests should be managed.

## **EFFECT OF THE 1970s ENVIRONMENTAL AGENDA ON NATIONAL FORESTS**

### **Hiring of resource specialists**

One of the responses of the Forest Service to the environmental laws enacted in the 1970s was to rapidly increase the hiring of resource specialists — wildlife biologists, soil scientists, hydrologists, archeologists and other experts. Such specialists were required to prepare environmental analyses under NEPA and forest plans under NFMA, as well as to carry out soil and watershed evaluations, archeological investigations and related activities to enable timber sales to progress in compliance with the new environmental legislation (Fedkiw 1999). Between 1980 and 1985, Forest Service permanent full-time employment rose from about 21 400 to 29 200 employees (Williams 2004a; OPM 2006; HRM 2006).<sup>14</sup>

Many of these specialists were Earth Day graduates; although they were hired to assist in assuring compliance with applicable environmental laws, they also helped change the culture and values of the agency itself. These new employees eventually had a profound impact on the Forest Service.

### **Concerns over land management practices and resulting expansion of protected areas**

The use of clear-cutting timber harvest practices increased dramatically in national forests after the Second World War. By the 1970s, an increasingly vocal and well-organized public disliked the visual and other effects of prevailing timber-harvesting activities and sought political remedies to reduce them. Concerns over clear-cutting led to Congress recommending guidelines for the application of clear-cutting on federal lands, and eventually to the passage of the NFMA.<sup>15</sup> Later, as clear-cutting greatly diminished after 1990, the focus of many environmental groups shifted to oppose commercial timber harvesting more generally.

In addition to clear-cutting concerns, a second major public thrust was aimed at designating significant areas of national forest land as statutory “wilderness” or similar statutory categories emphasizing protection of natural values, recreation and other uses, and limiting or prohibiting commodity production. Between 1980 and 1985, Congress passed omnibus state-wide wilderness acts for 25 states (including most of the states containing national forest lands).

### **The 1980s and the “War in the Woods”**

The 1980s saw a merging of focus and linkage between concerns over national forest land management practices and wilderness designation generated by language in virtually all omnibus state-wide wilderness acts. This language prevented the Forest Service from considering any more additions to the National Wilderness Preservation System after completion of the first round of land management planning under the NFMA, but required such consideration when forest plans were

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<sup>14</sup> Some of the increase in permanent full-time employment during this period was due to conversion of temporary, wage grade employees to permanent full-time status.

<sup>15</sup> In response to the national forest clear-cutting controversy, in March 1972, the Senate Subcommittee on Public Lands published a set of guidelines for clear-cutting on public lands (U.S. Senate 1972). These guidelines, called the “Church Guidelines” after Subcommittee Chair Frank Church of Idaho, were later incorporated into the statutory requirements of the NFMA of 1976 (Fedkiw 1999).

revised ten to 15 years later. This dramatically shifted the focus of many environmental groups from “wilderness” designation *per se* to seeking to protect as much undeveloped and unroaded land as possible for potential designation as wilderness in the future.

Issues emerging strongly in the 1980s that reflected this changed focus included concerns that the Forest Service was selling timber in some areas below its cost of production and the old-growth/northern spotted owl issue in the Pacific Northwest (Fedkiw 1999). While both of these issues reflected important public policy issues, they also acted as wilderness “proxies” designed to protect the inventory of undeveloped and roadless areas.

The late 1980s and early 1990s were characterized by increasing administrative appeals and lawsuits charging that the Forest Service was violating the NFMA, the ESA and other environmental laws. Such legal challenges became common and were successful often enough to delay several proposed timber sales and other projects and create uncertainty over national forest timber and other commodity programme outputs (Fedkiw 1999).

### ***Dissent from within the ranks of the Forest Service***

In addition to public conflict, debate over the use and management of national forest lands was growing within the ranks of agency employees. In the mid-1980s, the Forest Service installed a new electronic communication system that linked its various field offices and line organizations. The electronic communications system, which was very innovative for the time, allowed for greatly improved internal communication vertically between organizational levels as well as horizontally among Forest Service employees. Soon several informal networks were established that allowed like-minded employees to share information and ideas on national forest activities and policies.

These network dialogues became fora for internal debate and fostered a growing sense of solidarity and democracy within the ranks of Forest Service employees who disagreed with official policy and trends (and also among employees willing to debate the dissenters). Several of these fora became institutionalized such as the so-called “Eco-Watch” dialogues.<sup>16</sup> To its credit, Forest Service leadership, although it may not have liked how official communications equipment was being used, did not systematically seek to stifle such dialogue.

Other dissent was growing within the ranks, especially among forest supervisors. In 1989, at what was to become known as the “Sunbird” conference, 14 forest supervisors from the Northern Region (Montana and northern Idaho) provided an “open letter” to Chief Dale Robertson stating their view that existing national forest timber harvest levels were jeopardizing important resource values such as water quality, and were out of step with many national forest stakeholders. The letter was leaked to the press and created considerable attention in the media and in the environmental community.

Additional internal dissent came from lower-level employees. For example, Jeff DeBonis, a Forest Service timber sale planner and an Earth Day graduate, broke ranks with the agency in 1989 by sending a seven-page letter directly to Chief Robertson (copied to several members of Congress) raising concerns over Forest Service timber-harvesting policies in the Pacific Northwest. DeBonis later resigned from the Forest Service, but before doing so he established the Association of Forest Service Employees for Environmental Ethics (or AFSEEE), with a self-proclaimed role as “environmental conscience” on Forest Service policies and practices.<sup>17</sup>

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<sup>16</sup> Current and old archived Eco-Watch dialogues can be viewed online at: <http://www.fs.fed.us/eco/eco-watch/ecowatch.html>

### ***Dissent from within the ranks of the research community and its culmination in the northern spotted owl controversy***

By the mid-1970s, research studies began to reveal that late-successional and old-growth forests provided essential habitats for a suite of wildlife and plant species. In 1981, a summary of this research by eight Forest Service scientists was published in *Ecological characteristics of old-growth Douglas-fir forests* (Franklin *et al.* 1981).<sup>18</sup>

Scientists such as Jerry Franklin and Chris Maser began to promote a “new” style of forestry (or “New Forestry”) that would reflect the concepts behind this emerging research (Franklin and Forman 1987; Franklin 1989). This new forestry approach involved, among other concepts, leaving downed logs, standing dead trees, clumps of trees and other “biological legacies” within cutting areas. Franklin and Maser developed a broad media and environmental group following as they began to speak out publicly against the existing national forest timber-harvesting policies.

By the mid-1980s the northern spotted owl took centre stage as the “poster child” for species thought to need large areas of old-growth and late-successional forest. As conservation biologists estimated that 1 000 or more nesting spotted owl pairs would likely be required to maintain a viable species population, protection of millions of hectares of old-growth forests was potentially needed to accomplish this objective.

In March 1989, federal district court judge William Dwyer issued an injunction on the harvest of virtually all national forest timber within the range of the northern spotted owl (i.e. western Washington and western Oregon and northern California), and subsequently ordered the Forest Service to revise its standards and guidelines by March 1992 “to ensure the northern spotted owl’s viability”. This created an economic and political crisis.

In October 1989, the Forest Service, the Bureau of Land Management and the U.S. Fish and Wildlife Service formed the Interagency Scientific Committee (ISC), chaired by Forest Service research biologist Jack Ward Thomas. The resulting ISC report, which was issued in May 1990, provided a framework for federal agencies to determine how much federal forest might need to be preserved as owl habitat given various ratings of risk to owl viability (Thomas *et al.* 1990).<sup>19</sup>

In June 1990, the U.S. Fish and Wildlife Service listed the northern spotted owl as “threatened” under the ESA, which required federal agencies to avoid any action that might jeopardize the species regardless of the opportunity costs or economic effects associated with not taking that action.

In April 1991, the House Agriculture Committee convened its own panel, the Scientific Panel on Late Successional Forests, also chaired by Jack Ward Thomas, which issued its report in October 1991 (Johnson *et al.* 1991).<sup>20</sup> The Scientific Panel report provided a number of management options with estimated timber sale levels and risk to the northern spotted owl and several other species associated with mature forests.

The news from these reports was not good for stakeholders who wanted to maintain a high level of jobs in rural, timber-producing communities while also protecting the viability of the owl and other species. The earlier presumption of a high degree of compatibility between production forestry and the viability of all forest-dependent species was being unraveled by these panels.

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<sup>17</sup> The AFSEEE’s Web site can be viewed at: <http://www.fseee.org/>

<sup>18</sup> Available online at: <http://216.48.37.142/pubs/viewpub.jsp?index=5546>

<sup>19</sup> The ISC report can be viewed at: [http://pnwin.nbii.gov/nwfp/ConservationStrategyOwl/part\\_1.pdf](http://pnwin.nbii.gov/nwfp/ConservationStrategyOwl/part_1.pdf)

<sup>20</sup> The Scientific Panel report can be viewed at: <http://pnwin.nbii.org/nwfp/alternatives.pdf>

### ***The political response to the scientists' findings***

In April 1993, shortly after he assumed office, President Clinton convened a Forest Conference in Portland, Oregon, to consider ways to address the impasse that had existed in the Pacific Northwest for four years. The result was to commission yet another scientific team headed by Forest Service research scientist Jack Ward Thomas. In May 1994, a final proposal was submitted by the Forest Ecosystem Management Team (FEMAT) to Judge Dwyer who lifted his injunction in June 1994. In December 1994, Judge Dwyer affirmed that the plan met the requirements of the ESA, NFMA and other laws.<sup>21</sup>

Under the final decision flowing from FEMAT, now called the Northwest Forest Plan (NWFP), of the 9.9 million hectares of Forest Service and BLM land covered by the plan, only 16 percent would be available for sustained timber harvesting (another 6 percent would potentially be available in so-called “Adaptive Management Areas”). Timber sale levels in the Forest Service’s Pacific Northwest Region, which had averaged about 62.5 million m<sup>3</sup> of timber annually between 1977 and 1989, dropped to an average of just 1.5 million m<sup>3</sup> annually between 1999 and 2004 — a 93 percent reduction.<sup>22</sup>

The adoption of the NWFP affirmed a process that had been ongoing for at least a decade, the gradual transfer of significant amounts of power in the Forest Service from line officers and foresters to scientists and agency resource specialists — and from the Forest Service itself to federal regulatory agencies and the courts.

### ***The “Perfect Storm”***

The 1980s and 1990s were particularly difficult for the Forest Service. Strong dissent came from external sources and from within its own ranks, both on national forests and within its research community. In the Pacific Northwest, protests became particularly strident, with vocal public demonstrations and acts of civil disobedience (such as tree sittings and vandalism of logging equipment and tree spiking). Between 1985 and 1993, environmental NGOs were successful in nationalizing (and even globalizing) the spotted owl/old-growth issue (Fedkiw 1999).

On the other hand, the Reagan and the George H.W. Bush administrations resisted reductions in timber sales levels, as did the Congressional Appropriations Committee and other committees to which the Forest Service reported.

But even without this political resistance in Washington, Forest Service leadership knew only too well the economic and social pain being suffered by scores of rural communities whose economies depended on national forest timber. Such economic pain was real and, in many cases devastating to the same communities that the Forest Service had encouraged to locate and grow next to national forests in the late 1950s and early 1960s, based on Forest Service promises of reliable supplies of timber for harvesting and processing. Tens of thousands of jobs in small rural communities were at risk.

It can be claimed that the Forest Service’s sensors and early warning systems were not functioning well during this period — that they were not properly picking up signals from the urban public, environmental groups, internal agency sources and its own research community that substantial management changes were needed. Or if such signals were being received, perhaps the Forest Service was simply too inflexible to respond effectively to them. In reality, a cacophony of mixed

<sup>21</sup> The FEMAT report can be viewed at: <http://pnwin.nbio.gov/nwfp/FEMAT/>

<sup>22</sup> Information on the NWFP is available at: <http://www.reo.gov/>

and often conflicting signals was being heard — not just from those seeking change, but also from timber-dependent communities, the timber industry, ranchers, members of Congress and their staff, scientists and the duly appointed officials of the Executive Branch of which the Forest Service is a part. The challenge for Forest Service leadership in sorting through these signals — the “fog of war” — was indeed daunting.

### ***Forest Service re-invention under Chief Dale Robertson — setting the stage for major change***

When Dale Robertson became Chief in January 1987 during the second term of the Reagan Administration, he expressed more interest in meaningful organizational re-invention than previous Forest Service Chiefs. He recognized that the Forest Service was under siege and needed to change.

Chief Robertson began to openly encourage experiments in innovation and elimination of institutional hurdles by establishing re-invention pilots to reduce red tape and improve customer service.<sup>23</sup> He allowed field units — if they adopted efficiencies that saved the agency money — to keep those savings to advance their own local priorities, even if those activities fell outside the budget line items where the savings had occurred (Kennedy School 1994). He often said that, “there are no failures, only learning experiences”.

Dale Robertson further saw “New Forestry” ideas being advocated by Franklin, Maser and other scientists as a way to shift the course of the agency. He sought to institutionalize applicable parts of this evolving science and make it part of a Forest Service initiative. This came to be called “New Perspectives” (Salwasser *et al.* 1993; Kessler *et al.* 1992). Under “New Perspectives,” Robertson encouraged field managers to work with scientists to put practical shape and substance in field applications to the somewhat amorphous New Forestry concepts.

Robertson was also concerned about the level of clear-cutting in national forests and the consequent erosion of public support. In early 1991, he made commitments to Congressional leaders to curtail the amount of clear-cutting in national forests.

New Perspectives and limits to clear-cutting, became linked in 1992 on the eve of the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. The Bush Administration wanted to announce initiatives related to domestic forests prior to the president’s arrival at the conference. Dale Robertson saw in this a major opportunity to obtain an official sanction for both New Perspectives and limits on clear-cutting (Steen 2000). Thus, in coordination with the Administration, on 4 June 1992 Chief Robertson announced that an “ecological approach” would subsequently govern management of the national forests (Robertson 1992). He indicated:

*... that we must blend the needs of people and environmental values in such a way that the National Forests and Grasslands represent diverse, healthy, productive, and sustainable ecosystems.*

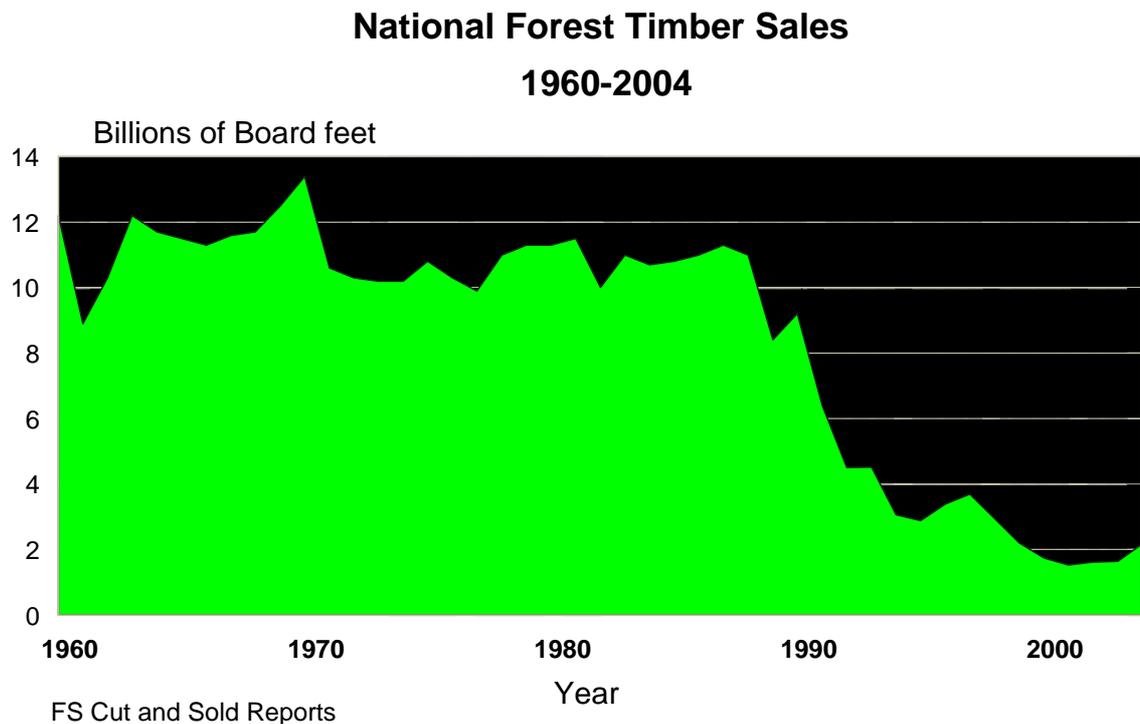
The details on what this implied were to be drawn from the ongoing work on New Perspectives and also included a commitment to eliminate clear-cutting as a “standard practice” for all national forests

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<sup>23</sup> Dale Robertson had begun the process of agency re-invention even before he became Chief (in his position as Associate Chief under Chief Max Peterson).

### ***After 1990: National forest timber sales drop precipitously***

National forest timber sales had been relatively consistent between 1960 and 1989. After 1989, however, as a result of court decisions, public pressure and management plans imposed to protect the northern spotted owl and other endangered species, national forest timber sale levels went into free fall. Between 1989 and 2004, they dropped by more than 80 percent, from about 50 million m<sup>3</sup> annually to between 9 million and 13.5 million m<sup>3</sup> annually<sup>24</sup> (Figure 4).



**Figure 4. National forest timber sales (1960–2004)**

Source: U.S. Wildfire Statistics, USDA/Forest Service.

Between 1988 and 2004, the area harvested by clear-cutting dropped by 91 percent, from 283 000 to 19 000 acres, and clear-cutting as a percentage of all harvesting in national forests declined by about 80 percent, from 38 percent to 7 percent annually (Annual National Forest System Reforestation and Timber Stand Improvement Reports; Table 20).<sup>25</sup>

In addition to the reduced use of clear-cutting, smaller sized trees and dead and dying timber began to make up a greater percentage of harvests from national forests than in the past. Between 1990 and 1996, the percentage of sawlog-sized logs harvested from national forests dropped from 77 percent to 56 percent of total harvest volume and harvest of dead and dying timber increased from 26 percent to 47 percent of national forest timber harvest volume.<sup>26</sup>

<sup>24</sup> *Cut and sold* and other timber-related reports can be viewed online at:

<http://www.fs.fed.us/forestmanagement/reports/index.shtml>

<sup>25</sup> Annual National Forest System Reforestation and Timber Stand Improvement reports can be viewed at:

<http://www.fs.fed.us/forestmanagement/reports/reforest-tsi/index.shtml>

## **INSTITUTIONALIZING THE SHIFT TO ECOSYSTEM MANAGEMENT — A NEW MISSION FOCUS FOR NATIONAL FOREST SYSTEM LANDS**

In December 1993, Jack Ward Thomas, the charismatic scientist who had become famous for his work on the spotted owl issue, replaced Dale Robertson as Chief of the Forest Service.<sup>27</sup> Jack Thomas worked under a Clinton Administration that wanted to advance its environmental agenda on national forests and other public lands. But he was also faced with a Congress whose Republican leadership (in both Houses) was hostile to that agenda.<sup>28</sup>

When Thomas became Chief, he inherited an agency under siege. Many agency employees who had chosen careers in natural resources out of a sense of mission and conviction to conservation were feeling unfairly vilified by environmental groups and their sympathetic press. Thomas set about working to restore the agency's self-esteem. Among others issues, he sought to institutionalize the meaning and content of the emerging "ecological approach" to national forest management. "New Perspectives" was renamed "ecosystem management" and various efforts were made to institutionalize it and distinguish it from the multiple-use sustained-yield management approaches of the past.

The move to ecosystem management by the Forest Service and other federal land-managing agencies occurred in the absence of explicit statutory authority. Rather, it was an administrative response to a variety of factors, the most important being the requirements of the ESA and court cases brought to enforce it.

Thomas repeatedly asked political leaders in Congress to legislatively affirm or deny if it was their intent that the national forests be managed primarily for biodiversity, and if so (or if not), prescribe the sideboards. Such clarification never came.

### **THE DEVELOPMENT OF "PROCESS GRIDLOCK"**

Due to the lack of social consensus as to how national forests should be managed, a tendency developed for the Forest Service, other federal agencies (such as the U.S. Fish and Wildlife Service), Congress and the courts to add process and procedure to national forest planning and decision-making. Consequently, national forest management became increasingly costly and time-consuming, while providing considerable opportunity for individuals and interest groups to delay or block proposed actions. The term "process gridlock" thus came into use.

Many Forest Service employees, who previously had prepared projects in the field, had to be shifted to conduct environmental analyses, respond to administrative appeals and support related work.<sup>29</sup> This led to an increase in the number of staff in forest supervisors' offices, regional offices

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<sup>26</sup> A detailed discussion of how the national forest timber programme has changed since 1990 can be viewed at: <http://www.fs.fed.us/forestmanagement/reports/tspirs/1997/index.shtml#fig4>

<sup>27</sup> Although a career Forest Service employee, Thomas did not undergo the senior executive training required of top career civil service positions. Therefore, he accepted his appointment as the first political appointee to be Chief since Gifford Pinchot and Henry Graves, based on the promise that he would later be converted to career civil service status. This never occurred.

<sup>28</sup> For his account of the pressures he faced in responding to the demands of Congress and the Clinton Administration see *The journals of a forest service chief* (Thomas 2004).

and the Washington Office at the expense of district field offices. It also extended the time needed to arrive at final management decisions.

Chief Thomas often expressed his view that environmental laws and regulations were substituting process for needed action. He frequently spoke on the gridlock issue and on the tendency toward a short-term perspective by the regulatory agencies that oversaw national forest management (Thomas 2001b):

*Regulatory agencies, given their missions, will always opt to accept as little short-term risk as possible and be relatively indifferent to long-term dynamic changes in the ecosystem in question. Multiple-use oriented agencies, given their missions, will usually opt for greater short-term risk with a longer-term view. The regulatory agencies' cards trump those of the land management agencies.*

*"From my perspective, it seems that each time there was a decision to be made, it was made on the conservative (low immediate risk) side. These cautious decisions, piled one on top of the other, finally accumulated to slow management to a crawl headed for a stop."<sup>30</sup>*

Chief Mike Dombeck, who replaced Thomas as Chief in January 1997, was generally less vocal about conflicting laws and gridlock issues. But the concerns re-emerged when Dale Bosworth, a former regional forester, became Chief in 2001. Bosworth oversaw an agency review of the gridlock issue, culminating in a 2002 report, "The Process Predicament: How Statutory, Regulatory, and Administrative Factors Affect National Forest Management". The review noted that, while the statutory requirements of environmental laws were not necessarily directly in conflict, over the years overlapping procedural requirements, procedural redundancy, court decisions and multiple layers of interagency coordination had created major inefficiencies in decision-making.<sup>31</sup> The review report concluded that:

*Too often, the Forest Service is so busy meeting procedural requirements, such as preparing voluminous plans, studies, and associated documentation, that it has trouble fulfilling its historic mission: to sustain the health, diversity, and productivity of the nation's forests and grasslands to meet the needs of present and future generations. Too often the paralysis results in catastrophe.*

## CHANGED ROLE OF THE FOREST SERVICE IN PUBLIC PARTICIPATION

The role of public participation in federal land management planning evolved considerably over the decades. In the 1950s and 1960s, district rangers or forest supervisors (usually after informally sensing acceptance in the local community) would typically announce decisions that they had determined to be in the best interest of the national forests, its customers and stakeholders. The 1970s environmental laws, particularly NEPA and NFMA, directed federal land-managing agencies to increase formalized public participation substantially and mandated more open and "transparent" consideration and evaluation of a full range of management alternatives. These laws also increased

<sup>29</sup> Planning and environmental analysis was estimated to consume 40 percent of total direct work at the national forest level (USDA/Forest Service 2002).

<sup>30</sup> The focus on short-term effects on forest resources, e.g. water quality and fisheries, is illustrated by the adverse ruling in *Pacific Coast Federation of Fisherman's Association V. NMFS*, 253 F.3d 1137 (9<sup>th</sup> Cir. 2001).

<sup>31</sup> Testimony by Dale Bosworth before the House Subcommittee on Forests (6/12/2002) describing the implications of this report can be viewed at: <http://www.usda.gov/agency/ocr/download/FS-Bosworth-6.12.02.pdf>

the legal standing available to stakeholders to sue federal managers in court to enforce compliance with both the procedural and the substantive requirements of these laws.

In response, a “rational planning model” evolved, based on an objective of seeking to optimize the various multiple uses and objectives using estimated values for market and non-market uses (Bowes and Krutilla 1989). The approach was also premised on a rather optimistic assumption that federal agency decisions arising from it would lead to a working consensus among diverse stakeholders and that such stakeholders would consent to share the land and resources under a politically acceptable social contract. In retrospect, the premise was overly optimistic.

In recent years, a new agency role has emerged in which the Forest Service has shifted from being a “mediator” (receiving public input and deciding how best to weigh it in decision-making) to encouraging competing interests to sit down and “reason together” to find ways to accommodate their diverse objectives. This sometimes even includes stakeholders assisting in the design of vegetation management projects. The agency’s role in this case is similar to a “facilitator,” rather than mediator. While the decision still rests with the agency, the theory behind this approach is that it will lead to more informed decisions having broader public support than in the past. Experience suggests that this approach works best at the local level where the effect of alternative management approaches on specific areas of land can more easily be visualized.

This new role places greater emphasis on effective collaborative skills in dealing with the public and other public agencies. It also relies heavily on forging partnerships to carry out some of the tasks traditionally done directly by the agency itself. It has resulted in an increasing focus on community-based efforts in national forest public involvement.

Barriers and questions still remain regarding this emerging approach. For one thing, active engagement in collaborative decision-making is often discouraged as a result of subsequent administrative appeals and litigation. A second issue arises because federal lands are involved. How to address and balance local versus national interests in the use and management of federal lands is a particularly intractable issue with no easily applied solutions. This conflict is sometimes described as the problem of balancing the interests of “communities of place” with “communities of interest”. As local communities become more economically and socially diverse, this can become less of a problem.

## **FROM MODEL FEDERAL AGENCY TO ADMINISTRATIVE PARALYSIS — WHAT HAPPENED AND WHAT OPTIONS ARE AVAILABLE?**

Thirty years after Kaufman (1960) described the Forest Service as a model federal agency, the reputation of the Forest Service was in disarray. Kaufman, in revisiting his 1960 treatment of the Forest Service in *The forest ranger*, reflected that the same characteristics that had made the agency effective when demands on it were relatively modest and rural-based, made it rigid and difficult for it to change when those demands became more intense, diverse and complex (Kaufman 1994).<sup>32</sup>

Living and working in rural areas, many Forest Service staff failed to read or understand the signals coming from urban areas. In addition, the demands of urbanites were often perceived to conflict with the interests of rural communities whose economies were tied to commodity use. Another

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<sup>32</sup> This essay, “The Paradox of Excellence”, is online at: [http://fs.jorge.com/archives/History\\_National/Kaufman\\_1994.htm](http://fs.jorge.com/archives/History_National/Kaufman_1994.htm)

major factor that worked against change was the Congressional budgeting process, which encouraged and directed the agency to maintain high levels of commodity outputs.

Various opinions have been expressed about what should be done to reduce the polarization related to management of federal multiple-use lands. Some observers feel that the key to improving public agreement lies in effectively managing the transition to vegetation management practices specifically designed to maintain healthy forests and watersheds. Others feel that the key is to improve and make more inclusive and transparent public involvement and participation processes in federal planning decisions. Still others call for more incentives for interest groups to get involved during the planning process by reducing administrative and legal opportunities for such groups to intervene outside the process.

Finally, there are some people who believe that entirely new administrative arrangements are called for, such as transferring all federal forest lands to the states, the private sector, national parks, or some combination thereof. Few concrete proposals have arisen in response to these ideas, however.

## **BUILDUP OF FOREST FUELS AND CONCERNS OVER ECOSYSTEM HEALTH — MAJOR ISSUES IN SOME AREAS**

The shift in focus and mission within the Forest Service in recent years has occurred at the same time as concerns have grown over the ecological health of significant areas of the national forests (Sampson and Adams 1993; USDA/Forest Service 1993; GAO 1999). A multiyear drought in the western United States, coupled with a multidecade buildup in forest density and forest fuels, has led to a significant increase in unusually severe wildfires (with consequent damage to sensitive watersheds, ecological values and adjacent communities).

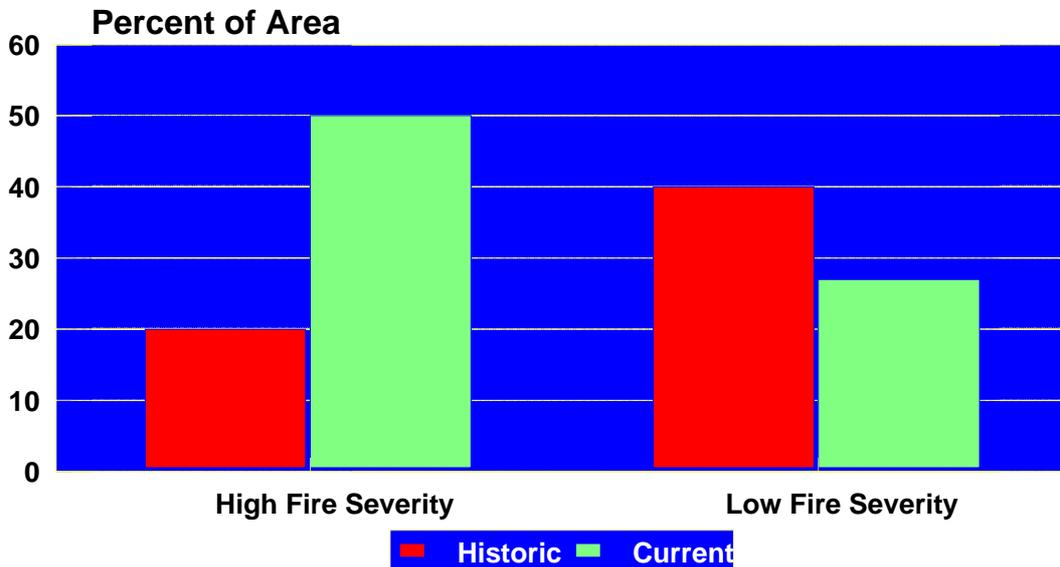
The increased incidence of severe fires is entirely coincidental to the recent mission shifts within the Forest Service, but it has created a strong sense of new direction and urgency for the agency as a replacement for its previous focus.

Many observers believe that the twin problems of fuel buildup and declining forest health, and their effects on ecosystem diversity and sustainability, will be the most significant environmental challenges facing national forest managers in the early twenty-first century (Sampson and Adams 1993; Clark and Sampson 1995). Federal land managers estimate that over 40 million hectares of federal forest lands are at unnaturally high risk of catastrophic wildfires and large-scale insect and disease outbreaks because of unhealthy forest conditions (Senate Agriculture 2003).

An additional risk factor is the major expansion of residential development into rural areas, often adjacent to national forest lands. This has created a new and growing local and community constituency that supports thinning and restoration of forests to reduce the risk of severe wildfires. Many areas in western states that were subject to frequent, low intensity non-lethal fires in the nineteenth century are now at risk from uncharacteristically intense and destructive wildfires (Figure 5) (Arno and Allison-Bunnell 2002; Sampson and Adams 1993; Pyne 1984).

The buildup of forest fuels is often attributed to the success of modern fire control. The reality is that a significant reduction in ecosystem fires in many parts of the western United States already occurred in the 1870s and 1880s, predating modern fire control by more than 50 years. This reduction in the number and extent of ecosystem fires was associated with the elimination of burning by indigenous peoples and the introduction of large numbers of livestock, which changed fuel dynamics and often prepared a mineral seed bed for forest regeneration (Arno 1985; Gruell 1985; Pyne 1984). Modern fire control, which became increasingly effective after 1930, exacerbated the problem.

## Changes in Fire Regime -- Historic vs. Current Interior Columbia Basin



Source: ICBEMP (1996)

**Figure 5. Changes in fire regime condition class**

Source: ICBEMB (1996)

### Efforts to streamline efforts to reduce forest fuels and restore ecosystems on national forest lands

In 2002, President George W. Bush announced the “Healthy Forest Initiative” (HFI), which was designed to reduce administrative, regulatory and statutory barriers to reducing forest fuel levels on federally administered lands.<sup>33</sup>

In late 2003, Congress passed the Healthy Forest Restoration Act (HFRA), which reduced some statutory process requirements associated with treatment and reduction of forest fuels and efforts to restore forests (including the relaxation and expedited processing of some NEPA requirements). As a result of these process reforms, the area of forest lands where fuel reduction and restoration activities have been carried out has increased substantially in the past five years.

<sup>33</sup> The background and descriptions of the administrative reforms under HFI and related topics can be viewed at: [http://www.healthyforests.gov/initiative/admin\\_actions.html](http://www.healthyforests.gov/initiative/admin_actions.html)

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## **SEEKING TO RE-EMPOWER LOCAL COMMUNITIES**

The shift in power from local communities (whose economies were heavily dependent on national forest commodity resources in the past) to national and regional special interest groups, that progressively took place from the 1970s through the 1990s, left many local communities feeling they had little voice in determining their own future (Lee 1994).

Under President George W. Bush, various efforts have been made to re-empower local communities and increase their influence over national forest management decisions. These efforts are referred to as “collaborative conservation” or “collaborative governance”.

Two caveats should be noted with respect to these efforts to re-empower local communities. The first is that these efforts are based almost entirely on administrative action, which could be reversed by a future Administration. Whether or not this happens may depend on whether broad bipartisan support for local community re-empowerment emerges. The second is that these efforts leave unresolved the issue of effectively balancing national and local interests in managing federal lands, with the possibility of national interests again reasserting a dominant position.

## **THE CHEQUERED HISTORY OF EFFORTS TO RE-ORGANIZE THE FOREST SERVICE**

Over the years, many proposals have been made to change to the Forest Service’s organizational structure, but very few have been adopted and the organizational structure of the agency remains much the same as it was 50 years ago (Figure 1). The most frequently proposed changes have been to move the responsibility for administration of the national forests back under the DOI or, alternatively, to combine the Forest Service, DOI land-managing agencies and other federal land-managing agencies (such as the Corps of Engineers) under a new federal Department of Natural Resources (DNR) (Williams 2004).

The first proposal to move the national forests back to the DOI came in 1911 only six years after the forest reserves were moved to the USDA and subsequent proposals have been advanced regularly since that time. Opposition by Forest Service stakeholders and resistance from within the ranks of the agency has always been sufficient to block the implementation of these proposals.

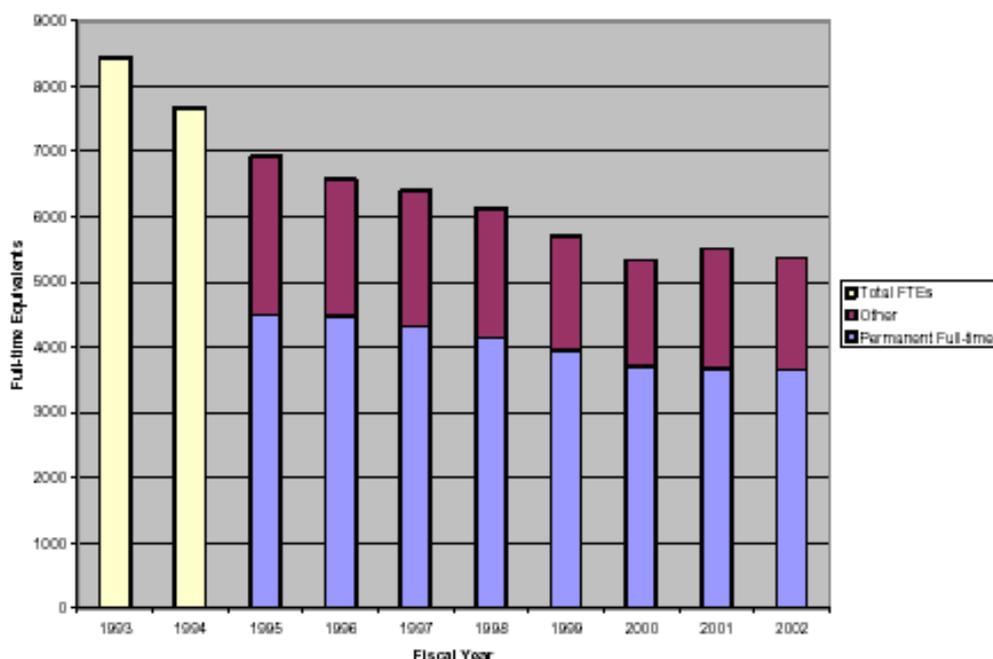
Those organizational changes or “re-inventions” that have been implemented have come largely in response to shifting demands and have occurred in an incremental fashion, rather than the result of major strategically directed changes in the Forest Service organization chart. Many changes have come about in response to increasing or decreasing funding and Congressional appropriations and mandates.

The field organization of the Forest Service — especially ranger districts and forest supervisors’ offices — has often successfully re-organized itself to become more integrated, and various field offices have been consolidated to improve efficiencies. In the western United States, many adjacent national forests have been combined under a single forest supervisor’s office. In the eastern part of the country, it is not uncommon for all national forests in one state to be administered by a single administrative office.

Such efforts have often been initiated locally or in regional offices in response to shifts in funding or public demands (most often with headquarters’ encouragement and concurrence), rather than being directly orchestrated nationally.

## Downsizing and re-invention under the Clinton Administration

The sharp decline in timber sales resulting from implementation of the Northwest Forest Plan caused a major downsizing of Forest Service programme offices and employees in the Pacific Northwest. Within the area covered by the plan, Forest Service permanent full-time employee equivalents (FTEs) declined by 36 percent between 1993 and 2002, from 8 431 to 5 365 (Figure 6). Several individual national forests saw declines in FTEs of more than 50 percent during this period.



**Figure 6. Changes in FTEs in California and the Pacific Northwest (1992–2002)**

Source: USDA/Forest Service (2005).

In addition to downsizing in the Pacific Northwest, various other re-invention ideas were developed and formally proposed by the Clinton Administration. During President Clinton’s first term, a major “re-inventing government” effort led by Vice-President Al Gore (called the “National Performance Review”) sought to streamline and reform federal agencies, including the Forest Service.

The National Performance Review re-invention proposal for the Forest Service included several elements (USDA/Forest Service 1994a), but the only one that was eventually adopted was the “enterprise team” concept.<sup>34</sup> With a Republican-controlled Congress, the government-wide re-inventing programme became politicized and no proposals that required Congressional concurrence were implemented.

<sup>34</sup> The enterprise team concept was developed to encourage innovative and entrepreneurial activities within government. These units are self-supporting and enter into contracts with agency offices needing specialized services. More information and a list of teams are available at: [http://www.fs.fed.us/reinvention/enterprise/about/enterprise\\_units.shtml](http://www.fs.fed.us/reinvention/enterprise/about/enterprise_units.shtml)

## Recent efforts to re-invent the Forest Service

The George W. Bush Administration has put forward few formal federal agency re-organization proposals. Instead, the focus has been to seek to improve the management efficiency of federal agencies generally. The strategy is to evaluate how many of the services that federal agencies currently provide could be carried out more cost efficiently through contracts with the private sector or other entities. A major component of this strategy is to require every federal agency to go through a formal process to assess each of its units and activities for potential savings through outsourcing or “competitive sourcing” (White House 2002).<sup>35</sup>

Studies are currently evaluating outsourcing options for many Forest Service activities. These include communications, aviation management, training, engineering design, environmental data collection and analysis, safety and occupational health, and many others. About 21 180 full-time employees, or more than two-thirds of the Forest Service’s total FTE positions, are now being analysed for possible outsourcing (Wilent 2006).

Like past government re-invention efforts, only time will tell how effective the current efforts will be. In the meantime and not surprisingly, the current competitive sourcing evaluations have created considerable anxiety within the agency workforce (Wilent 2006).

## Current Forest Service employment and funding

Since the 1980s, in spite of a precipitous drop in national forest timber sale levels, the total number of permanent full-time employees in the Forest Service has remained relatively stable, at around 30 000.

Appropriated levels of funding for the three branches of the Forest Service have also remained relatively stable since 1990 (but have declined in inflation-adjusted terms). A major exception has been a major increase in funding for fire and treatment of forest fuels (Figure 7).

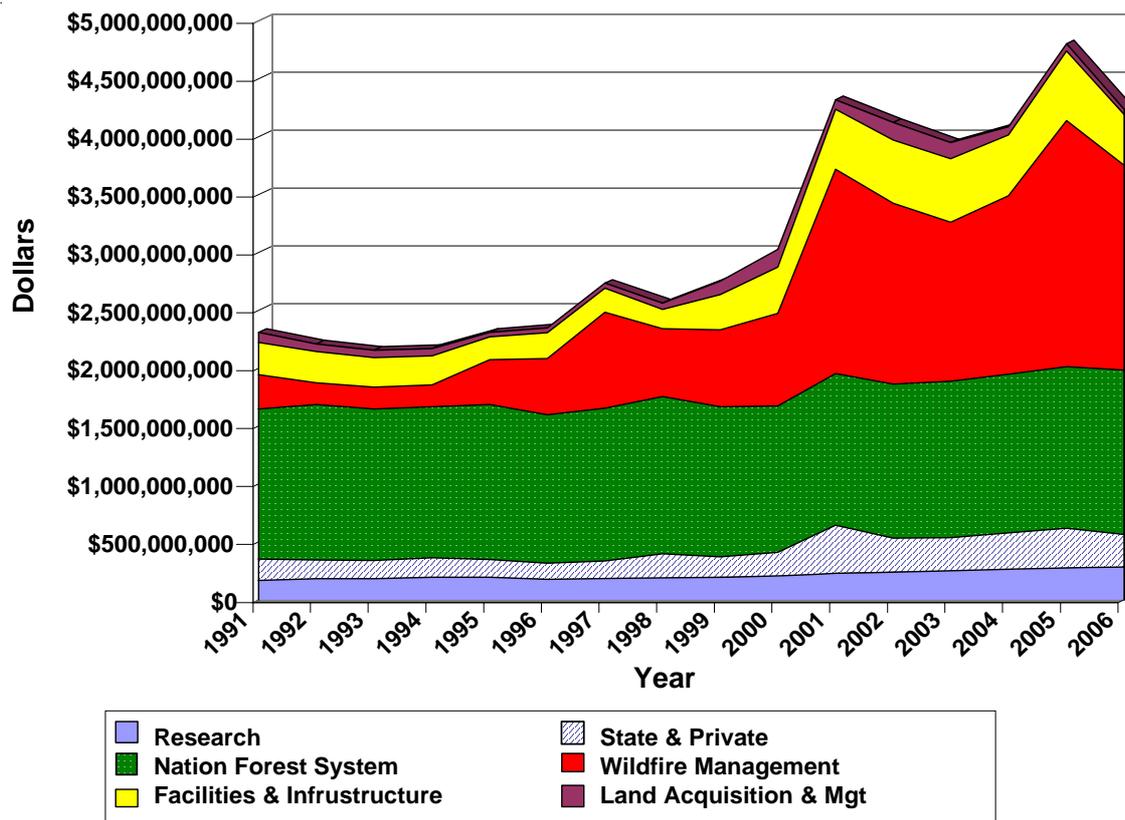
## THE UNREALIZED PROMISE OF ADAPTIVE MANAGEMENT

One of the main ideas emerging from the movement toward ecosystem management in the 1980s was the concept of “adaptive management”. The concept of adaptive management is based on the realization that ecosystems and the processes that influence them are so complex that it is difficult or impossible to predict in advance the full implications of proposed management actions. Therefore land managers must proceed with a heavy dose of humility, the application of the best science available and a strong commitment to monitoring the environmental, social and economic effects of management decisions — and to adapt or change decisions based on systematic monitoring. Adaptive management ideally also involves the purposeful design of management practices as experiments to assist in the learning experience (Walters 1986).<sup>36</sup>

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<sup>35</sup> The process for carrying out competitive sourcing is laid out in the Office of Management and Budget’s Circular A-76, which can be viewed online at: [http://www.whitehouse.gov/omb/circulars/a076/a76\\_incl\\_tech\\_correction.pdf](http://www.whitehouse.gov/omb/circulars/a076/a76_incl_tech_correction.pdf)

<sup>36</sup> More information on the practical application of adaptive management is available online at: <http://www.worldwildlife.org/bsp/publications/aam/112/titlepage.htm>



**Figure 7. Changes in Forest Service discretionary budget by activity**

Source: Forest Service Budget Summary (1991–2006), USDA/Forest Service.

The systematic application of adaptive management has not occurred for a variety of reasons, including a lack of commitment to and funding of needed inventories and monitoring. But there are also inherent cultural and institutional barriers, as well, both within land management and regulatory agencies, including the Council on Environmental Quality (CEQ). As an example, the Northwest Forest Plan established ten so-called “Adaptive Management Areas” (AMAs), covering about 600 000 hectares, which were intended to be laboratories for testing innovative management practices. In spite of the opportunity to showcase the application and utility of the concept of adaptive management, most observers feel that this effort has failed miserably (Thomas 2003, Stankey *et al.* 2003).

The short-term risk intolerance common to federal regulatory agencies, which has been discussed previously, remains a major barrier to adaptive management. In addition, the courts have been unwilling to reduce what they consider to be the legal obligations of land management agencies to carry out detailed predecision analysis.

Since the late 1970s, the NEPA has been strongly criticized for requiring volumes of upfront analysis and paperwork to “bullet-proof” documents against possible court challenges, while at the same time providing only limited knowledge for improved decision-making (Fairfax 1978). In a major critique of NEPA in the *Columbia Law Journal*, Bradley C. Karkkainen (2002) stated that:

*...agencies have an incentive to overstuff the EIS with information from every available source, regardless of its quality, so as to achieve a protective layer of redundancy or “overkill” while at the same time inoculating themselves against the charge that they overlooked relevant information...NEPA ambitiously, and naively, demands the impossible: comprehensive, synoptic rationality, in the form of an exhaustive, one-shot*

*set of ex ante predictions of expected environmental results. In the normal course of events, that task proves insuperable.*

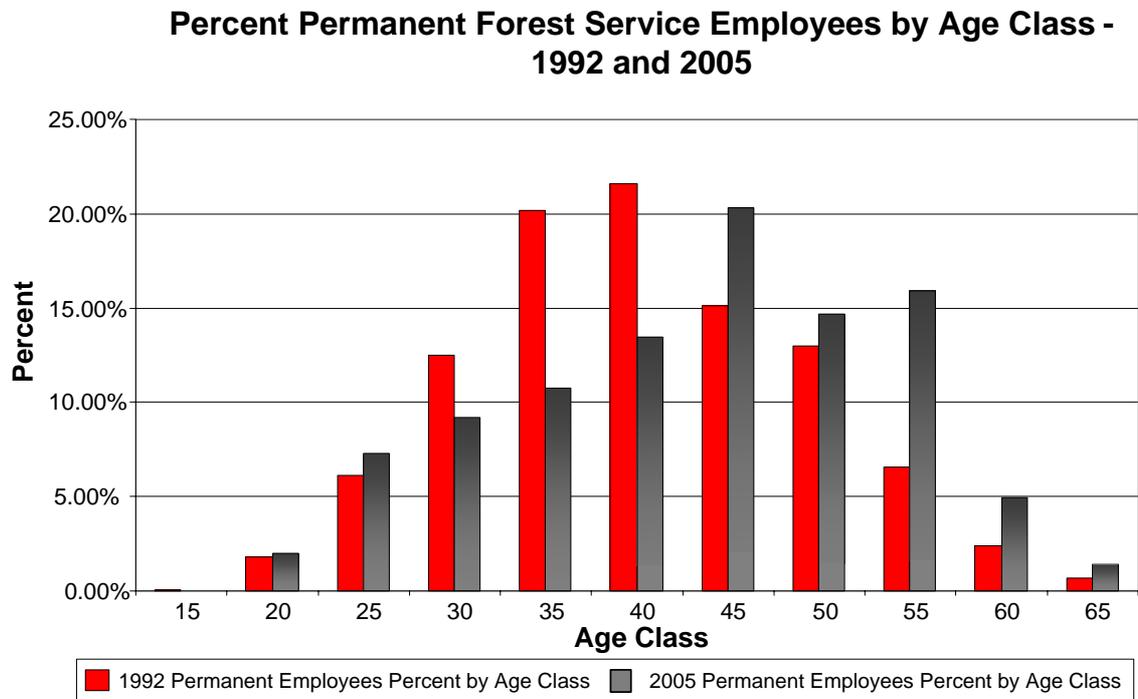
In addition to discouraging adaptive management, current NEPA procedures can also discourage constructive and effective stakeholder collaboration. Collaboration is most effective if the Forest Service effectively engages all interested stakeholders in seeking to craft decisions that maximize joint objectives and interests. But NEPA procedures require that, even after the Forest Service has gone through this collaborative process, it must: (1) spend a year or more preparing voluminous documents evaluating in detail the environmental implications of a full range of alternatives; and (2) then ask for formal public comment on this range of alternatives, even after the collaborative process has successfully narrowed or eliminated many, if not most of them from active consideration. Not surprisingly, the stakeholder community often feels confused, betrayed and abandoned by this required NEPA process.

In spite of the apparent conflict with the evolving science and application of ecosystem management, adaptive management and collaboration, the CEQ continues to staunchly defend its 1970s-era regulations implementing NEPA.

**CHALLENGES FACING THE FOREST SERVICE**

A variety of challenges face the Forest Service in the early twenty-first century. Some of these are briefly summarized hereunder.

**Loss of technical skills.** Since the Forest Service has not hired significant numbers of new employees for two decades, the agency is faced with an ageing workforce. Many employees are within five years of retirement (Figure 8).

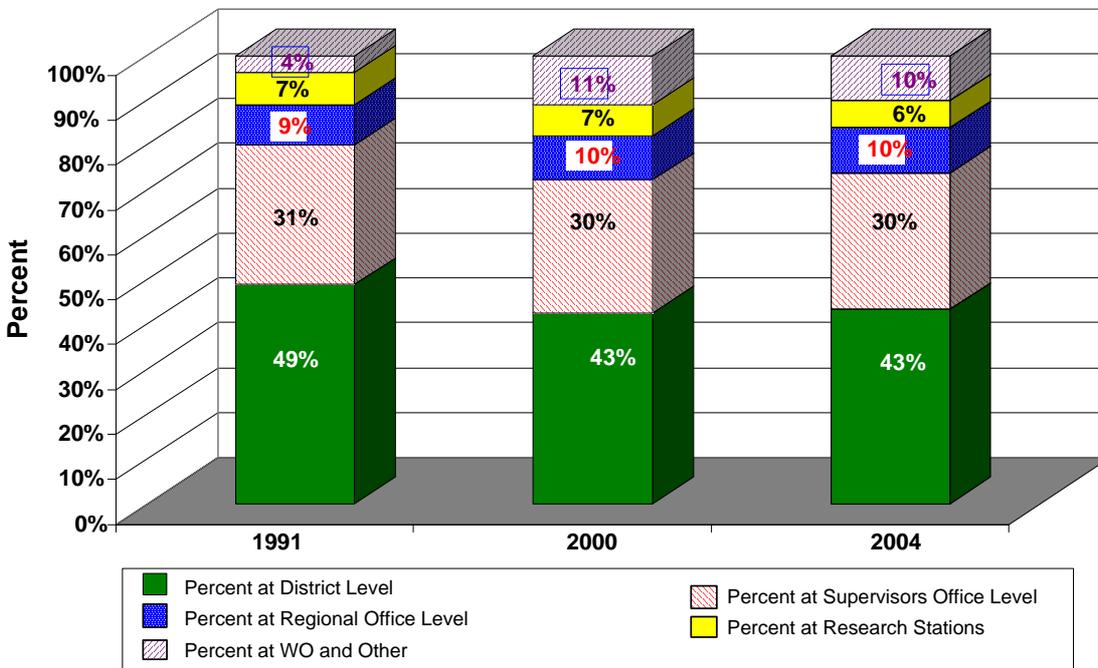


**Figure 8. Percent of permanent full-time employees by age class**  
 Source: HRM (2006).

**Reduced resources at the field level.** Increased process demands have resulted in increased staff numbers at the upper levels of the Forest Service. As the agency’s budget has declined in real terms, its field offices working on the ground have been disproportionately affected (Figure 9). National forest field units are consequently stressed and stretched to meet the demands being placed on them.

**Lack of integration and turf wars.** Agency turf wars are hindering integration. In the past, the roles of traditional functional areas in the Forest Service were relatively well-defined. They corresponded to each of the traditional multiple uses. Thus, the timber staff prepared and administered commercial timber sales, the fire staff prepared for and fought forest fires, the watershed and wildlife staff reviewed and commented on proposed projects, helped prepare environmental documentation and carried out watershed and wildlife restoration projects. With the agency focus on forest restoration and treatment of forest fuels, traditional lines of responsibility have become blurred. A timber sale, formally the responsibility of the timber staff (and funded by a timber sale budget line item), may now be the mechanism to reduce forest fuels — a task which was previously the responsibility of the fire staff (funded by the fire budget line item). The same activity may also advance the objectives of restoring watershed conditions or enhancing wildlife habitat (under the purview of the watershed and wildlife staffs, respectively). It has sometimes been difficult for the existing functional disciplines — with their traditional budget line funding from Congress — to rationalize and clarify their roles under the new mission focus. Considerable integration has occurred at the field level, but the turf battles and responsibility issues remain contentious at regional offices, and especially at the Washington Office level.

**Forest Service Employees by Administrative Level 1991, 2000, 2004**



**Figure 9. Forest Service employees by administrative level**

Source: HRM (2006).

**Undefined social constituency for ecosystem restoration and fuels’ treatment.** At present, there is no well-organized national constituency for forest restoration and treatment of forest fuels. Some of the current national forest constituencies, such as the timber industry and wilderness interests,

are cool to this new mission focus, or even opposed. For others, such as recreation stakeholders, the issue is considered peripheral to their primary interests. A constituency for restoration and fuels' treatment may now be emerging at local community levels, but it has yet to emerge as a national political force.

## **LESSONS TO BE LEARNED FROM EXPERIENCE WITH NATIONAL FORESTS**

### **Lessons on organizational re-invention**

Since 1905, the management of national forest lands has shifted from custodial management (1905–1945), to production of wood products (1945–1985), and most recently to a still evolving form of ecosystem management that emphasizes restoration and maintenance of forest health, reduction of hazardous fuels, biodiversity and recreation. The most recent shift was rapid, although it was often resisted both within and outside the Forest Service.

The Forest Service has made these significant changes in its mission focus within an overall organizational structure that has remained largely unchanged since the 1930s. In addition, the substantial changes in mission focus since 1985 have occurred without an explicit change in the statutory mandate governing the purposes for which the national forests are to be managed.

While numerous formal proposals to re-organize and restructure the Forest Service have been made over the years, few have been implemented. Those restructurings that have occurred have mainly involved consolidation of management units, largely initiated by field offices in response to shifts in funding and budgets.

The Forest Service as an organization has demonstrated both rigidity and flexibility over the years. In response to changing legal requirements and public demands, the Forest Service has been able to “re-invent” itself by making substantial changes in its mission focus. Such changes have not always been easy for the agency, especially when they ran counter to the organizational culture or adversely affected key Forest Service stakeholder groups. Strong leadership of the agency by career employees who worked their way up through the organization has been a major positive factor in formulating workable responses to shifting demands on the agency. The decentralized decision-making culture of the agency has also been a strength, allowing the agency to adapt to changing needs at local levels.

A major barrier that remains to the Forest Service becoming a true learning organization is that the regulatory agencies that oversee it, and the courts that review legal challenges against it, have yet to embrace the concept of adaptive management. This has prevented the Forest Service from adjusting management approaches and strategies as quickly as hoped in response to lessons learned on the ground.

### **Lessons on multiple use of public lands**

The performance and evolution of multiple use in any specific context depends on a variety of factors, not the least of which is: (1) the nature and intensity of the demands being placed on the land; (2) the nature and scope of the stakeholders or constituencies interested in that management; and (3) the “rules of engagement” that apply to public input and intervention into the decision-making process.

The experiences in managing the national forests suggests strongly that key land allocation decisions, especially between protected lands, such as wilderness, and land used to produce a broader range of goods and services (e.g. timber), should be recognized as essentially political decisions and, therefore, should not be left to professional land management agencies to resolve. The unwillingness of Congress to make these decisions, or, alternatively, to set clear limits or parameters on the area of protected and/or production lands, has often left the Forest Service in an untenable situation.

### **Lessons on the need for public lands to secure reliable supplies of timber**

In the early twentieth century it was widely assumed that public ownership and management of forest lands was needed to assure that they would be managed effectively for watershed protection and sustained timber production. Today 92 percent of the timber produced in the United States is harvested from private land (USDA/Forest Service 2004). In fact, it can be argued that the existence of public forests designated for multiple-purpose use is contrary to the objective of timber production because it encourages the kinds of public debates and controversy described in this study. As demands for non-timber uses and values on these lands increased, timber production shifted to other forests and to other countries.

Factors contributing to expanded private investment in forestry in the United States include: (1) stable and well-defined institutional frameworks and land tenure and land rights systems, backed by the rule of law; (2) strong and relatively consistent markets for forest products; (3) strong agricultural and forestry institutions and support and delivery systems at national, state and local levels; and (4) increasing per capita income and other measures of economic strength and diversity that encourage investment in the forest sector and result in citizens who cherish forests for their non-timber and environmental values (MacCleery 2001).

### **Effects of national versus state management of public lands**

The decision to establish a federal system of forest reserves in the United States was fateful. It created a perceived right and interest among all citizens on how these lands should be managed. If federal forest lands in the United States had been transferred to the jurisdiction of individual states, the changed political dynamics would have resulted in a substantially different policy evolution. Whether it might have been better or worse depends on one's viewpoint.

There is no question that the existence of a large federal land estate has led to a sizeable body of federal laws governing their management, as well as the requisite federal land management agencies to administer them. Together, these elements created a public forest policy-making structure heavily concentrated in Washington. As the demands being placed on these lands increased over time, diverse constituencies emerged with a stake in how these lands were to be managed; they organized themselves to influence Congress and federal agencies in Washington to achieve their particular objectives. As a significant portion of this constituency is disconnected from the economic impacts of reduced federal commodity production, it should be no surprise that such a shift has occurred in recent years.

## **A VIEW TO THE FUTURE**

A key consideration for the future is whether the public concerned with the management of the national forests can come together and forge a working consensus as to how these precious lands are to be managed. There appears to be a growing consensus in favour of a forest restoration/fuels treatment mission for the Forest Service. But a strong constituency for such a mission focus has yet

to develop. Former Chief Jack Ward Thomas wrote that national forest stakeholders currently seem to be too engaged in fighting the battles of the past to look to the future (Thomas 2001a):

*Fierce in battle, many of the eco-warriors have been unable to come to grips with the consequences of victory and are now reduced to wandering about the old battlefields bayoneting the wounded. Their counterparts from the resource extraction community, likewise, cannot come to terms with defeat and hold “ghost dances” to bring back the good old days when they were undisputed Kings of the West.*

Some emerging signs are promising. In a recent opinion piece in *Grist* magazine, Mitch Friedman, one of Jack Thomas’ “eco-warriors” on the Pacific Coast suggested that it is time for the environmental community to reconsider the newly re-invented Forest Service and change from confrontation to cooperation and collaboration.<sup>37</sup> Friedman writes that the environmental community should “...push to thin overgrown stands before it gets charred. We need to get better at advocating restoration logging before fires occur”.

Friedman also acknowledges that the Forest Service has been “critically hampered by process”. He argues that:

*If we want our forest ecosystems restored, we must now disabuse the Forest Service of the inefficiencies we helped impose. We must rescue the Forest Service by becoming its friend, its ally and its core constituency.... We have at hand an opportunity...to build a new conservation movement and a new Forest Service to advance a new central idea of restoration.*

Only time will tell how well Friedman’s challenge will be taken up by other national forest stakeholders. It still remains to be seen whether Chief McGuire’s “grand experiment” wherein diverse interests consent to “share the land” is a viable approach for multipurpose public land in an era of representative democracy characterized by diverse and fiercely competing special interest groups.

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<sup>37</sup> The article, “*The Forest Service is dead; long live the Forest Service!: It’s time for conservationists to collaborate with an agency they’ve long demonized*”, can be viewed at: <http://www.grist.org/comments/soapbox/2006/02/28/friedman/>

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# RE-INVENTING THE FORESTRY AGENCIES OF THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, PHILIPPINES: A CASE STUDY

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## INTRODUCTION

While forest resources could contribute to alleviating environmental and socio-economic pressures in the Philippines, these forests are rapidly dwindling. Traditionally, only one forestry agency (the Bureau of Forestry) was mandated to manage the country's forest resources. But the energy crisis in the 1970s compelled the government to assign critical watersheds to other government agencies with direct stakes in specific watersheds, for example the National Power Corporation. Moreover, the enactment of the Local Government of 1991 required the devolution of substantial powers and functions from central government offices to Local Government Units (LGUs). This also expanded the focus of forest resources from traditional economic uses to a broader perspective including environmental and other services. The result was greater involvement by more stakeholders — primarily from the government and the private sector — in managing forest resources. Indeed, the services or utilization of remaining forest resources currently being claimed by multiple stakeholders usually leads to competing demands that require significant facilitation and coordination skills from the forest agencies belonging to the Department of Environment and Natural Resources (DENR). This creates a re-invention challenge for forest agencies to effectively facilitate and harmonize the competing and sometimes conflicting demands of the various stakeholders and forest managers. The degree to which this has been achieved is the subject of this study.

## INSTITUTIONAL ASPECTS OF FOREST MANAGEMENT BY THE GOVERNMENT: A BRIEF HISTORY OF FOREST AGENCY RE-INVENTION IN THE PHILIPPINES

### Pre-Spanish era through the American period

Different tribes in the Philippines have been practising community-based forest management (CBFM) in their respective territories from the time the Spaniards first proclaimed the country Spanish territory in 1565. In 1863, the Spanish colonizers established the Inspeccion General des Montes (IGM), a forestry agency tasked to survey the extent of forest resources in the country. The Spaniards subsequently imposed the “Regalian doctrine” by which forests were claimed and owned by the Crown. Spain ceded the country to the Americans in early 1900 who subsequently adopted the Regalian doctrine. The Americans established the Forestry Bureau (later changed to the Bureau of Forestry). The School of Forestry in Los Baños was established in 1918 to develop human resources for the bureau. For some time, the Bureau of Forestry director was concurrently the Dean of the University of the Philippines College of Forestry at Los Baños.

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As government consolidated its ownership of forests and forest lands, the Bureau of Forestry allowed large-scale timber harvesting, processing and export of lumber as early as the 1930s. The lumber from dipterocarp trees became popular worldwide and was marketed as “Philippine mahogany”. The timber needs of local communities were legally addressed through the establishment of communal forests in the 1940s and concomitant permits were issued.

### **The Philippine independence period (1946 to the 1980s)**

When the Second World War ended, military equipment was converted for use in logging operations. After logging became mechanized and more Timber License Agreements (TLAs) were issued to concessionaires, the country turned into a major supplier of logs to the world market as early as the 1940s, peaking in the 1970s. Meanwhile, the ancestral ownership of the country’s forests and forest lands by indigenous peoples (IPs) was largely ignored and some of them slowly abandoned their claims and their traditional forest management practices. Mechanized logging simultaneously contributed significantly to deforestation. To accelerate tree planting, the Reforestation Administration (RA) was created in 1963 to hasten the reforestation of barren and denuded public lands. In 1975, the Revised Forestry Reform Code (Presidential Decree 705) was issued which re-organized the Bureau of Forestry, the Reforestation Administration, Parks and Wildlife Office (PWO) and the Southern Cebu Reforestation and Development Project (SCRDP). These agencies were merged to become the Bureau of Forest Development (BFD). This could be interpreted as a useful development as the different aspects of forest and forest land management were placed under one office with a line function.

In the 1970s, the persistent “problems” of shifting cultivation (*kaingin*) and illegal encroachment of forest lands induced the BFD to launch various programmes and projects such as Forest Occupancy Management (FOM), Family Approach to Reforestation (FAR), Communal Tree Farm (CTF), Agro-forestry Farm (AFF) and Tree Farm (TF).

In 1985, the Wood Industry Development Authority (WIDA) was created; it took over the BFD’s regulatory functions for forest resource management and processing of forest products. The timber management and forest utilization units at the BFD’s national, regional and district offices formed the core units of WIDA at national and area levels.

### **From the EDSA<sup>2</sup> revolution to the present (1986 to present)**

The People Power revolution of 1986, also dubbed the “EDSA I” revolution, introduced many changes in forest agencies. Mrs Corazon Aquino succeeded Ferdinand Marcos as President of the Philippines and appointed former Senator Ernesto M. Maceda as Minister of Natural Resources. Maceda brought a community development undercurrent to the Ministry of Natural Resources (MNR) and supported its social forestry programme.

Attorney Fulgencio S. Factoran, Jr., a former cause-oriented lawyer, became minister in the late 1980s. Restoring decency and professionalism in the administration and providing a clear direction, Secretary Factoran inspired many NGOs and people’s organizations (POs) to partner with, and support, the DENR. The department established NGO desks at the central and regional offices for recognizing and accrediting NGOs and POs. Later they were used as the basis for entering into contracts with many of them for community organization, reforestation and other departmental development activities. In 1987, during Secretary Factoran’s term, President Aquino issued Executive

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<sup>1</sup> EDSA stands for *Epifanio de los Santos Avenue*, a main highway in Manila and the main site of the demonstrations.

Order (EO) 192 renaming the MNR as the Department of Environment and Natural Resources (DENR) and re-organizing subordinate bureaus and offices.

The responsibilities for implementing the various forestry programmes and projects at the district level, formerly held by the BFD district offices, were transferred to Community Environment and Natural Resources Offices (CENROs). CENROs were to be supported by the Regional and Provincial Environment and Natural Resources Offices (RENROs and PENROs).

### **THE ROLES, FUNCTIONS AND DIVISIONS OF DENR BUREAUS WITH FORESTRY-RELATED ACTIVITIES FOLLOWING THE RE-INVENTIONS OF 1987**

Executive Order 192 of 1987 consolidated several government agencies dealing with environmental concerns under a single department, the DENR (Figure 1). As spelled out under EO 192, the Forest Management Bureau (FMB), the Ecosystems Research and Development Bureau (ERDB) and the Protected Areas and Wildlife Bureau (PAWB) are the DENR bureaus with direct forestry-related functions.

The Forest Management Bureau (FMB) is under the Natural Resources Office, headed by an under-secretary, while the ERDB and the PAWB are placed under the Environment and Research Office headed by a second under-secretary. Although these offices are considered staff bureaus, there is a “tacit agreement” that their directors can have “direct links” with regional technical directors and sectors especially on matters related to sector instructions and compliance reports.

Figure 2 shows all of the three forestry-related bureaus — the FMB, ERDB and PAWB — with the functional divisions that help them to carry out their roles as staff bureaus for the DENR secretary. Their roles are mainly focused on forest policy formulation, setting of standards, quality control and serving as advisers to key DENR officials, particularly to the secretary.

The integration of the different sectors outside the Office of the Secretary occurs at various levels of the Field Operations Group — from RENRO down to CENRO, as depicted in Figure 3. At the regional level, the regional executive director (RED), who is considered a generalist, is assisted by five regional technical directors (RTDs) including the three RTDs for forestry-related sectors. PENROs are each assisted by a forestry specialist and provide administrative and financial support to CENROs and their operations. PENROs also serve as the strategic link of the DENR to the different heads of local and national agencies and civil societies operating in the province. CENROs are considered to be the front-liners and at the cutting edge of the DENR in terms of managing the environment and natural resources, including forestry. CENROs are assisted by different forestry specialists in the implementation of various forestry programmes and projects within their areas of jurisdiction.

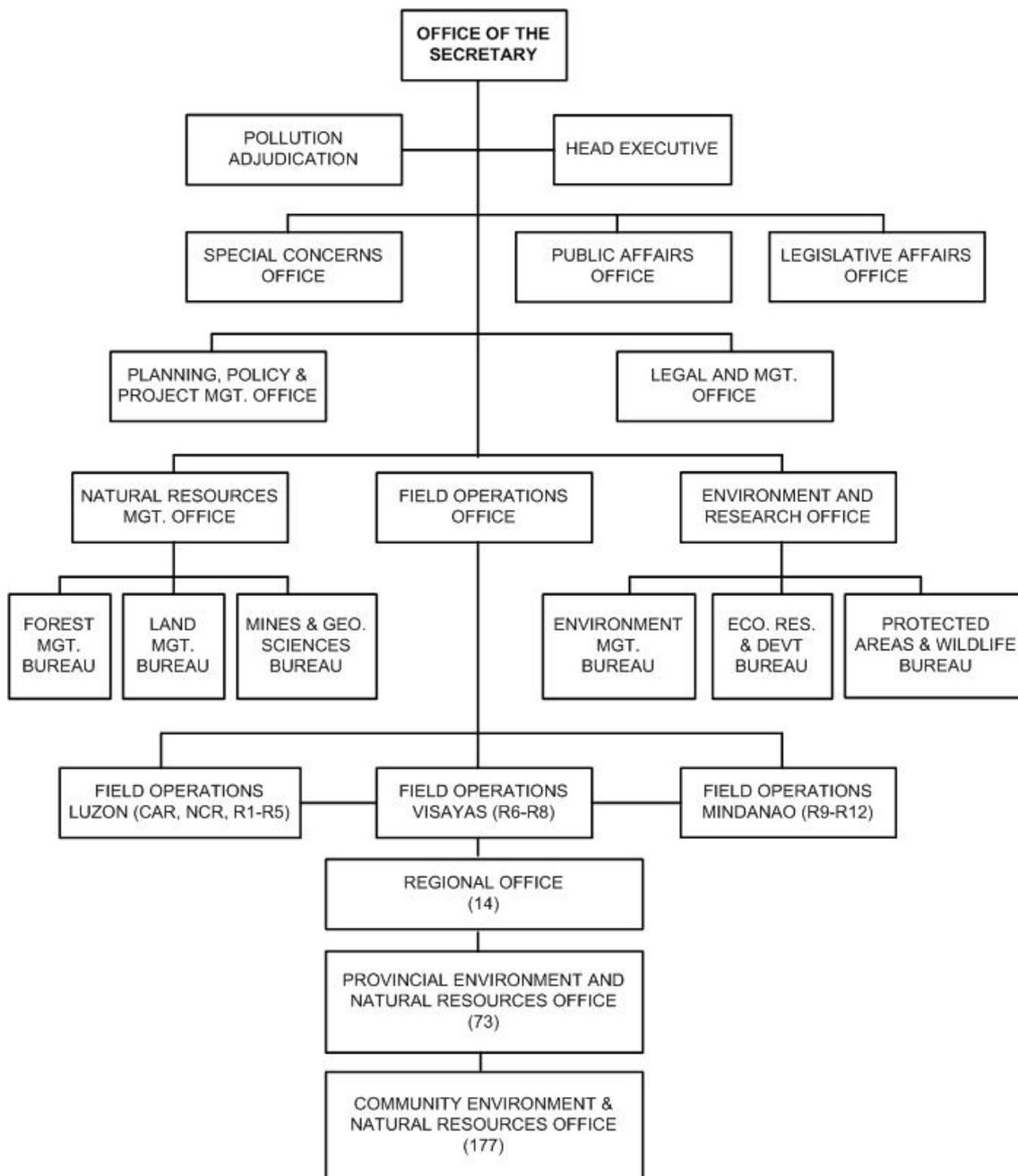


Figure 1. DENR organizational chart (divisions are not shown)

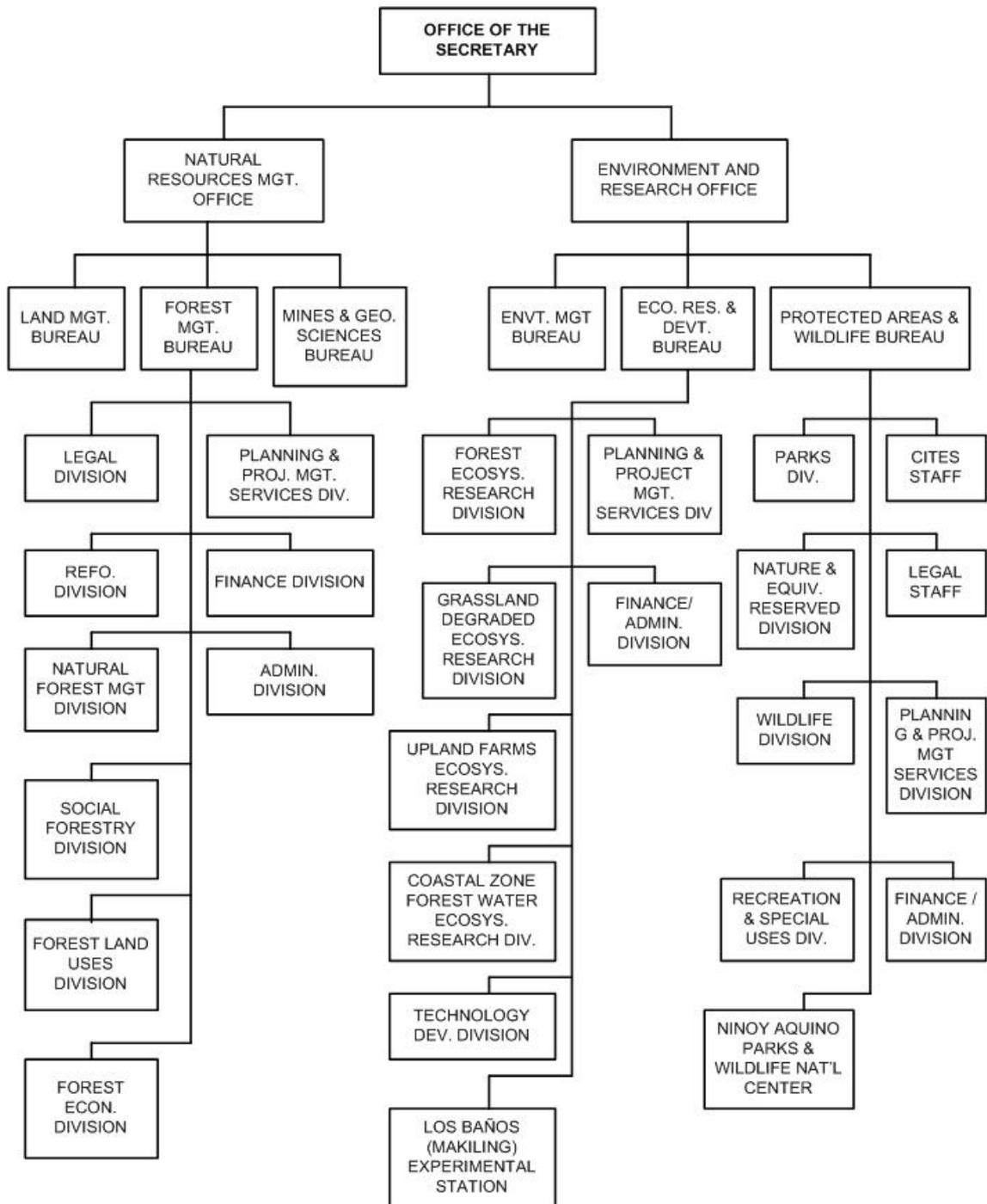


Figure 2. DENR organizational chart showing divisions of the FMB, ERDB, PAWB

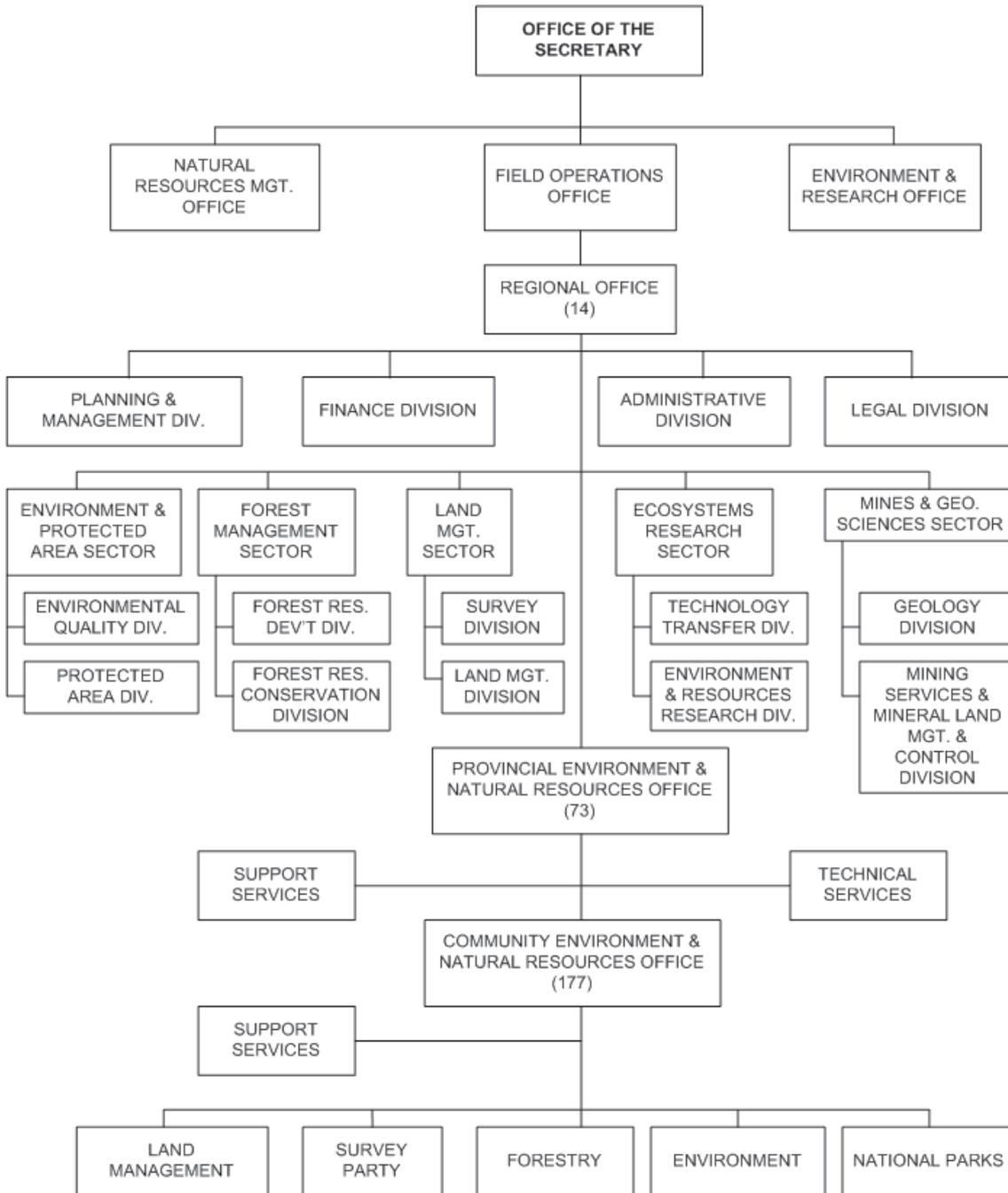


Figure 3. DENR organizational chart showing details of RENRO

Reforms implemented under EO 192, established the following roles, functions and office divisions for the FMB, ERDB and PAWB.

The **Forest Management Bureau (FMB)** integrated and absorbed the powers and functions of the former BFD and WIDA except for those line functions and powers that were transferred to the regional field offices. The FMB was primarily mandated to advise the DENR secretary on matters pertaining to forest development and conservation. The FMB advises the secretary on matters pertaining to forest development and conservation and has the following functions:

- recommend policies or programmes for the effective protection, development, occupancy, management and conservation of forest lands and watersheds, including grazing and mangrove areas, reforestation and rehabilitation of critically denuded or degraded forest reservations, improvement of water resource use and development, ancestral lands, wilderness areas and other natural preserves, development of forest plantations including rattan, bamboo and other valuable non-timber forest resources, rationalization of the wood-based industries, regulation of the utilization and exploitation of forest resources including wildlife, to ensure continued supply of forest goods and services;
- advise the regional offices on the implementation of the aforesaid policies or programmes;
- develop plans, programmes, operating standards and administrative measures to promote the bureau's objectives and functions;
- assist in the monitoring and evaluation of forestry and watershed development projects to ensure efficiency and effectiveness; and
- undertake studies on the economics of forestry and forest-based industries, including supply and demand trends at local, national and international levels, identifying investment problems and opportunities, in various areas.

The **Ecosystem Research and Development Bureau (ERDB)** integrated the Forest Research Institute (FORI) and the National Mangrove Committee. The ERDB manages and administers the FORI research offices, laboratories and forest experiment stations located at the University of the Philippines (UP) Los Baños and other field laboratories that the secretary may assign to its direct supervision. The bureau coordinates all technological research undertaken by the field offices and disseminates findings to users and clients. The ERDB has the following specific functions:

- formulate and recommend an integrated research programme relating to Philippine ecosystems and natural resources — such as minerals, lands and forests — as holistic and interdisciplinary fields of inquiry;
- assist the secretary in determining a system of priorities for the allocation of resources to various technological research programmes of the department;
- provide technical assistance in the implementation and monitoring of the aforementioned research programmes;
- generate technologies and provide scientific assistance in the research and development of technologies relevant to the sustainable use of Philippine ecosystems and natural resources; and
- assist the secretary in evaluating the effectiveness of the implementation of the integrated research programme.

The **Protected Areas and Wildlife Bureau (PAWB)** absorbed the Division of Parks and Wildlife and the Marine Parks Program of the BFD, as well as the Calauit Game Preserve and Wildlife Sanctuary, the Presidential Committee on the Conservation of Tamaraw, the Ninoy Aquino Parks and Wildlife Center (formerly Parks and Wildlife Nature Center) and all national parks, wildlife sanctuaries and game preserves previously managed and administered by the Ministry of Human Settlements. The PAWB formulates and recommends policies, guidelines, rules and regulations for

the establishment and management of an Integrated Protected Areas System comprising national parks, wildlife sanctuaries and refuges, marine parks and biosphere reserves. The bureau has the following functions:

- formulate and recommend policies, guidelines, rules and regulations for the establishment and management of an Integrated Protected Areas Systems such as national parks, wildlife sanctuaries and refuges, marine parks and biospheric reserves;
- formulate and recommend policies, guidelines, rules and regulations for the preservation of biological diversity, genetic resources and endangered Philippine flora and fauna;
- prepare an up-to-date listing of endangered Philippine flora and fauna and recommend a programme for their conservation and propagation; and
- assist the secretary in monitoring and assessing the management of the Integrated Protected Areas System and provide technical assistance to the regional offices in the implementation of the programme for these areas.

## **MAJOR EVENTS AND CONDITIONS THAT INDUCED THE RE-INVENTION OF THE FORESTRY AGENCIES**

Since 1987, the DENR has undergone periodic re-invention as a result of significant and frequent changes in policy direction. This section discusses related issues on CBFM, devolution of forestry powers and functions to the LGUs, granting of autonomy to Muslim Mindanao, transfers of supervision of certain forest lands to other government agencies and corporations, recognition of the rights of IPs and the decline of the logging industry.

### **The “re-invention” of the DENR in the context of CBFM**

One of the factors that induced the DENR to re-invent itself was the re-emergence of CBFM as a leading management strategy and approach. CBFM had been widely practised in early times in the Philippines, but the practice was marginalized when the Spanish introduced the Regalian doctrine in the fifteenth century.

Significant developments since the 1950s re-established the CBFM agenda among forest management practices in the country. In 1967, during a Kaingin Management Conference in Los Baños, Laguna, participants agreed that *kaingin* was not simply a forestry violation but rather was the aggregate result of socio-economic, cultural and political factors. Seven years later, the MNR awarded the first Community Forest Lease Agreement (CFLA) to the Ikalahan Foundation, an IP association in Nueva Viscaya. Also, in the 1970s the Paper Industries Corporation of the Philippines (PICOP) based in Surigao del Sur encouraged and supported agroforestry on the idle, small private landholdings surrounding its concessions to protect them from *kaingineros*. In four years, the pioneer tree farmers obtained cash payments from the pulpwood logs of their falcata (*Paraserianthes falcataria*) trees sold to PICOP. Within ten years, some 1 800 landowners had established about 30 000 hectares of falcata woodlots around PICOP concessions (Lansigan 1994).

In 1984, the social forestry component of the Central Visayas Regional Project (CVRP), a World Bank-funded regional project on decentralization and rural development, started organizing forest occupants in Negros Oriental into Forest Steward Associations (FOSAs). They were assigned areas to protect and manage and were allowed to utilize the dead trees for commercial purposes as an incentive. The policy was disapproved by the BFD director in 1985, but re-instated by Minister Maceda in 1986. The permits were ultimately suspended, however, when it was discovered that trees were intentionally being girdled/killed so that they could subsequently be “legally” cut to produce lumber.

The inconsistent administering of forest harvesting under the CVRP project and the anomalies occurring under the programme led to a shift in focus for FOSAs. Priority was shifted to “contract reforestation” under which FOSAs were redirected to work on forest rehabilitation efforts instead of utilization. An important lesson from the CVRP was that raising the incomes of forest dwellers does not necessarily raise their standard of living. They need to be trained on how to effectively manage personal and community finances.

The DENR drew lessons from these cases and pursued its CBFM direction by implementing the Community Forestry Program (CFP), the Regional Resource Management Project (RRMP) and the Low-Income Upland Communities Program (LIUCP). It achieved more policy support with the issuance of EO 263 by President Ramos in 1995, adopting CBFM as the national strategy for sustainable forest management. It promulgated Department Administrative Order 96-29 known as the Community-Based Forest Management Program (CBFMP) to implement EO 263 in 1996 and renamed the Integrated Social Forestry Division within FMB as the Community-Based Forest Management Office (CBFMO).

The implementation of the DENR’s CBFM programme has been hampered mainly by budgetary constraints and limitations in technical staff required to continuously coach, train, guide, lead and enable the CBFMA holders. Each PO should ideally have one CBFM technician assigned in the area. This means that the DENR would need 5 000 technicians for the country’s potential 5 000 CBFM projects. Fortunately, the participation of LGUs and NGOs helped solve this limitation assisted by donors who provided grants directly to POs or to their assisting NGOs. Currently, many bilateral donors are supporting CBFM programmes and projects — USAID, AusAID, CIDA, UNDP, GEF, GTZ and the EU.

### **The devolution of natural resource management functions to the LGUs**

The provinces, cities, municipalities and *barangays* (villages) of the country constitute the LGUs. They were given substantial powers and responsibilities to manage local affairs with the passage of the Local Government Code (Republic Act 7160) in 1991, including forest management functions that were devolved to them by the DENR.

In the 1980s, a handful of LGUs managed their natural forest resources. With these provinces effectively handling the needed community organization and mobilization tasks, the DENR’s forest protection and developmental activities became more effective. Poverty incidence (from a high of approximately 50 percent in 1995 to a low of approximately 11 percent in 2003) and forest-use violations in these provinces decreased markedly.

It was incumbent upon the DENR to devolve forest management functions specified in the Local Government Code. Despite no concrete criteria for LGU readiness, the DENR did proceed with devolving these functions to LGUs. Among the devolved functions was the management of communal forest and community watersheds of not more than 5 000 hectares and all the locally funded social forestry and CBFM projects. The LGUs were requested, although not forced, to create and operate their own Environment and Natural Resources Offices (ENROs) to manage the devolved functions. Many of the DENR staff devolved to LGUs were those who had earlier been trained in community development and social forestry.

Unfortunately, the DENR failed to provide the technical assistance needed by LGUs on how to properly organize and supervise these staff. Some LGUs even considered the devolved functions as an “expense” so they assigned the devolved staff to income-generating activities, such as the monitoring of sand and gravel extraction or even in the collection of market taxes, instead of the social forestry activities for which they had been well-trained. In 1998, the DENR and the Department

of the Interior and Local Government (DILG) issued Joint Memorandum Circular (JMC) No. 98-01. A joint committee was created to facilitate the implementation of the circular which called for the establishment of communal forest and community watersheds and the conducting of Forest Land Use Planning (FLUP) in the concerned LGUs.

The DENR and the LGUs experienced a number of failures with regard to devolved forestry powers and functions. Some DENR/FMB officials and staff were uncomfortable in dealing with politicians and LGU officials who were perceived to be arrogant. On the other hand, some LGU officials were perceived to be resentful to DENR/FMB officials who had been given considerable authority for the management of forest resources when they had not been elected by the people. These issues hindered effective communication and the ability to derive maximum benefits from devolution. Further DENR re-invention could result in improved linkages with the LGUs. Empowered LGUs, such as those in the provinces of Nueva Viscaya and Palawan, have demonstrated that they can make major contributions to the sustainable management of forest resources through partnerships with the DENR. They can also sometimes provide funding for the rehabilitation, development or protection of forest resources. In this context, the DENR's forestry mandate could be easier to realize if these partnership approaches were expanded.

### **Autonomy granted to the four Muslim-majority provinces of Mindanao**

In 1991, a new law created the Autonomous Region in Muslim Mindanao (ARMM) which encompassed the provinces of Lanao del Sur, Maguindanao, Sulu and Tawi-Tawi. Except for issues concerning finance, foreign affairs and national security, the power and authority vested in the national government were turned over to the ARMM. The DENR transferred its national management mandate to the predominantly Muslim provinces of the ARMM. Thus, there was a decrease in area covered by the DENR nationally but this was juxtaposed by a decrease in budget and staffing. It should be noted that the ARMM's DENR patterned most of its administrative orders and circulars on those of the national DENR. However, there remains a need for increased collaboration between the two entities, especially with regard to experience sharing, technical training and concomitant capacity building in ARMM on policy-making and international agreements related to forest management. The establishment of the ARMM was, nevertheless, a breakthrough and a milestone in government bureaucratic procedure.

The ARMM DENR, assisted by the USAID-supported Environmental Governance (ECOGOV) project, has worked successfully for the passage of its own Sustainable Forest Management Act (SFMA). This is a credit to ARMM DENR. In contrast, the national version of the SFMA, which the national DENR submitted to the Philippine Congress in 1988 still has not been enacted into law up to this day.

### **The transfer of jurisdiction of forest lands to other government agencies**

In July 1987, President Aquino issued Executive Order (EO) 223 vesting in the Philippine National Oil Company (PNOC) the jurisdiction, control, management, protection, development and rehabilitation of watersheds where the PNOC had geothermal projects, plants and properties. In the same period, President Aquino issued EO 224 vesting in the National Power Corporation (NAPOCOR) the complete jurisdiction, control and regulation of watershed areas and reservations surrounding its power-generating plants and properties. These two EOs effectively transferred specific forest lands from the control and management of the DENR to the PNOC and NAPOCOR. Placing watersheds that supported hydroelectric power generation under the jurisdiction of NAPOCOR and areas sustaining the productivity of geothermal fields under the PNOC was practical and effective. Both had obligatory reasons to protect these watersheds and the necessary funds to do so. It made them directly accountable.

## The recognition of IP rights

The resistance of IPs to government moves that would negatively affect their culture and ancestral lands has caught the attention of the media and various NGOs. A classic example was the resistance of the Kalingas to the government's plan to construct the Chico dam that would have flooded tribal settlements and burial sites of ancestors. One of their leaders, Macling Dulag was murdered in the process. Their cause was pursued by many NGOs and regularly featured in the media. The groups were not only eventually successful in stopping the dam's construction, but more importantly contributed to the ultimate passage of the Indigenous Peoples Rights Act (IPRA).

Years before the IPRA was passed, the DENR had already received many requests, petitions and demands in different forms directly from IPs or from individuals and groups supporting their cause for recognition of IP claims to their ancestral lands. The DENR responded by creating the Indigenous Communities and Ancestral Domain (ICAD) Division within its Special Concerns Office. A District Administrative Order was issued for the purpose. It facilitated the survey, processing and issuance of Certificates of Ancestral Claims Domain (CADCs) to IPs. Preparation of corresponding Ancestral Domains Management Plans (ADMPs) was also facilitated by the DENR. Meanwhile, concerned NGOs and other groups also stepped up their support for the IPs and pushed for the issuance of a law to cover these concerns.

IPRA (Republic Act 8371) was finally approved by Congress in 1997. It mandated the creation of the National Commission for Indigenous Peoples (NCIP). Among other tasks, this new office initiated work to issue Certificates of Ancestral Domain Titles (CADTs) to IPs. The NCIP, however, did not start from zero. It made use of the CADCs issued by the DENR that greatly facilitated its issuance of CADTs to IPs. The DENR signed a Joint Memorandum Circular with the NCIP in 2003 for the harmonization of the "Implementation of the IPRA and Environmental and Natural Resources Laws and Policies".

The recognition and promotion of the rights of IPs enabled the government to redress injustices done to them by previous governments, particularly the denial of tribal ownership of forest lands and accompanying resources and the disruption of indigenous forest management practices. Returning their traditional assets and the freedom to practise indigenous forest management were moves undertaken by the government, but many of the young IPs had already lost indigenous knowledge and skills. The elders of some of the IPs, with the assistance of the government, are making efforts to re-establish their former rich history and practices. The IPs are potentially very capable partners in protecting and managing the forest lands allocated to them in the form of CADTs.

## Decline of the logging industry

By 2006, only 14 TLAs covering 0.72 million hectares (from a former high of 254 covering 8.59 million hectares) were expected to continue. There were various reasons for the reduction of TLAs: non-renewal of expired TLAs, suspension or cancellation due to violations of forest laws, inclusion of the concession areas in the Integrated Protected Area System (e.g. Samar Island) and voluntary surrender of the TLAs by their holders (e.g. Nasipit Lumber Company and Anakan Lumber Company in Mindanao). Other TLAs were cancelled to conserve the remaining forest although the opposite occurred in Negros Oriental where there was massive forest destruction to make way for sugarcane plantations and other agricultural activities. Other TLAs were affected by a DENR policy in the late 1980s where logging was banned within the old-growth/virgin forest stands, areas with more than 50 percent slope and areas located above 1 000 metres in elevation, as in the case of the TLAs operating in the pine forests of the Cordillera region.

The 1987 Constitution specifies only three modes through which the private sector can utilize the country's natural resources: *production sharing*, *joint ventures* and *co-production agreements*.

Moreover, the constitution also allows the state “to engage directly in the utilization of natural resources”. A TLA does not conform to any of these four modes. Therefore, in lieu of TLAs, the DENR formulated Industrial Forest Management Agreements (IFMAs) and Socialized Industrial Forest Management Agreements (SIFMAs). These two new instruments were designed to provide modes for forest management and production sharing.

The IFMA is an improvement over the previous TLA system because: (a) maximum of 40 000 hectares is granted as concession areas compared to 100 000 hectares for TLAs; (b) the IFMA holder has to practise reforestation for as long as two years before being allowed to start cutting operations within natural forests; (c) IFMA holders are required to involve the communities within and around their concessions in defining priority areas for development activities.

The SIFMAs on the other hand, allow small entrepreneurs or individuals to partner with the government in the management and development of suitable forest lands. The area covered, although not exceeding 500 hectares, is sufficient for small-scale operations. This also addresses the problem of equity in the development and utilization of forest resources.

This is another arena where DENR re-invention could be more effective. The smaller coverage of IFMAs means that there are more entities to monitor and evaluate, assist and manage. Should the DENR be successful in transforming the forestry department of each IFMA holder into a “de facto mini DENR”, conscious of its natural resources and forestry responsibilities, it can carry out its mandate despite limited budget and personnel. There is potential for more local participation, especially in the uplands, in assisting IFMA and SIFMA holders in their various development activities.

## ASSESSING ACHIEVEMENTS OF THE DENR’S OBJECTIVES IN THE COURSE OF THESE TRANSITIONS

The DENR is tasked with five general objectives related to forests (see Box 1). It is important to assess the extent to which the significant organizational changes made by the agency over the years have led to achievement of these objectives

### Box 1. Five general objectives of the DENR

1. Assure the availability and sustainability of the country’s forest resources through judicious use and systematic restoration or replacement, whenever possible.
2. Increase the productivity of forest resources in order to meet the growing population’s demands for forest resources.
3. Enhance the contribution of forest resources towards achieving national economic and social development.
4. Promote equitable access to forest resources for the different sectors of the population.
5. Conserve specific terrestrial and marine areas representative of Philippine natural and cultural heritage for present and future generations.

**Assuring availability and sustainability of the country’s forest resources.** Limited access to and use of forest resources are allowed through the issuance of permits, leases or agreements in which there are corresponding responsibilities. In contrast, “open access forests” lead to forest destruction. Table 1 shows that 7.56 million hectares of forest lands were open access in 1997 while 3.92 million hectares were under forest management. If the eight TLAs scheduled to expire in 1997 and the six TLAs expiring between 1998 and 2005 (Table 2) had closed as scheduled, an additional 0.68 million hectares would potentially have become open access lands if not brought under secure tenurial instruments. This would mean that about 8.24 million hectares were likely to have had open access status by 2005.

**Table 1. Existing and potential open access areas, 1997**

Categories	Number	Area (million ha)	Total area
<b>Open access</b>			
Expired TLAs	142	4.04	7.56
Suspended/cancelled TLAs	84	3.15	
Cancelled PLAs	692	0.33	
Cancelled IFMAs	51	0.04	
<b>Potential additional access</b>			
Active TLAs	28	1.40	2.65
Regular reforestation projects	227	1.13	
Mangrove forest		0.12	
<b>Areas currently under forest management schemes</b>			
CBFM	4 803	2.92	3.92
IFMA		0.48	
PLA	653	0.22	
<b>Net current and potential “open access”</b>			<b>6.59</b>

Source: 1997 DENR Strategic Action Plan for CBFM reflected in DENR Memo Circular No. 97-1.

**Table 2. Number of TLAs expiring in 1997 and following years**

Year	Number	Area (million ha)
1997	8	0.21
1998–2005	6	0.47
2006–2011	14	0.72
<b>Total</b>	<b>28</b>	<b>1.40</b>

Source: 1997 DENR Strategic Action Plan for CBFM reflected in DENR Memo Circular No. 97-13.

Table 3 shows that the forest cover of the country has been decreasing consistently. In the absence of data for the period of 1987 to 2005, the two entries for 1990 and 2001 can be used to form an estimate. Within the 11-year span, the forest cover of the country decreased from 6.7 million to 5.4 million hectares — a loss of about 1.3 million hectares for the period, or an average loss of about 118 000 hectares per year. Set against the annual reforestation average of 63 377 hectares, overall forest cover is decreasing.

**Table 3. Change in forest land area in the Philippines (in million ha)**

Year	Forest cover	% of total area
1575	27.5	92.0
1863	20.9	70.0
1920	18.9	64.0
1934	17.8	57.3
1970	10.9	36.3
1980	7.4	24.7
1990	6.7	20.7
2001	5.4	18.0

Source: Revised Forestry Master Plan.

**Increasing the productivity of forest resources.** Productivity can be enhanced by increasing forest area. If area cannot be increased, then the species used should have a shorter rotation period before harvesting. Or it should yield greater volume at harvesting within the same time span compared to the commonplace species. For paper and light construction needs, this has already been accomplished by planting species like *Paraserianthes falcataria* and *Gmelina arborea*, which yield more volume in 10 to 15 years than dipterocarps that require a much longer periods to mature (e.g. 35-year-rotation periods). But for products requiring good quality timber — mainly from the dipterocarp species and other premium hardwoods such as *Pterocarpus indicus* and *Vitex parviflora* — there is also potential for productivity gains. Although timber stand improvement (TSI) practices have been used in some concession areas covered by TLAs, conclusive findings on improved stand yields are lacking. Most of the continuous forest inventory (CFI) plots, where data have been accumulated for decades, were affected by illegal logging when the TLAs were cancelled; others were lost to forest fires and *kaingin* farming. Genetic engineering and biotechnology have not been used commercially for trees and other forest crops.

**Enhancing the contribution of forest resources in achieving economic and social development.** Table 4 reveals that forestry's contributions to GNP and gross value added (GVA) have been decreasing since 1975. This is attributable to diminishing forest resources, fewer TLAs and the corresponding reduction of harvested forest products.

**Table 4. GNP and GVA in forestry (million pesos)**

Year	At constant prices			At current prices		
	GNP	GVA in forestry	% Share to GNP	GNP	GVA in forestry	% Share to GNP
2001	1 051 157	913	0.09	3 853 301	2 323	0.06
2000	1 016 131	1 372	0.14	3 496 863	3 383	0.10
1999	968 334	1 704	0.18	3 136 168	4 056	0.13
1998	931 127	897	0.10	2 794 068	2 215	0.08
1995	825 164	1 527	0.19	1 958 932	2 746	0.14
1990	720 058	7 320	1.02	1 075 056	8 907	0.83
1985	87 867	706	0.80	597 743	10 865	1.82
1980	92 532	1 386	1.50	264 532	6 743	2.55
1975	68 280	1 265	1.85	114 438	2 833	2.48

Source: Philippine Forestry Statistics, FMB, DENR, 1998 as cited in the Revised Forestry Master Plan

This would not be so detrimental if the reduction of forest products, especially timber, were not so great. Value addition can compensate for forest resource reduction to some extent. However, major reductions in timber production significantly affect forest and wood-based firms such as the furniture industry. Labour-intensive in nature, the entire furniture industry provides employment to approximately 1 800 000 people. It directly employs about 500 000 workers and indirectly another 300 000 workers. Subcontracting work involves approximately another million people. Manufacturers use a varied mix of raw materials, but it is estimated that about 80 percent of furniture components are wood or other forest-derived materials. The total value of forest-based furniture exported in 2004 alone reached approximately US\$229 million, or PHP12.8 billion (CFIP 2005).

Hence, if the supply chain were to be cut, a staggering loss of income would result, due to the loss of exports and sales. Subsequent economic and social dislocation could be severe, considering that about 10 percent of the country's population is dependent to one extent or another on the furniture industry (assuming each worker contributes to the livelihood of an average of five persons per household).

**Promoting equitable access to forest resources.** As early as 1982, through the ISFP, more equitable access to forest resources had been pursued by the department. This was re-inforced by subsequent DENR programmes and projects. One of the best examples was the Community-Based Forest Management Strategy (CBFMS) — Executive Order (EO) 263, July 1995. It adopted CBFM as the national strategy to ensure the sustainable development of the country's forest land resources and provided mechanisms for its implementation. According to a field review of 47 CBFM sites (Acosta *et al.* 2005) already more than 1 500 POs had been awarded CBMFAs nationwide, encompassing approximately 1.5 million hectares.

Pursuant to the 1987 Constitution, the issuance of TLAs was prohibited. The DENR responded by developing tenure instruments consistent with Constitution provisions such as IFMAs and SIFMAs. The reduction of maximum area coverage for each tenure instrument partially addressed equity issues by allowing more access to forest resources by a greater number of people.

The passage of the IPRA law also helped promote equitable access to forest resources because substantial areas of forest and forest lands were turned over to the IPs through the NCIP. The IPs were issued Certificates of Ancestral Domain/Land Titles to their ancestral lands that gave them authority to use these lands according to indigenous practices.

The passage of the ARMM law (R.A. 9054) also contributed to the promotion of access to forest resources as the ARMM DENR is allowed by law to manage its forest resources directly, in accordance with the existing Philippine Constitution and national laws. The residents of the ARMM naturally have priority to utilize their forest resources.

The National Integrated Protected Area System (NIPAS) Act helped to promote equitable access to forest resources through the establishment of the protected area system. TLAs within protected areas were cancelled or suspended and logging operations were prohibited. But local communities were still allowed to utilize forest land and resources, particularly where they were within multiple-use zones of the protected area.

**Conserving specific terrestrial and marine areas.** Formerly, the DENR had facilitated the issuance of Presidential Proclamations (PPs) or EOs declaring specific forest lands as watershed reservations, wildlife sanctuaries, wilderness areas, mangrove reserves and parks. These lands are considered to be ecologically important terrestrial and marine areas that ought to be preserved for present and future generations. The PPs or EOs that cover these areas, however, could be cancelled or modified by a new president. More secure protection was granted to these areas with the enactment of

Republic Act (RA) No. 7586 that became law in June 1992. This act provides for the establishment and management of national integrated protected area systems (NIPAS), defining scope and coverage, and other purposes. On 29 June 1992, the department issued DAO No. 25-92 for implementing the rules and regulations of RA 7586 — otherwise known as the NIPAS Act of 1992.

As of 2001, the DENR has recognized 224 protected areas under NIPAS (including 137 key conservation sites), with a total area of about 3.2 million hectares. The remaining virgin forests have been awarded protected-area status, but many are in critical condition and remain threatened due to insufficient funds and lack of political will (DENR 2003). The NIPAS act gives the DENR the legal strength to preserve specific forest lands for biodiversity and other environmental services. Delegating jurisdiction of specific forest lands to NAPOCOR and PNOC also assures greater protection of these areas from forest destruction as both agencies can provide funds for protection and other needed development activities.

Based on the foregoing synthesis, it can be concluded that the DENR was able to make significant improvements in some of the objectives while lagging in others. Significant strides were made in promoting equitable access to forest resources and in conserving specific terrestrial and marine areas. However, productivity, availability and sustainability of forest resources are still major problems. The challenge lies in how the efforts of forest agencies and institutions can be maximized to achieve these objectives and to ensure that the contribution of forests to social and economic development is maximized.

## RE-INVENTING INSTITUTIONS: FACILITATING AND CONSTRAINING FACTORS

Although the most notable re-invention of Philippine forestry agencies in recent times took place following the 1986 EDSA Revolution, in reality, the DENR has continued to re-invent itself — sometimes in small ways and sometimes in major ways — almost constantly. Many forces and individuals have contributed to these reforms and changes, while other factors have constrained the re-invention processes.

### Facilitating components and actors

#### *Contributions by DENR secretaries*

**Minister Ernesto Maceda** (served from February 1986 to November 1986) was the first appointed Minister of Natural Resources after the 1986 EDSA Revolution. He supported the social forestry programme by training foresters and other MNR staff in community organization and development and designated them as Community Development Officers/Assistants; he also allowed Forest Steward Associations (FOSAs) in Negros Oriental to saw lumber from dead trees within their assigned areas. The community forestry experience of the World Bank-funded CVRP was subsequently used by other community/social forestry projects. The lessons from the programmes and projects were used by the DENR for designing its CBFM programme, formalized in 1996. During his tenure, WIDA offices were decommissioned and their functions were re-assigned to the then BFD regional offices.

**Minister Carlos G. Dominguez** (served from December 1986 to March 1987) initiated the re-organization of MNR and focused his forestry programme by supporting commercial, protection and social forestry. He encouraged the IPs of Mindoro Oriental, in one of his field trips in early 1987, to accept the Community Forestry Program at that time in the absence of a comprehensive ancestral domain programme. Unfortunately, he served the MNR for just four months.

**Secretary Fulgencio S. Factoran Jr.** (served from April 1987 to June 1992) was the head of the MNR when EO 192 was issued in 1987 mandating the re-organization of MNR into the DENR. During his tenure the following activities were accomplished: (1) The BFD and WIDA were integrated as the FMB and made a staff bureau of the DENR, its field functions being transferred to the forestry sector/divisions/units at the RENRO, PENRO and CENRO levels; (2) PAWB was made a staff bureau and its field tasks were transferred to RENRO/PENRO/CENRO levels; (3) the FMB and PAWB directors became technical and policy advisers for the DENR secretary and the Office of the Secretary; (4) the protected areas were further strengthened by the NIPAS act in 1992; (5) a more comprehensive system was implemented for forest protection through the Monitoring and Enforcement Component (MEC) of the World Bank-assisted ENR-SECAL project that addressed both short- and long-term solutions for forest protection problems; (6) he actively participated and contributed to the drafting of the implementing rules and regulations for ENR in the Local Government Code of 1991 and R.A. 9054.

**Secretary Ricardo Umali** (served from July, 1992 to August, 1992) was appointed Acting Secretary of the DENR for a brief period of two months. He was the first career officer from DENR to be appointed to the position of secretary. As such, he introduced science and technical aspects in forestry to the department. He espoused multiple use of the forest, particularly in the area of production and protection forestry.

**Secretary Angel Alcala** (served from August 1992 to May 1995), a coastal and marine scientist from Silliman University, created the Coastal and Marine Management Office in DENR and launched the Coastal Environment Program. Some staff were trained in managing coastal resources including mangrove forests, while he strengthened the forestry sector as a whole. The DAO for ancestral domains was issued during his tenure.

**Secretary Victor O. Ramos** (served from June 1995 to June 1998) was the former DENR Under-secretary for Field Operations during the tenure of Secretary Factoran. While he was DENR secretary, EO 263 was issued in July 1995 adopting CBFM as the national strategy to ensure the sustainable development of the country's forest land resources. He signed DAO 96-29 promulgating the rules and regulations to implement EO 263, formally launching the CBFM programme. To support it, he transformed the Social Forestry Division into the CBFM office in the national office and at the regional office. He organized training for CENRO officers in all aspects of environment and natural resources management by establishing the CENRO Academy at Carranglan, Nueva Ecija. During his tenure, the Caraga Timber Corridor in Mindanao was formally launched to support the raw material needs of the wood industry. He supported the recognition of the rights of IPs and facilitated the issuance of CADCs to legitimate IPs throughout the country — a development that paved the way for the subsequent issuance of Certificates of Ancestral Domain Titles (CADTs) by the NCIP after the IPRA was enacted in 1997. Under Ramos, the DENR also provided technical assistance to the NCIP in the preparation of the Ancestral Domains Sustainable Development and Protection Plan (ADSDPP).

**Secretary Antonio Cerilles** (served from July 1998 to January 2001) re-organized the regional operations of the DENR. He set aside the positions of regional technical directors for the forestry, lands and protected areas sectors and created assistant regional directors (AREDs) for technical services, operations, and support services, respectively. Recognizing the potential contribution of the forestry sector to national development, he provided the necessary support for the wood industry, including the administrative issuance for automatic conversion of expiring TLAs into IFMAs.

**Secretary Heherson Alvarez** (served from February 2001 to November 2003) was a supporter of the CBFM programme and an avid believer in the positive contribution of trees and forests to address global warming.

**Secretary Elisea Gozun** (served from December 2003 to August 2005), the only female DENR secretary, focused on rationalizing the forestry sector as a whole. She initiated the adoption and popularization of production and protection forests and corrected abuses on the granting of RUPs to CBFMA holders. She coordinated regularly with the Philippine Wood Producers Association (PWPA) officials and remained updated on best practices in industrial forestry. She shortened the processing time of permit applications and adopted the issuance of multiyear permits for forest resource use, sawmill operations, wood-based processing and lumber dealers. The multiyear permit is designed to prevent a few unscrupulous DENR staff from extorting money from applicants every time they renew their permits and at the same time is an incentive for TLA/IFMA holders and wood processors to invest more in plantation development and more efficient wood-processing plants, respectively.

**Secretary Michael Defensor** (served from September 2005 to January 2006), the youngest Secretary of the DENR, is one of the most popular members of President Arroyo's cabinet. Unfortunately, during his tenure (late 2004) deadly landslides and floods resulted in the loss of hundreds of lives and huge financial losses for properties and infrastructure. Illegal logging was blamed and consequently a nationwide logging ban was imposed. However an expert study revealed that the watersheds of the rivers where these disastrous floods occurred had comparatively better forest cover than other watersheds in the country. In reality, the cause was "too much rain over a short period of time" rather than logging activities. The logging ban affected the flow of legitimate wood products to users, including the multibillion peso furniture industry very badly. The suspension of cutting permits, even on planted trees, drove away potential investors and impacted negatively on tree planters who had nothing to do with the floods. The rationalization plan for the entire DENR transpired during his tenure. A controversial item in the plan allegedly was the re-merging of the FMB and PAWB, and the downgrading of the ERDB.

**Secretary Angelo Reyes** (served from February 2006 to date) was the former Chief of Staff of the Armed Forces of the Philippines. Before his stint in the DENR, he was appointed by the President of the Philippines as the Secretary of Department of National Defense and the DILG, respectively. He considers illegal loggers and forest abusers to be environmental terrorists. His focus is strongly on forest law enforcement and forest development activities.

### ***Extensive DENR bureaucracy***

The DENR can provide services to people at many levels through its regional offices, PENROs and CENROs. Although the number of personnel is still limited, the DENR reaches to the municipality level, through its CENROs, to provide local services related to natural resources, particularly forest resource management. The DENR's regional and provincial level offices can assist provincial LGUs in natural resource management issues.

### ***Laws and directives related to natural resources***

Various laws, EOs and PPs related to natural resources give the department the legal mandate to conduct its activities. Although many of them need to be updated, modified or rescinded, they provide the DENR with the legitimacy to regulate, control, manage and develop forest resources. The laws also enable the DENR to collaborate or seek assistance from other government agencies, NGOs, POs and funding agencies at home and abroad to help pursue its objectives.

***NGO and PO collaboration and cooperation for managing forest resources***

Assistance from NGOs and POs for the management and protection of the country's natural resources has become substantial over time. Collaboration and cooperation with the DENR became more pronounced in 1987 when the DENR, under leadership of Secretary Factoran, recognized their value and entered into contracts for reforestation and other forest management activities.

***Funding from bilateral donors for the DENR or directly to NGOs and POs***

Many development projects, although limited in scope, were implemented by the DENR with funding from agencies such as USAID, EU, CIDA and AusAID. For example, knowledge on collaborative and integrated watershed management generated by the Philippines-Canada Environment and Economic Management (PCEEM) project, funded by CIDA, has been used by the DENR to strengthen its watershed management programmes and garner additional support from the World Bank and the Asian Development Bank. Similarly, information from the USAID-funded Natural Resources Management Program (NRMP) helped the DENR to develop the Regional Resources Management Project (RRMP) project and the National Forestation Program. Lessons learned from the USAID-funded Coastal Resources Management Project (CRMP) led to effective implementation of the CBRMP by the Department of Finance and the DENR.

Some NGOs and POs were also direct recipients of grants to support their NRM programmes. These funds enabled them to pursue natural resource development in their respective localities with minimal government assistance. World Neighbors in Cebu City and the Mindanao Rural Life Baptist Center in Davao del Sur are good examples. Their pioneering work in developing agroforestry technologies has contributed to the DENR's reforestation and CBFM programmes and projects.

***Funding from multilateral donors***

Funding from multilateral donors has enabled the DENR to implement numerous national programmes for the development, rehabilitation or protection of forest and forest lands. The department was able to effectively monitor and conduct forest protection activities nationwide via proactive and aggressive forest law enforcement activities as well as establishing and implementing the World Bank supported Multi-Sectoral Forest Protection Committee (MFPC). The DENR also implemented the National Forestation Program (NFP) through loans provided by ADB and the Japan Bank of International Cooperation. The department was also able to implement its Regional Resource Management Project (RRMP) through funding from the World Bank. It would have been virtually impossible for the DENR to pursue these programmes and projects from its own annual budgets provided by the General Appropriations Act.

***Support from the private sector and other government agencies***

Scientific and sound resource management practices conducted by conscientious logging companies have helped to sustain the country's forest resources. Social forestry and other initiatives supported by the private sector have also helped to protect the remaining forests. Wood and forest-based industries have added much value to raw forest materials.

Other government agencies like NAPOCOR and PNOC manage portions of the country's forest estate with considerable inputs and resources, including funding. This reduces the area of forest land under direct DENR management.

### ***Knowledge from international programmes and projects***

DENR staff have attended various international training courses and fora on forest and natural resource management; these events have enriched their capacity and inculcated new perspectives on how to apply knowledge from other countries to the Philippine context.

### **Inhibiting factors and actors**

#### ***Inappropriate laws and unstable policies***

##### *Outmoded laws for forest resource management*

The overarching law for forest resource management in the Philippines remains PD 705, issued 35 years ago. It is clearly not supportive of the directions of decentralization and devolution followed by the DENR. Several of its provisions are obsolete and others are not aligned with the 1987 Constitution. The DENR is greatly hampered by the absence of a comprehensive forestry law. There is an urgent need for an updated Sustainable Forest Management Bill to be enacted so that the DENR and its partners in forest protection and development can rapidly achieve their goals and objectives.

##### *Unstable forest policies*

Logging operations are capital intensive and require long periods before investors can recoup investment. Industrial tree plantations are also capital intensive and require cycles of eight to 25 years, depending upon site quality, management and species. Investors need to be assured that the agreements they sign with the current DENR (generally for 25 years, renewable for another 25 years) will be honoured by future officials 25 or 50 years in the future. Unfortunately, it has been common practice for DENR policies to be changed by every new incoming DENR secretary.

Meanwhile, thousands of hectares of forest lands where industrial tree plantations could have been established remain denuded while the industries requiring wood and forest-based materials suffer from erratic supply of raw materials. Moreover, there are more than 5 million hectares of forest and forest land that are not covered yet by any form of tenure and hence are considered open access areas.

##### *Budgetary constraints*

Owing to the country's financial difficulties, the budgets allocated to government agencies, including the DENR, have changed little over recent years. The bulk of the budget goes for personnel services, with only a modicum remaining for operating expenses and usually none for equipment or capital outlay. Personnel cannot stay in the field as required because the budget for travel and per diems is very limited. Equipment or facilities to conduct surveys as well as provision of assistance to clients or to monitor and assess programmes and projects are inadequate. Such constraints hinder the movement of personnel and the services they could provide.

***Insufficient DENR capacity to provide required technical and other assistance to existing and potential forest resource management partners***

*Local Government Units*

Many LGUs do not have the capacity to undertake forest management activities devolved to them by the DENR as mandated by the Local Government Code of 1991. They need continuous technical assistance, but to date the DENR has not been able to fully meet this need.

*Local communities*

Local communities, represented by POs (who are CBFMA holders), also require considerable assistance from the DENR. Serving as forest resource managers for millions of hectares of forest lands, POs need ongoing technical assistance. In addition, CBFMA holders should be linked to LGUs for concomitant assistance, to markets and buyers who can purchase their products at better prices and to investors or funding agencies for financial and other assistance. The DENR is constrained in providing the assistance essential to CBFMA holders. Without it, CBFMA holders may fail, with disastrous consequences for the country and the millions of hectares under their care.

*IPs through NCIP*

IPs also need to be helped with their forest management activities. Much indigenous forest management knowledge has been lost. The DENR could help the NCIP to provide forest management-related services to IPs but will require additional budgetary support.

*Private investors and funding institutions and NGOs*

The DENR needs proactive strategies to entice potential partners to participate in its forest management activities. The DENR could schedule investors' fora and provide appropriate and relevant data to facilitate their decision-making. Such information could also stimulate donors interested in supporting protected areas to decide where their resources would have the most impact and what NGOs or POs to partner with.

***The need for public and media awareness on multiple forest uses and functions***

The classic example is the disastrous floods and landslides that killed many people in the provinces of Southern Leyte, Aurora and Quezon. The local media sensationalized the issue and the general public asked for immediate action from government. It is very important for the general public and the media to obtain a balanced view of forests not only for their protection but also for production and economic functions.

***Other government sector influences and peace and order***

For checks-and-balances purposes, the legislative branch of the government is mandated by law to review and approve the budget of its executive branch. Congressmen and senators usually raise their constituents' concerns with the DENR secretary during annual budget hearings, which the secretary has to address. The DENR needs to develop creative ways to address these concerns without comprising its core tasks and objectives.

The prevailing disorder and lack of security in some parts of the country also adversely impacts forest management operations and various other forest development and protection activities.

The licences, permits and leases that are issued are not easily available for public scrutiny suggesting corruption and a lack of transparency. The annual renewal of operational plans and permits is also a potential target for corruption. Perceived corruption could also discourage graduates of integrity from joining the DENR.

### ***Mindset of many DENR staff***

Trained and accustomed to controlling forest resources and associated bureaucracy, many DENR/FMB staff find it difficult to relinquish this control to other agencies and entities. This mindset hampers progress toward the five major objectives of good governance — decentralization, devolution, deregulation, standardization and simplification — that the DENR needs to focus on and sustain.

## **LESSONS LEARNED**

**The re-organization of the DENR, which transformed forestry agencies into staff bureaus and placed them under the supervision and control of the DENR secretary, facilitated the complementation and harmonization of previously conflicting directions of production forestry and protection forestry as espoused by the FMB and PAWB, respectively.**

In 1987, EO 192 mandated the re-organization of the DENR. DENR re-organization considered the emerging importance of the protection and biodiversity functions of forests. Hence, it transformed the former two existing line bureaus — the BFD and the FORI — into three staff bureaus, namely the FMB, PAWB and the ERDB. The new staff bureau — the PAWB — focused on protected areas and biodiversity conservation. As staff bureaus, they focus on providing advice and recommendations for setting standards and initiating policies for approval by the secretary. The line functions of the forestry agencies are now being exercised by the Field Operations Office, headed by the Under-secretary for Field Operations at the national level. REDs, PENROs and CENROs head the field operations groups at regional, provincial and community levels, respectively. One very important lesson learned in this re-organization was the value of harmonizing the various formerly conflicting directions of the forest agencies into one complementary direction. The staff bureaus are now required by the head of the agency (i.e. the Secretary of the DENR) to consult and agree upon acceptable solutions that will address forestry problems without sacrificing the individual mandates and functions of each bureau during field operations. In cases where staff bureaus have difficulty reaching agreement, the issues are elevated to the secretary, through the DENR management committee, for final arbitration.

**The allocation of forest resources under the supervision and control of government institutions does not absolve or diminish the DENR's responsibility as the primary government agency responsible for the management of the country's forest resources.**

Considerable fragmentation of the management of forest resources has resulted in the Philippines as a result of placing certain watersheds and other areas under the jurisdiction of other government institutions (e.g. the NPC and PNOC), agencies (e.g. the Armed Forces of the Philippines) and state universities (e.g. UP Land Grant universities). This has lightened the DENR's forestry-related workload. However, as the government agency primarily responsible for the effective management of Philippine forest resources, the DENR is expected to know at any given time the status of the forest and forest land in the reservations managed by other agencies. One lesson learned in this regard is the need for the DENR to be more proactive in holding regular coordination meetings with the other mandated agencies. This places the department in a better position to be updated on the status of the reservations and to provide immediate assistance on forestry matters, if needed.

**The granting of autonomy, as in the case of the ARMM, can help to motivate and bring about better and faster decision-making on important forestry matters (e.g. the ARMM Sustainable Forest Management Act).**

When the ARMM law was passed in 1991, the national DENR turned the jurisdiction and management of forest resources in the four provinces of the ARMM to its counterpart there. This was a unique re-invention experience where personnel, budget and jurisdiction were transferred to an agency at the same level — the ARMM DENR. The national DENR consequently experienced a reduction in budget, personnel and equipment, and also four fewer provinces to cover. The national DENR was able to help the ARMM DENR develop its policies and programmes and implement its plans through the ECOGOV project. The national DENR also learned that a counterpart may succeed where it had itself failed, as in the case of the ARMM Sustainable Forest Management Act enacted in 2005 by the ARMM legislative body.

**The devolution of forestry powers and functions to LGUs is only effective when the concerned LGUs are convinced that devolution is good for their communities and constituents and are committed to effective implementation.**

In accordance with the Local Government Code of 1991, the DENR devolved its ISF programme and social forestry staff to LGUs at the provincial level. But the DENR failed to follow through with effective collaborative initiatives, especially in providing concerned LGUs with technical support and other relevant assistance on how to properly establish and operationalize the ISF programme. This failure resulted in the “loss” of many highly trained ISF staff to non-ISF activities and wasted an early opportunity to develop LGU capacity for effectively managing forests and upland resources, and maximizing their contribution to rural development.

**Highlighting the multiple uses of forests at planning meetings and discussions on forest management generates better appreciation and a holistic approach that reduces unnecessary conflict among major forest resource stakeholders.**

The creation of the PAWB as a separate staff bureau and the enhancement of protected area activities in field operations demonstrates the DENR’s commitment to global and regional thrusts in protected area management. However, the focus on establishing more protected forests should not come at the expense of the social and economic functions of the forests. Forestry agencies should always highlight the multiple uses and values of forests and the need to focus on complementarity of these uses rather than competition for them. The DENR commitment to balance between production and protection can help to harmonize the various demands from corporate forestry, the community, environmental groups and other stakeholders.

**Recognition of forest dwellers as de facto forest managers and support from LGUs facilitates the conservation of remaining forest resources and development of new plantations, while simultaneously addressing the issues of equity, livelihood and stability in rural areas.**

Executive Order 263 (1995) introduced a major re-invention opportunity for the DENR — especially in facilitating more equitable access to forest resources and greater involvement of local communities in forest management. Indeed, the DENR immediately came up with DAO 96-29 and other memorandum circulars to implement EO 263. However, owing to inadequate support from some LGUs, limitations in staff and budget, coupled with an unstable CBFM policy and guidelines, the implementation of the CBFM programme has decelerated, including the training and development of villagers as *village foresters*. The CBFM programme also requires considerable funding, time and skilled staff for implementation in collaboration with the POs who are awarded CBFMAs. The DENR has tapped the technical and financial assistance of NGOs and can enlist LGUs to become

more accomplished at field levels. The active involvement of concerned LGUs in supervisory and collaborative work is a crucial ingredient for the success of the CBFM programme — as in the case of Nueva Viscaya.

**The government’s recognition and promotion of the rights of IPs may strengthen sustainable forest management practices.**

The passage of the IPRA law in 1997 made the earlier efforts of the DENR very useful to the NCIP, the agency created by law to implement the provisions of IPRA. The transfer of jurisdiction of ancestral domains and claims (which are mostly forest lands) from the DENR to the NCIP has reduced the direct responsibilities of the DENR on forests located within the recognized ancestral domain lands. However, as the government’s primary agency on forestry, the DENR is expected to provide needed technical assistance, especially for the management of forest resources within the ancestral domains. The DENR can pursue initiatives to help the NCIP transform the IPs into effective forest managers of their ancestral lands which is hoped to strengthen both livelihoods and cultural identity as well as the achievement of the DENR’s objectives.

## CONCLUSIONS

The DENR has undergone several processes of re-invention — especially since 1987 — that aided in achieving significant improvements related to forests and forest resources. Most notable have been advances in promoting equitable access to forest resources and in conserving specific terrestrial and marine areas. On the other hand, the department has had to race against time to conserve forest resources and rehabilitate denuded forest lands, while balancing the requirements and demands of various stakeholders.

Apart from these gigantic tasks, the DENR is also challenged by significant concerns. The DENR is beset by legal, technical, financial, and human resources constraints that hinder the pursuit of its objectives. However, there are many external strengths, opportunities and resources (human, technical and financial) that it can tap to overcome some of these constraints. Opportunities exist to further improve on the current level of incentives and the policy environment to encourage and entice the private sector to participate more actively in forest management and development.

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# INSTITUTIONAL RESTRUCTURING, REFORMS AND OTHER CHANGES WITHIN THE NEW ZEALAND FORESTRY SECTOR SINCE 1986

## 4

Colin O'Loughlin<sup>1</sup>

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*There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success, than to take the lead in the introduction of a new order of things because the innovator has for enemies all those who have done well under the old conditions, and has lukewarm defenders in those who may do well under the new.* Machiavelli (fifteenth century)

### INTRODUCTION

New Zealand's forests have played an important role in national development and economic growth since the arrival of the first Europeans in the late eighteenth century. At that time, indigenous forests occupied approximately 15 million hectares or 55 percent of the land area. From the 1840s, European colonization and settlement was accompanied by large-scale deforestation, mainly to provide land for cultivation and grazing but also to provide wood for housing, fuel, ship building and other constructions. Today indigenous forests occupy about 6.6 million hectares (24.8 percent of the total land area) and introduced planted forests, dominated by *Pinus radiata*, cover 1.83 million hectares or 7 percent of the total area. The indigenous forests are mainly protected for conservation, recreation and amenity purposes. The introduced plantation forests provide more than 99 percent of New Zealand's wood production which contributes to about 4 percent of GDP (New Zealand Institute of Forestry 2005). Wood production from indigenous forests has declined steadily from the 1950s to the present day and currently amounts to a total of about 20 000 m<sup>3</sup> per year.

The involvement of the state in forestry began in earnest in 1919 when a new State Forest Service was established and, two years later, operated under the auspices of the Forests Act (1921–1922). This fledgling government department, which later became the New Zealand Forest Service (NZFS), was largely responsible for the large-scale development of an exotic plantation resource, a progressive timber sales policy, the establishment of a forest research facility and a forestry school and the development of a raft of policies covering, *inter alia*, protection and good management of a large part of the country's total forest estate.

Major planting booms from 1926 to 1935 and from 1960 to 1985 created an exotic plantation resource of over one million hectares, approximately 600 000 hectares of which was under the stewardship of the NZFS. By the 1960s, this department had grown into a large multifunction organization with a complex structure and numerous responsibilities, not only for the exotic plantations and their management, but also for the management and protection of most of the indigenous forests, animal pest control, fire protection over a large area of rural lands, timber processing at two of New Zealand's largest sawmills as well as forest and forest product research and development and timber sales, both domestic and overseas.

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In the 1970s and early 1980s, a growing public debate about the future management and conservation of indigenous forests led to a view, particularly from the environmental NGOs, that the NZFS was not the most suitably structured organization for efficiently delivering good forest management outcomes. At the same time there was growing concern about the ability of the department's accounting and financial management systems to provide the level of accountability required by the government. Furthermore, some critics suggested that some of the functions of the department conflicted with one another. In particular, it was suggested that the forest conservation and protection roles of the department were not compatible with the timber production and commercial roles that increasingly demanded more attention as the exotic plantation estate expanded and timber production increased. It was these concerns that finally contributed to massive restructuring of the New Zealand State Forestry Sector in the mid-1980s.

The policies and strategies that had guided the NZFS since its establishment in 1919 were founded on the principles of multiple-use forestry which addressed the close integration of environmental, social, amenity, production and other commercial activities. The guiding philosophy of the department had much in common with the "forest ecosystem management" approaches adopted by the United States Forest Service in the 1990s and the *polyfunktioneller Waldwirtschaft* approach adopted by the German *Bundesforstverwaltung* to manage state forests. Ironically, adherence to the multiple-use management approach finally brought about the department's demise.

In the mid-1980s, the new Labour<sup>2</sup> Government vigorously set about reforming the economy. The major drivers behind the government reforms were the need to reduce the country's accumulated debt, prevent further accumulation of debt and increase efficiency in the production of goods and services (Douglas 1993). To achieve these ends, government departments were restructured and many were disestablished. Many government assets were sold to the private sector, including forestry assets. Numerous regulations in the non-trading sectors and price, wage and income controls were removed. A relatively flat tax structure was introduced and a goods and services tax (GST) of 12.5 percent was imposed. Additionally, government subsidies, which had helped to prop up inefficient industries for decades, were also removed. New Zealand was transformed from one of the world's most tightly regulated and controlled economies into one of the most liberal, market-based economies at that time. The forestry sector, both state and private, was heavily affected by the reforms. From the late 1980s to the early 1990s, these government-implemented changes gained international attention and were heralded by some observers as a groundbreaking model for restructuring whole country economies.

Restructuring and other changes that took place within the forestry sector after 1986 more or less signalled the end of the multiple-use approach to forestry and the introduction of a sharp separation of production and commercial forestry from environmental and conservation forestry. Within the forestry sector this was expressed by, not only a re-invention of agencies, but also re-invention of the philosophical underpinnings of land management. Thousands of people were affected by the changes.

This report examines the reasons for the restructuring, the processes involved, the goals, concomitant new legislation, the physical nature of the pre- and postrestructuring forest agencies, transformation success in terms of achieving desired outcomes and the changes in attitudes, capacities, capabilities and management approaches which occurred in the forestry agencies in the era after restructuring.

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<sup>2</sup> The two largest political parties in New Zealand are Labour and National.

## THE NZFS PRIOR TO RESTRUCTURING

From meagre beginnings in the 1920s, the NZFS had grown and diversified into a large government department employing more than 7 000 people nationwide by the mid-1980s. The department controlled approximately 3.5 million hectares of state forests of which 600 000 hectares comprised intensively managed plantation forests, mainly *Pinus radiata*. As indicated earlier, the department's planning strategies and operations were guided by a multiple-use approach to forestry which necessitated the development of a complex departmental structure and employment of highly diverse staff with a wide range of skills and disciplines.

**Physical structure and legislative functions:** The complexity of the NZFS structure in the mid-1980s is outlined in Figure 1.

The structure of the department reflected the multiple functions it was required to carry out. Essentially, the department comprised eight Wellington-based divisions, a Commercial Division based in Rotorua, seven conservancies, each under the control of a Conservator of Forests and a Forest Research Institute (FRI) based in Rotorua and Christchurch/Rangiora. Although the structure appears to be very cumbersome, from an operational viewpoint, the department apparently functioned reasonably well with the notable exception of the financial management and reporting areas (State Services Commission 1982). The bulk of the employees was located in the various conservancies — either in the main conservancy offices in Auckland, Rotorua, Palmerston North, Nelson, Hokitika, Christchurch and Invercargill — or in smaller district offices and in the various state forests. Another large component of the department was the FRI, which employed about 500 people. In terms of staff complement, the NZFS was one of three major government departments in the mid-1980s (the Department of Energy and the Ministry of Works being the other two).

The legislative functions of the department were defined by the Forest Act, 1949. This act empowered the Minister of Forests and by delegation, the NZFS, to:

- Manage and utilize state forest land and state forest resources.
- Coordinate the policies and activities of other public bodies in propagating and utilizing forests.
- Act as an agent for other forest growers.
- Control imports and exports injurious to forest health and diseases affecting trees.
- Carry out forestry research and training programmes and disseminate forestry information.
- Prepare and issue plans and publications for the advancement of forestry.

In addition, the Forests Amendment Act, 1976 required state forest land to be managed so as to “ensure the balanced use of such land, having regard to the production of timber or other forest produce, the protection of the land and vegetation, water and soil management, the protection of indigenous flora and fauna and recreational, educational, historical, cultural, scenic, aesthetic, amenity and scientific purposes”. The 1976 statute provided the legislative basis for a multiple-use approach towards the management of state forest lands.

The NZFS was also responsible for the administration of three other major acts (State Services Commission 1982) — the Wild Animal Control Act (1977), the Forestry Encouragement Act (1962) and the Forest and Rural Fires Act (1977).

**Objectives and management functions of the NZFS:** The broad objectives of the NZFS were outlined by the NZFS Review Committee (State Services Commission 1982). These were to:

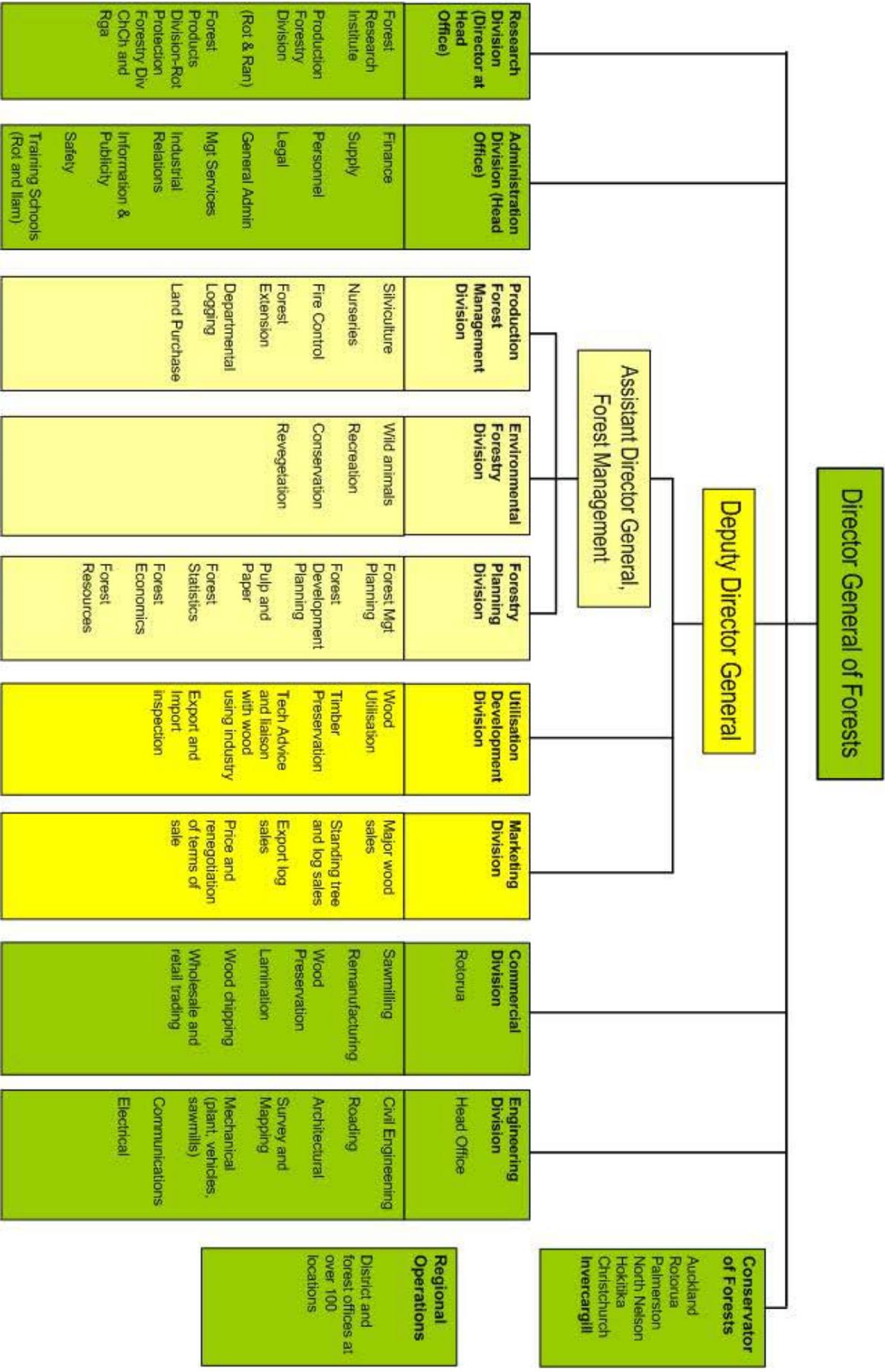


Figure 1. The structure of the NZFS

1. Obtain maximum long-term benefits for the community from the balanced use and conservation of state forest resources.
2. Promote the development of forestry and forest resources.
3. Maintain and where possible, improve the health of forests.

To achieve these objectives NZFS management functions were to:

- Develop and implement plans and policies for the advancement of forestry or of the forestry sector in accordance with statutory authorities.
- Manage all state forest resources and ensure the balanced use of state forest lands.
- Plan and undertake the development of new state forests.
- Protect forests, associated lands and timber products from harmful agents including pests, diseases and fire.
- Encourage and coordinate with private and local authority sectors for forestry development.
- Develop and maintain research activities and facilities for the national advancement of forest and forest industries.
- Provide, encourage and facilitate training in the forestry sector.
- Carry out regulatory functions relating to forestry and forest produce.
- Engage in sawmilling and foster the effective utilization of forest produce.
- Advise on and provide staff for foreign aid projects.
- Represent New Zealand internationally on forestry-related issues.

The NZFS will probably be best remembered for five of its many achievements:

- 1) *Expanding the plantation forest estate and developing efficient cutting edge approaches for managing plantations.* The success of the highly profitable plantation forest industry, which was internationally recognized by the global forestry profession, was largely the result of the high level of multiple skills within the NZFS, especially in forest planning, forest management and forest research, and the high level of cooperation between researchers, planners and practical forest managers which enabled efficient uptake of innovative approaches in plantation establishment and management. These capabilities facilitated the development of a large estate of fast growing, genetically improved radiata pine plantations that were efficiently and intensively managed to produce high volumes of softwood.
- 2) *Research and development.* By the 1980s the FRI had established itself as a centre of excellence for its research and development work in most aspects of establishing, growing, managing and harvesting plantation forests; genetically improving radiata pine; wood processing and developing innovative wood products; pulp and paper processing and new product development; environmental and protection research; fire research and surveying; and mapping the nation's forest resources.
- 3) *Development of novel and highly effective forest protection strategies, plans and operations to ensure that the nation's indigenous and plantation forests were protected from pests, diseases and fire.* The fire protection system developed by the NZFS for its plantation forests was a well-coordinated system supported by research and development and using modern approaches that provided excellent protection against fire. There was considerable concern among foresters and others concerned with rural fire control, that the disestablishment of the NZFS would be accompanied by a less coordinated and less efficient fire protection system for protecting the forest estate. After an extensive review, in 1989, the government decided to place national rural fire protection and control in the hands of the New Zealand Fire Service (Cooper 1990).

- 4) *The training programmes that the NZFS put in place.* These ensured that the forestry sector was staffed by well-trained professional foresters, forestry scientists, economists, engineers and other technically trained people.
- 5) *The leadership and vision that the NZFS provided to the forestry sector.* As the largest player in the sector, the NZFS wielded great influence on the policies and strategies that determined the overall direction that the sector's development took. Furthermore, the knowledge, information and capabilities that resided in the department were sought after by other forest and wood-processing entities, not only in New Zealand but also overseas. The leadership and vision provided by the NZFS that helped to weld the forestry sector together in a more or less coordinated fashion, was not really replaced with a new dominant leadership and vision after the disestablishment of the department.

## **ESTABLISHING THE NEED FOR CHANGE IN THE STATE FORESTRY SECTOR**

Through the 1970s and early 1980s, there was growing dissatisfaction with the organization and performance of the state forestry sector. Concerns came from several quarters. The growing environmental movement in New Zealand, championed by several environmental NGOs, began to agitate for changes in the way the NZFS operated and mounted strong challenges against NZFS philosophies and practices (Roche 1990; Kirkland 1988). Their particular concerns focused on the management of the indigenous forest estate and its protection. There was a growing perception by some conservationists that social and environmental aspects were accorded only subordinate status in agencies with commercial functions, such as the NZFS. Voices in the general public and the media, sympathetic to the concerns of the environmental NGOs, were also critical of the way in which the NZFS managed state indigenous forests. As far back as 1976, the so called "Maruia Declaration", supported by 341 000 signatories, called for the splitting-up of the Forest Service and the establishment of a Nature Conservancy to protect publicly owned indigenous forests.

At the same time, there was a growing emphasis on an increasingly cost-competitive, market-oriented approach to commercial forestry by the government (Roche 1990; Clarke 1997; Kirkland 1988; Birchfield and Grant 1993). In 1978 the Auditor-General was unable to reconcile the value of assets managed by the NZFS to that shown in the department's accounts (Roche 1990). The Auditor-General was also critical of the department's accounting system. The government responded by establishing a Parliamentary Select Committee chaired by Ian McClean to investigate the department's accounts. In its report the committee, claimed that the SIGMA cash accounting system used by the NZFS, although satisfactory for managerial purposes, was not suitable for commercial accounting purposes. The report also emphasized that the valuation of forest resources was "woefully inadequate" and that the ability of the NZFS to manage forest resources efficiently and engage in commercial activities was seriously constrained by the government department vote allocation system and lack of access to short-term funding.

Both the McClean report and a Forest Industry Study, completed by the Development Finance Corporation for the NZFS in 1980, stressed the disadvantages of the NZFS continuing to undertake a raft of trading (commercial) and social (non-commercial) functions. In response, the New Zealand Institute of Foresters was critical of the McClean report and strongly defended the multiple-use approach to managing the nation's state forest resources (Roche 1990). The NZFS also provided a defensive response which highlighted the lack of justification for separating trading and non-trading functions within the NZFS.

Yet another review of the functions and objectives of the NZFS was conducted in 1982 by a committee comprising the State Services Commission, the NZFS, the Treasury and private sector

representatives. The committee recommended that both the commercial and non-commercial roles of the department could and should be performed by the same organization, but also recognized that this could only be achieved effectively if financial and other management information systems were improved and the department was given more flexibility to manage its functions more efficiently. The committee also proposed a new senior management structure for the NZFS (State Services Commission 1982).

The saga of reform proposals for the State Forestry Sector continued when, in 1982, the government considered the possibility of merging the NZFS and the Department of Lands and Survey. For a variety of reasons this proposal lost support and was finally overtaken by other events when the Labour Government swept into power in July 1984.

## **THE CONTEXT FOR REFORM IN THE WIDER PUBLIC SERVICE**

The restructuring of the NZFS in 1987 represented only a part of a much wider set of reforms that affected a large portion of the wider public service, including at least 18 departments and other agencies in the late 1980s. However, the restructuring of the NZFS was one of the largest and most significant changes within the public sector at that time.

In 1984, the Treasury briefing document prepared for the incoming Labour Government laid out serious criticisms of the existing administrative regimes within government departments. Criticisms included:

- Most departments had no clearly defined goals or management plan.
- There were few effective control mechanisms to review the performance of departments in meeting their required outputs.
- Departmental management teams had little freedom to change the way their departments operated to meet their goals, especially apropos staffing.
- Too much emphasis was placed on control of inputs.
- There were no effective review mechanisms for dealing with poor performance by senior management.

In 1984, New Zealand provided almost ideal political, economic and intellectual conditions for a major restructuring and reform experiment (Kelsey 1997). At that time the economy was intrinsically vulnerable and suffered from massive debt, inflation, stagnation and a rising unemployment rate. The process of adjustment which was about to begin, was made easier by what Kelsey referred to as “the shallowness of the New Zealand political system — a classic single tier Westminster-style Parliament elected by a first-past-the-post system and an entrenched two-party monopoly”. Kelsey pointed out that new Cabinet intent for reform was virtually guaranteed, unimpeded power to rule. Furthermore, there was no formal constitution or supreme Bill of Rights by which the courts could constrain the Executive’s power. Over the decade following 1984, successive governments set about redesigning the economic and social structure of New Zealand. It was the state sector that bore the brunt of the reform process after 1984, but the private sector was also forced to make wide-ranging changes.

## **THE PROCESS OF REFORMING THE STATE FORESTRY SECTOR**

The influence that the Treasury exerted over the nature and course of the reforms that were to change the State Forestry Sector cannot be overstated. In addition to the initial briefing paper prepared for the incoming Labour Government, the Treasury also produced other briefing papers

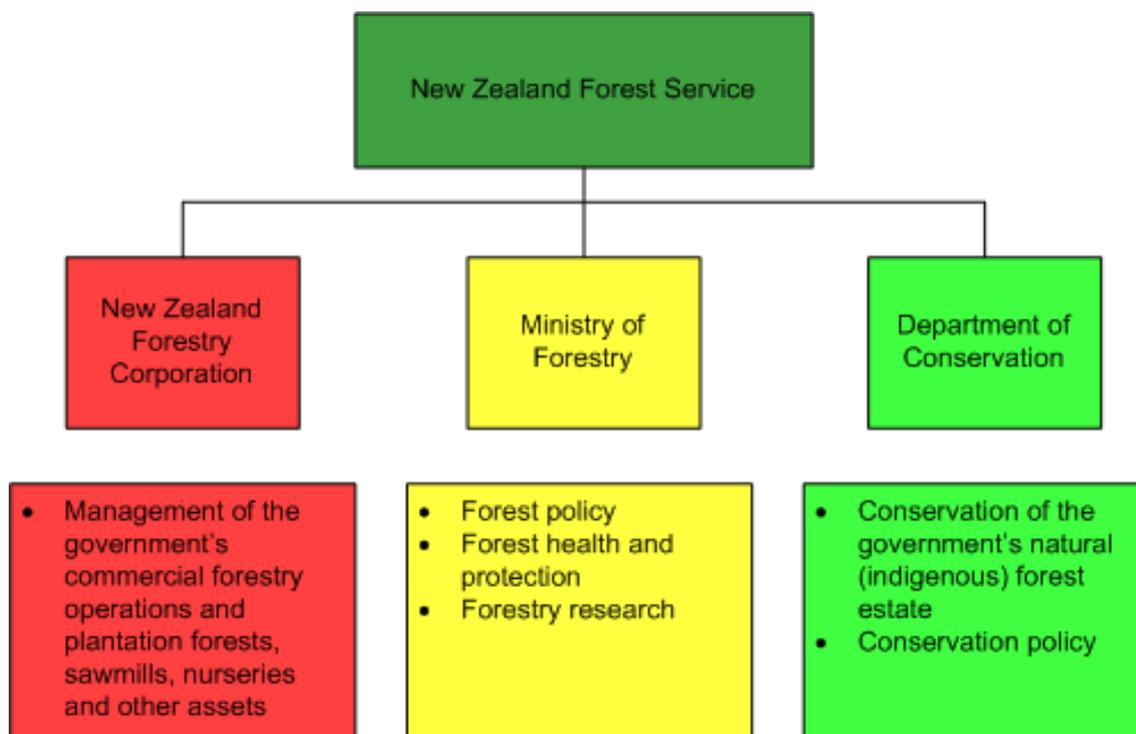
for the government including “Economic management, land use issues” (Treasury 1984) which criticized the forestry management policies of the recent past and outlined a market-oriented approach and the reforms required to put such an approach in place. The Treasury was also critical of the plantation planting targets developed by the NZFS, grants and subsidies for planting and agroforestry schemes and the nature of the tax arrangements for forestry schemes. The removal of grants was deemed necessary to place forestry on the same basis as other primary industries. The Treasury supported a “users pay” policy for the FRI that would force private forestry investors to pay for research and development services thus reducing taxpayer subsidies. The Treasury was also opposed to the concessionary wood sale policies used by the NZFS and promoted the need to sell wood at world market prices. To facilitate the change to a more market-oriented forestry sector and overcome the conflicts between commercial and non-commercial objectives within the NZFS, the Treasury proposed that the commercial activities of the NZFS should be transferred to a separate state-owned enterprise with commercial objectives.

The new Labour Government immediately embraced a neoclassical, market-oriented approach in line with the Treasury’s philosophies. The basic tenet was that efficiency in the economy would be maximized if markets were allowed to operate with a minimum of government interference and distortion (Brown 1997). The government soon introduced economic policy changes, the most important of which were the removal of subsidies to agriculture, forestry and industry generally, removal of a wide range of regulations in the non-trade sectors and removal of all price, wage and income controls and foreign exchange controls. The government also introduced a new tax regime that was unfavourable to forestry and resulted in a dramatic decline in new planting after 1985. Such changes initiated a return to the free play of market forces in the economy and strongly impacted on industry, including the forest industry. The economic philosophy that underpinned the state sector reforms became known as “Rogernomics” in recognition of Hon. Roger Douglas, the Minister of Finance and the leading figure driving the reforms.

In September 1985 the government decided to separate the commercial and non-commercial management of the state forests (Roche 1990; Kirkland 1988). However, it was not until December 1985, after further government reform planning had taken place, that the details of the split were finalized. A commercially focused corporation was to administer state forest production and wood processing. A separate organization, the Ministry of Forestry, was to undertake the sectoral and regulatory functions of the NZFS. In addition, it was proposed to establish a Department of Conservation with responsibilities for administering conservation lands including indigenous forests, managing indigenous and introduced fauna and managing public recreation. A Forestry Corporation Establishment Board was set up in February 1986 chaired by Auckland merchant banker, Alan Gibbs. In July 1986 Andy Kirkland, the former Director-General of Forests and head of the NZFS, was appointed as the Interim Chief Executive of the Forestry Corporation.

Finally, on 1 April 1987 the NZFS was disestablished and its functions were transferred to three new organizations, the New Zealand Forestry Corporation (established under the new State Owned Enterprises Act, 1986), the Ministry of Forestry and the Department of Conservation (established under the new Conservation Act, 1987). At the same time, eight other state-owned enterprises came into existence under the new State Owned Enterprises Act, which set them up as limited liability companies with the goal of functioning as successful businesses (Kirkland 1988). Figure 2 illustrates the changes that occurred when the NZFS was disestablished.

The lands and forests administered by the NZFS were split between the New Zealand Forestry Corporation and the Department of Conservation depending on whether or not wood production was earmarked for the government as the owner (Kirkland 1988).



**Figure 2. The restructuring of the State Forestry Sector (after Clarke 1997)**

One of the most contentious issues in the restructuring process was the change in staffing requirements that resulted from disestablishment of the NZFS. Throughout the latter part of 1986 the interim Forestry Corporation Establishment Unit had been involved in rather tense negotiations with the State Union (State Services Commission), the Timber Workers Union and other unions on overstaffing of the new corporation and the estimated job losses that would occur, and the conditions under which the new corporation would employ staff. Roche (1990) summarized the final staffing changes that occurred with the disestablishment of the NZFS. At disestablishment, the NZFS employed about 7 000 people. However, the Forestry Corporation only required 550 salaried staff, 467 wage workers and 1 337 other contract workers for silvicultural and tree-felling work. By 1 April 1987 2 340 wage workers and 865 salaried staff previously employed by the NZFS, had taken voluntary severance. The Ministry of Forestry, which included the FRI, absorbed about 850 NZFS staff and the Department of Conservation about 300 staff.

The rapidity of the changes that occurred in the State Forestry Sector and the fact that there was little public discussion about the intended restructurings before they were implemented were two issues that raised the ire of many within the forestry sector and within the general public. Lindsay Poole, a former director-general of the Forest Service, was particularly critical of the Labour Government's reforms (Poole and Johns 1992; Poole 1998) and believed that the changes imposed on the forestry sector would leave a legacy of regrets and costly problems.

## **THE NATURE OF THE NEW RESTRUCTURED STATE FORESTRY SECTOR**

After the disestablishment of the NZFS, the State Forestry Sector operated in a very different way. The concept of multiple-use forestry, which was the driving philosophy behind the way in which the NZFS operated, soon became only a memory and was replaced by an approach which sharply separated commercial forestry activities from non-commercial and social forestry activities. The

three new organizations with responsibility for managing NZFS functions were very different in terms of their structure and their objectives and range of responsibilities.

**Ministry of Forestry (MoF).** The MoF was established as a small stand-alone government department with the stated mission of “promoting the national interest through forestry including wood-based industries”. The MoF’s head office, including the chief executive and senior managers, was based in Wellington with regional offices located in Auckland, Rotorua, Palmerston North, Nelson, Christchurch and Dunedin. The ministry’s thrust was to promote and protect business opportunities for the forestry sector, encourage public understanding of forestry and foster cooperation within the forestry sector. The head office-based Policy Division was responsible for providing policy advice to the government and monitoring trends, prospects and issues in forestry. The Forestry Services Division provided forestry consultancy services (forest growing, wood processing, harvesting, marketing contracts) and training on a “user pays” basis. The Forestry Services Division and the Forestry Development Group (promotion and advocacy) within the MoF were largely abandoned in the mid-1990s because their functions were considered to be inappropriate for a predominantly policy government department. The ministry also had statutory responsibilities for administering the quarantine, forest disease, wood preservation and forest and rural fire regulations that protect and maintain the quality of New Zealand’s forests and wood products.

The internationally renowned FRI, with facilities in Rotorua and Christchurch, constituted the largest part of the ministry. Originally established in 1947, the FRI undertook research and development work across a full spectrum of forestry areas including: establishing, growing, genetically improving and harvesting planted tree crops and marketing timber products (Forest Production Division); developing new solid wood-processing methods and new wood products (Wood Products Division); new pulp and paper processing and product developments (Pulp and Paper Division); and environmental forestry, including introduced wild animal control, soil and water protection, monitoring the condition and trends in indigenous forests and mountain lands and identifying the best tree and shrub species and establishment techniques for revegetating difficult or eroding sites (Protection Forestry Division). The FRI was transferred to the MoF more or less intact and with no major staff losses or changes in its research programmes. The FRI was eventually separated from the MoF in 1992.

The ministry reported directly to the Minister of Forests and initially received government funding amounting to approximately NZ\$60 million *per annum*. In 1998 the MoF was merged into the Ministry of Agriculture and Forestry under a later restructuring.

**The Department of Conservation (DoC).** The department was established under the Conservation Act, 1987 to administer and manage those parts of the Crown estate that are protected for their natural, scientific, historic, cultural or recreational values. This includes national parks, forest parks, world heritage areas, marginal strips around lakes and rivers and more than a thousand other reserves of different kinds. The total conservation estate amounts to approximately one-third of the area of New Zealand. The department also has a stewardship role for lands that have no immediate commercial use, but are not necessarily fully protected and, in some instances, protects privately owned land under a special arrangement with the landowner. The DoC also has responsibility for conservation in New Zealand’s sub-Antarctic islands and the Ross Dependency in Antarctica.

The department inherited the non-commercial parts of the NZFS and the Lands and Survey Department which were combined with the Wildlife Service (formerly part of the Department of Internal Affairs), Historic Places Trust, the Harbour Act responsibilities of the Ministry of Transport and the marine reserve and mammal protection functions of the Ministry of Agriculture and Fisheries.

The DoC has a head office in Wellington, district offices in 14 locations and other centres scattered throughout the country. It employs approximately 1 500 permanent staff and receives government funding of about NZ\$160 million *per annum*. The department is required to act as an advocate for conservation while, at the same time, acting as the custodian for water, mineral, recreational and game animal resources. One of the challenges for the department has been balancing its conservation role with the role of developing the resources under its control.

**The New Zealand Forestry Corporation Ltd (NZFC).** The corporation was set up under the State Owned Enterprises Act, 1986 to act as an efficient business enterprise comparable with businesses in the private sector. In order to achieve this aim, the corporation slashed overheads by reducing salary costs and increased productivity at the operational level compared to the previous NZFS commercial operational areas.

The corporation was governed by a board of directors chaired by Alan Gibbs, a well-known merchant banker and entrepreneur. Andy Kirkland, who had previously been the Director-General of Forests and head of the NZFS, was appointed as the CEO of the new NZFC. Kirkland, who had previously been a strong supporter of the multiple-use approach to forestry, became a strong advocate for the separation of commercial and non-commercial activities and for single-purpose commercial organizations.

Essentially, the NZFC consisted of two subsidiaries: New Zealand Timberlands, which had responsibility for managing and harvesting the 550 000 hectares of plantation forests under its control and Prolog Industries Ltd, which was responsible for processing timber at its two sawmills at Waipa and Conical Hill. New Zealand Timberlands was divided into three regions, each with a regional office and profit centre with responsibility for a number of districts. In total 14 districts were scattered throughout New Zealand.

The shareholder of the NZFC, the government, was represented by two shareholding ministers, the Minister of Finance and the Minister of State Owned Enterprises.

## **CONSEQUENCES OF THE RESTRUCTURING FOR STATE COMMERCIAL FORESTRY**

The establishment of the NZFC heralded a startling turnaround in the profitability of the state-owned forest industry. In the mid-1980s, the NZFS was costing approximately NZ\$210 million annually to run. By its third year of operation the NZFC had turned around a precorporation annual deficit of NZ\$71 million into an annual operating surplus of NZ\$63 million (Birchfield and Grant 1963). Kirkland and Berg (1997) indicated that over its 3.5-year lifespan the NZFC doubled the operating surplus per cubic metre of wood produced before investment from approximately NZ\$15 to about NZ\$30. Despite this commercial success, the corporation was destined to be a short-lived organization. In 1990, privatization of the state forests sealed the fate of the NZFC.

The demise of the NZFS fundamentally altered the commercial relationship between the government as a wood seller and the industry as a wood buyer. Neilson and Smith (1995) indicated that two changes in particular affected the relationship. Under the corporation's management there was a strong reduction in the length of log sale contracts (from 25 to ten years for pulpwood and from 25 years to five years for sawlogs) and stumpage sales were largely replaced with "on truck" sales.

The NZFS had provided subsidized wood supplies to the private sector for a long time. In this respect, the guaranteed supply of logs until 2030 to Tasman Forestry (a subsidiary of Fletcher Challenge Forests) at subsidized prices, which originated when the Crown and Tasman signed an agreement in 1955, was most significant. The demise of the Forest Service was accompanied by removal of most subsidies (although the Tasman deal remained in place), which impacted most severely on the sawmilling sector. Annual sawntimber production between 1986 and 1988 fell by 24 percent. Similarly, the removal of planting incentives was accompanied by a fall in new planting over the same period by 38 percent with private and state planting declining by similar proportions (Brown 1997). Small inefficient mills closed. Most companies restructured, reduced staff, upgraded machinery and revamped processes; production focused on areas of competitive advantage. Between 1988 and 1992, 3 000 jobs were lost in the sawmilling and remanufacturing industries.

The social impacts of dismantling the NZFS were widespread and variable. The communities in small forestry towns such as Kaingaroa, Murupara and Tapanui were extremely nervous about their future when it became known that the new forestry corporation would have much smaller staff requirements than the NZFS. The once busy and thriving Kaingaroa township soon became a rather depressed town with many unemployed people (Birchfield and Grant 1993). Other small forestry towns also underwent hard times after forestry workers lost their jobs and drifted to other localities. In addition, restructurings and privatizations within other sectors such as postal services, railways and the telecommunications industry, led to the dismantling of infrastructure in many rural towns.

The social impacts influenced not only towns but also whole regions. For instance, Mason in Le Heron *et al.* (1996) observed that the Northland region was particularly badly affected by the demise of the NZFS. Before 1987, the commercial forests of Northland, mainly owned by the NZFS and NZ Forest Products Ltd, provided jobs and career training for a large work force, a high percentage of which was Maori. Corporatization and later privatization of the state plantation forests was accompanied by a drastic drop in labour requirements and a marked deterioration in the economy of the region.

There is no doubt that the social costs across New Zealand were extremely high but, to this author's knowledge, these costs have never been quantified.

## **EVENTS LEADING TO THE PRIVATIZATION OF STATE FORESTS**

When the Labour Government was re-elected in 1987, the Treasury prepared a "Brief to the Incoming Government"; this indicated there were some residual problems with the various State Owned Enterprises (SOEs) including the NZFC. The briefing paper suggested that the SOE model did not provide the pattern of incentives that deliver services in the most efficient manner and that a full private sector approach would be superior. This view, largely based on economic theory (Kirkland and Berg 1997), was re-inforced by the practical problems of establishing business values for the SOEs, controlling pricing policies of the SOEs and the need to obtain agreement on principles for shareholder monitoring of SOE performance. One of the major problems was obtaining a value for the Crown businesses transferred to the various SOEs. This depended on negotiations between the SOE boards and the Crown. Generally, the Treasury regarded the SOE valuations as too low and the corporations regarded the Treasury's valuations as too high. Kirkland and Berg (1997) point out that the resulting standoffs were difficult to resolve because most SOEs had not been run as businesses before and had no private sector counterparts to use as valuation yardsticks. The Treasury also reminded the government in its briefing document that there was general agreement internationally that governments should transfer the ownership of the state's commercial businesses and assets to the private sector when non-commercial functions had been

removed from SOEs and the SOE regulatory environment had been reformed. It was not difficult to convince the Minister of Finance, the Hon. Roger Douglas, because he already firmly believed that privatization was the only answer (Douglas 1993). It also seems that he was influenced by the actions of Margaret Thatcher's government which privatized 29 major state enterprises between 1979 and 1989 including its interests in water, gas, steel and most of its transport and telecommunications businesses (Douglas 1993).

However there was a more urgent and potent driving force behind the move to privatize New Zealand's state enterprises than the government's assessment of the capabilities of the SOEs to act as fully commercial enterprises. In 1987, New Zealand's gross public debt had risen to approximately 75 percent of the GDP, the fourth highest debt to GDP ratio among OECD countries (Douglas 1993). Debt servicing amounted to about NZ\$4.5 billion annually. One of the prime aims of the Labour Government's reforms and restructurings of the public sector generally and the State Forestry Sector specifically, was to reduce debt. Selling state assets presented a quick partial solution to the challenge of reducing debt. Douglas acknowledged that selling assets would only provide a short-lived easing of debt levels or slow the escalation of debt and that the long-term solution depended on reducing government expenditure.

In July 1988 Douglas, in his budget speech to the House of Representatives, outlined the criteria for the sale of SOEs. The NZFC was not one of the SOEs earmarked for privatization. However, Douglas did announce the government's intention to sell the state's forest assets, but such a sale would be delayed until further investigations of various issues were completed and a decision could be made about the form of the sale. He also revealed that the government was examining ways in which it could retain the land under state ownership while maximizing the sale value of the forest assets.

The government perceived that the most important problems *vis-à-vis* the continuing operation of the NZFC were:

- establishing a value for NZFC forest assets;
- how to monitor the performance of the corporation;
- political interference in business decisions; and
- overexposure of the government in one sector through owning approximately half of the nation's plantation forests.

The valuation of forestry assets, initiated by the NZFC when it was first established in 1987, developed into a continuing, and at times, bitter contest between the Treasury and the NZFC. Birchfield and Grant (1993) examined the valuation dispute in some detail. Part of the problem appears to have been related to the fact that there had been no major forest sales in the past and therefore no precedents to serve as a guide.

The Treasury considered that a successful assessment of the performance of the corporation based on earnings from the resource it controlled and any future sale of state plantations, hinged on achieving an agreed valuation of the plantations. In fact, when the state plantations were initially transferred to the NZFC in 1987, the government expected that the corporation would establish a robust and defensible valuation of the plantation resources. However, this did not happen and it was a most significant factor in influencing the government to sell the plantation forests. It was the actual sale of the forests that finally led to the establishment of a robust market value for the plantations based on what the private sector was willing to pay.

In the 1970s, the FRI developed a forest estate model that was able to simulate the growth of a forest from establishment to harvest time. The model was known as FOLPI (Forest Oriented

Linear Programming Interface). This model could be used to provide theoretical values of plantation forests. One of the problems with applying FOLPI was its sensitivity to variations in the discount rate used for valuation estimates. Some of the disputes that erupted between the NZFC and the Treasury were concerned with the appropriate discount rates to use in valuation assessments. In 1986 a NZFS mensuration group working in close collaboration with the FRI, developed an upgraded version of the FOLPI model which, when applied to the state's plantations, yielded a value of about NZ\$1.5 billion. In early 1987, the NZFC Establishment Board attempted to value the state forests with the help of Canadian consultants. However, no agreed valuation was achieved from this exercise and the issue was more or less sidelined by the board.

The situation, whereby the corporation held all the resource data and the valuation model and was the only organization capable of completing a credible valuation of the assets it was intending to buy, seems to be a rather curious one. The dispute about the valuations between the Treasury and the NZFC appears to have centred on the discount rates used by the corporation and the assumptions made about future wood prices. The corporation based its estimates of future wood prices on current average local prices while the Treasury believed that future wood prices would be dictated by export prices.

The Treasury employed the local economic consultancy firm BERL to help with the valuation process. BERL examined both local wood sales' data and export prices and markets to establish a set of scenarios for valuing future trends in wood prices. By the time the BERL study was complete the corporation was understood to be suggesting a valuation of NZ\$830 million for the forests. Using the same model but making the price assumptions that were produced by the BERL study, the Treasury estimated the value of the forests to be NZ\$2.02 billion. Although further attempts were made to overcome the divergence in valuations between the two parties and establish an agreed valuation for the forests, this was not achieved. In fact, the divergence appeared to be widening until the time it was announced that the government had decided to sell the forest assets to the private sector. The failure to reach agreement about the value of the forest assets provided the government with the major justification to sever ties with the plantation forests (Neilson and Smith 1995).

## **IMPLEMENTING PRIVATIZATION OF THE STATE PLANTATION FORESTS**

The NZFC assumed responsibility for the sale of the plantation forests and was appointed as the principal sales agent by the government. An asset sales team was established within the corporation to document the main features of the state forest assets for prospective buyers and prepare a prospectus (Kirkland and Berg 1997). In October 1989, the corporation issued the "Sale of State-owned Forests in New Zealand" prospectus.

The sale process was complicated by Treaty of Waitangi obligations. The 1840 treaty signed by Maori leaders and representatives of the Queen of Great Britain guaranteed continued Maori ownership of their land and other natural resources. However, extensive areas of Maori land had been dubiously acquired by European settlers and other companies over the years. A Waitangi Tribunal was set up to consider and make decisions about Maori grievances concerning land and other assets taken from the Maori in the past. Large areas of the land on which the plantations were located were under Maori claims. The Maori were also concerned about the proposed sale of cutting rights, which could prevent Maori from using their land in the event of a successful claim. After a period of negotiations between the Crown and the Maori including two national *hui*s (Maori meetings to resolve important issues), a mutual agreement was reached in 1989 that would enable the Crown to sell the existing tree crops and associated assets for an immediate payment. The agreement also provided for annual land rental payments to be placed in a trust.

The accumulated payments for any particular area of land could then be paid to any successful Maori claimant. Furthermore, the agreement provided that, if the Waitangi Tribunal recommended return of the land to the Maori, the Crown would transfer its ownership to the successful claimant; including the right to the rental from that time and progressive control of the land as the trees on that land were felled. The agreement also provided for payment of compensation to successful claimants for the fact that the then existing crop was retained by someone else. The final signed agreement successfully preserved Maori rights without appreciably weakening the interests of the bidders in the sales process (Birchfield and Grant 1993).

Another complicating factor that delayed the sale of some of New Zealand's largest and most valuable forests were the agreements the government had with Tasman Forests and Carter Holt Harvey, New Zealand's largest private forestry companies at that time. The details of these agreements are outlined by Birchfield and Grant (1963). In brief the agreements, which dated back to the 1950s and 1960s, provided for the supply of logs to these companies at favourable prices for decades into the future. In the Tasman case, the agreement involved provision of logs from Kaingaroa forest while, in the Carter Holt Harvey case, the agreement concerned supply of logs from Canterbury and Hawkes Bay state forests. Attempts by the NZFC to renegotiate the contract terms with Tasman Forests caused much acrimony and legal action. The corporation and the government realized that the only way to extinguish the contracts was to sell part of Kaingaroa forest to Tasman. In 1990, a Tasman offer for part of Kaingaroa was rejected on the basis that the price offered was too low. The continuing standoff between the state and Tasman was not resolved until the central North Island and Bay of Plenty forests were finally sold to a Tasman consortium in 1996. The Carter Holt Harvey contract problem, which also involved legal actions by the company against the Crown, was resolved in 1990 when the company bought the Canterbury and Hawkes Bay forest under the initial forest sales process.

Working closely with consultants from the Treasury, the corporation developed a design for the pending sale of forests. In 1989, the Crown Forest Assets Act provided the enabling legislation for the forest sales to proceed.

The sale was structured so that the purchaser bought the existing trees, buildings and other fixed assets on the land. However, the land itself remained under Crown ownership, but could be leased back to the purchaser for any legal purpose including planting of replacement crops. The main feature of the sale arrangements was a new legal instrument, a Crown Forestry Licence, which was designed to cater for the particular nature of the forest sales outlined above. The term of the licence was 35 years, which provided sufficient time for a newly planted crop of radiata pine to mature. The term of the licence was extended by one year, each year, unless notice was given to the contrary. A termination notice could only be initiated by the Waitangi Tribunal if it recommended that the land should be returned to the Maori. If the land was not liable to a Maori ownership claim, the licence term would be extended by adding a further term of 35 years, thus effectively providing 70 years or two rotations of radiata pine (Kirkland and Berg 1997).

The sale prospectus provided details of the forest assets including the fact that, of the 554 214 hectares of stocked forests, 81 percent was radiata pine. The sale involved about 90 individual state forests. The prospectus concluded that the sale would determine the pattern for the future shape of the New Zealand forest industry. The importance of the sale was highlighted by the media when they referred to it as "the sale of the century".

Prospective bidders were formally invited to register their interest by completing a form in the prospectus and paying a refundable fee. This then entitled the intending bidders to resource descriptions, access rights to the forests to carry out their own evaluations, and access to a range

of other written information and electronic databases. Detailed inventory resource documents had been prepared by the forest consultant Jaakko Poyry Pty of Finland.

The sale was an international one. The corporation's asset sales staff made presentations to overseas companies in Asia and North America to widen interest in the forest sales. Tenders finally closed on 4 July 1990 and the Treasury assumed direct control of the sales process. The initial sales process was finalized in November 1990 when 246 700 hectares of forestry rights were sold realizing NZ\$1.027 million. Details of the purchasers, areas of forests sold and amounts paid are listed in Table 1.

**Table 1. State forest asset sales in November 1990**

<b>Purchaser</b>	<b>Area (ha)</b>	<b>Price paid (NZ\$ million)</b>
Ernslaw One Ltd	23 801	102
Tasman Forestry (Nelson)	48 852	262
Carter Holt Harvey	92 704	383
Juken Nissho	43 531	125.5
Wenita Forestry Ltd	20 521	115
Other sales	17 291	39.6
<b>Total</b>	<b>246 700</b>	<b>1 027.1</b>

An area of 303 600 hectares of state forest, much of it in central North Island, was left unsold. Although bids for the central North Island and Bay of Plenty forests had been received from Carter Holt Harvey, Fletcher Challenge and an Elders–NZ Forest Products consortium, the bids fell well short of the minimum estimated value of these forests and the bids were rejected (Birchfield and Grant 1993). A subsidiary of the NZFC (NZ Timberlands Bay of Plenty Ltd) was formed to administer the approximately 300 000 hectares of remaining unsold state forests, including the Kaingaroa forest and associated Bay of Plenty forests. At the same time, another SOE (Timberlands West Coast Ltd) was created to manage unsold state indigenous and plantation production forests on the West Coast. In 1991, the NZ Timberlands Bay of Plenty Ltd was renamed the Forestry Corporation of New Zealand. Most of the remaining state forests outside the Bay of Plenty (constituting an area of 97 000 hectares) were sold to the North American company Rayonier Incorporated in May 1992 for NZ\$366 million. The sale conditions differed somewhat from the 1990–1991 sales in that Rayonier Incorporated was obligated to replant after harvesting.

It was not until early 1996 that Kaingaroa forest and the associated forests in the Bay of Plenty were sold. As in the previous sales, the offer was structured to provide cutting rights to the trees, while the land remained with the Crown, but was leased to the successful bidder under a Crown Forestry Licence. The obligation to replant after harvesting was retained in this sale offer. Three consortia registered bids for the 190 000 hectares of forests and two wood-processing plants including Waipa sawmill. In August 1996 the government announced that the successful bidder was New Zealand-based Fletcher Challenge Ltd in association with Brierley Investments and Citifor, the forestry arm of a Chinese international investment company. The Fletcher Challenge consortium paid NZ\$2.03 billion for the forests and other assets.

This major sale engendered a good deal of controversy. Sutton (1996) pointed out that the sale attracted substantial attention from the New Zealand public, which was about evenly split on supporting and opposing the sale. The two major political parties (National and Labour) supported the sale, but the two largest minor parties (NZ First and Alliance) opposed the sale and both vowed

to buy back the assets. The purchase enabled Fletcher Challenge to become New Zealand's largest plantation manager with 380 000 hectares or about 25 percent of the total plantation estate.

The 1996 sale resulted in the bulk of the formerly state-owned plantations being transferred to private ownership with only about 4 percent of the total plantation estate remaining under Crown ownership under the administration of Crown Forestry Management Ltd, a Crown company that replaced the Forestry Corporation of New Zealand. The complex succession of state organizations with responsibility for managing the state plantations is summarized in Figure 3.

## **ECONOMIC IMPACTS AND CONSEQUENCES OF THE PRIVATIZATION OF THE STATE'S ASSETS**

Before examining the consequences of privatizing the plantation forests, it is probably worthwhile to briefly broaden the focus and assess the impacts of the wider government sales programme on the national economy. Both the Labour Government and National Government, which assumed power after 1990, were committed to selling state assets including the state plantation forests and strongly supported the sales process. The rationale underpinning the Labour and National governments' stances on privatization of state forests and other government assets was, first and foremost, to reduce public debt which had reached an alarmingly high level. Douglas (1993) believed the burgeoning debt was an unsustainable situation that needed radical action. Among the ten principles for politically successful structural reform that Douglas discusses in his 1993 book, the second principle "implement reform in quantum leaps, using large packages" and his third principle "speed is essential; it is almost impossible to go too fast", were both rigorously applied in the Labour Government's approach to privatization.

The sale of state forests between 1990 and 1996 realized approximately NZ\$3.5 billion. During this period other privatizations included the Bank of New Zealand, Petrocorp, New Zealand Steel, Development Finance Corporation, Postbank, New Zealand Shipping Corporation, Rural Bank, State Insurance, Government Printing Office, Tourist Hotel Corporation and Telecom. When it was re-elected in 1987, the Labour Government had set a target to raise NZ\$14 billion from asset sales to lower the debt burden. By 1992 the sale of government businesses including the plantation forests had raised NZ\$12 billion (Douglas 1993).

Kelsey (1997) provides a comprehensive analysis of the impacts of the reforms and sales programme on the national economy. The response of the key economic indicators (economic growth, inflation, public debt, balance of payments and employment) were variable, but mainly positive after 1992. For instance, between 1985 and 1992 economic growth in New Zealand was negligible, while over the same period the economic growth for all OECD countries had averaged +20 percent. After 1992, economic growth rose to +5 percent in 1993 and +6 percent in 1994, respectively. Net public debt fell from about 51 percent of the GDP in 1992 to about 30 percent of the GDP in 1996 to 1997. However, Kelsey observed that the economic miracle was relatively short-lived. After a three- to four-year period of high growth and positive outcomes, key indicators began to turn sour. By the end of 1996, falling growth rates, above target inflation, rising overseas debt, excessive real interest rates, an overvalued dollar, an influx of speculative short-term investment, a burgeoning external deficit, falling employment growth and a significant movement of jobs offshore, signalled a declining economy. However, as Brown (1997) correctly observed, through the 1990s the forestry sector appeared to be somewhat disassociated with the general economy. The sector was characterized by continued growth buoyed by a steady increase in the harvested volumes of wood, price booms in log markets and in solid wood products in the mid-1990s and to a lesser extent, in the pulp and paper products in the late 1990s, and increased investment in wood-processing plants.



## CONSEQUENCES OF THE SALE OF THE STATE PLANTATION FORESTS

**Ownership of plantation forests.** The privatization of state plantation forests decreased the Crown's ownership of the plantation estate from 53 percent in 1987 to about 6 percent after 1996. After completion of the sales, the two largest corporate owners were Fletcher Challenge (28 percent) and Carter Holt Harvey (25 percent). Small private owners made up about 22 percent. Perhaps the most notable feature of the new ownership pattern — after the 1990 sales — was the rapid increase in foreign ownership of plantation trees (cutting rights). Direct foreign ownership of the plantation forests increased from less than 2 percent in the 1980s, to about 18 percent after 1996 (Gilbert 2000). However, total foreign interest in the plantation forests, taking into account foreign stakes in the New Zealand forestry companies, increased to about 48 percent. Although much of the public concern about the forest sales process focused on the “take over of New Zealand's plantations by foreigners”, the Labour and National governments did not hold the same concerns and considered that international companies such as Rayonier (NZ) Ltd and Juken Nissho would promote radiata pine in the United States and Japan respectively, and generally benefit New Zealand's efforts to market wood products offshore. Birchfield and Grant (1993) also point out that the sale of forests to foreign companies shortened the distribution chain from forest to overseas users of end-wood products.

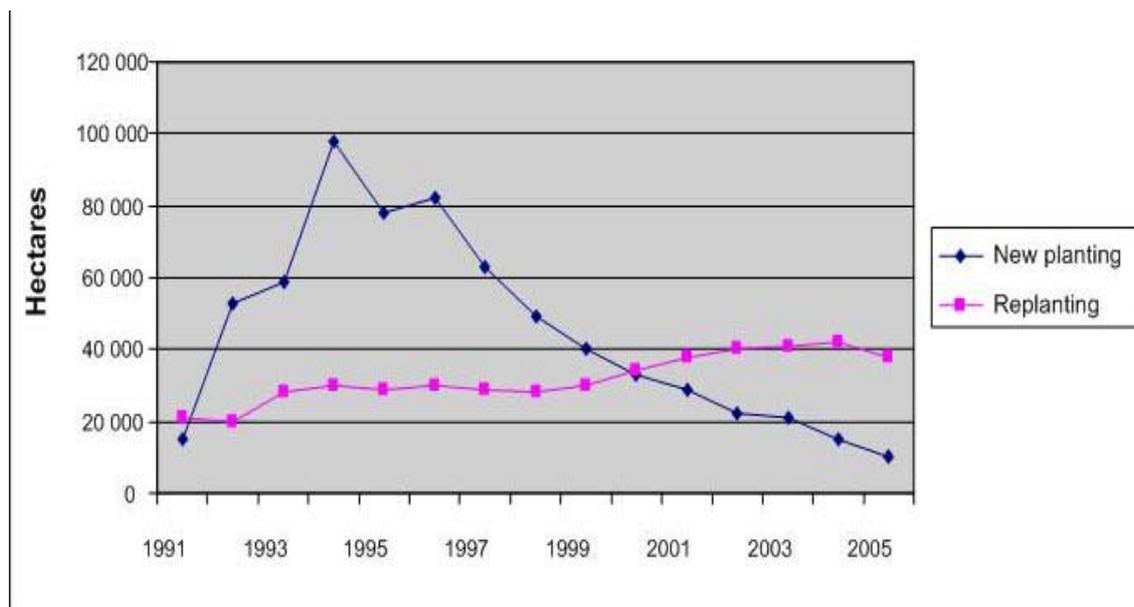
**Wood-processing capacity.** Prior to the sale of the state forests, the New Zealand Forest Industries Council estimated that about NZ\$7 billion of investment was required to satisfactorily develop the forestry sector over the next few decades. The government was adamant that such high investments could only be made by the private sector and many of them needed to be sourced from overseas. In the 1980s, potential overseas investors had viewed New Zealand rather negatively (Edgar *et al.* 1992). A survey of overseas companies with interests in forestry investment indicated that the reforms, restructurings and privatizations implemented by the Labour Government between 1984 and 1990, were viewed positively by potential investors (Edgar *et al.* 1992), but major concerns remained about labour conditions, location (isolation) and cultural immaturity.

The sales process had created a mix of domestic and international companies operating within the New Zealand forestry sector which Birchfield and Grant (1993) believed provided an improved situation to deal with the burgeoning wood-processing opportunities. This certainly proved to be the case. Aggregated investment in wood-processing facilities reached NZ\$250 million in 1990 and NZ\$300 million in 1991 (Le Heron *et al.* 1996). A reasonable rate of investment in wood-processing facilities continued through the 1990s. Notable investments in the early and mid-1990s included the establishment of a NZ\$62 million laminated veneer plant in Masterton, the building of a NZ\$40 million plant in Gisborne and a multimillion dollar upgrade and expansion of a wood-processing mill in Kaitaia by Juken Nissho. Rayonier (NZ) Ltd invested NZ\$2 million in a sawmill upgrade in Gisborne and NZ\$120 million in a new medium density fibreboard (MDF) plant at Matura. Carter Holt Harvey spent NZ\$75 million on doubling the capacity of its Canterbury MDF plant in 1992, NZ\$8 million on sawmill upgrades in Nelson and NZ\$1.3 million on drying kilns at Tokoroa (Le Heron *et al.* 1996).

Despite these investments in wood-processing facilities, concern continues about the lack of wood-processing capacity in New Zealand to deal with increasing plantation wood volumes. For instance, Rumker (2004) commented that future forestry investment returns will be dependent on the forestry industry's ability to address the growing imbalance between timber supply and value-added processing. Obviously, there is a need for a great deal of further investment in wood-processing plants in New Zealand.

**New planting.** Although it is difficult to directly link the privatization of the state forests to an increase in the rates of new planting, there is little doubt that the new ownership patterns contributed

to an overall growing optimism within the forestry sector in the early to mid-1990s. Between 1993 and 2000, the sector underwent a third planting boom which culminated in 1994 when about 100 000 hectares of new plantings were established (Figure 4). During this seven-year planting boom, about 430 000 hectares were added to the national plantation estate. Nearly all of this new planting was carried out by non-corporate foresters (farm foresters, investment foresters and other small landowners). After 2000, the government's approach for dealing with carbon credits, the strength of the New Zealand dollar, burgeoning shipping costs, the way in which the tax regime applied to forestry, generally falling profitability within the wood export industry and a growing perception that investments in forestry were risky, caused new planting rates to fall dramatically.



**Figure 4. New planting and replanting rates (hectares) from 1991 to 2004**

**Multiple-use forestry.** The forest sales concluded the demise of the state's dominant role in the forestry sector and the strong emphasis on multiple-use forestry, which had underpinned the *modus operandi* of the NZFS for many decades. Although the corporatization of the state's plantations had signalled the end of large-scale multiple-use forestry, the privatization of the plantations strengthened the strong focus on production and commercialism within the plantation industry and widened the separation of the plantation industry from conservation and protection forestry, which was now largely under the control of the DoC. However, it would be wrong to consider that the large forestry corporations and other plantation owners did not have multiple land-use roles. For instance Carter Holt Harvey Forests and Fletcher Challenge Forests have extensive tracts of indigenous forests often intimately located within the plantation estate. These require management to protect their health and other values. Moreover, many of the plantations cover areas with valuable water resources or fragile soils that need protection; this necessitates special forest management approaches such as limiting the size of clear-cut areas or providing substantial riparian protection zones.

**Harvest rates and export revenues.** Harvest rates continued to rise steadily between 1994 and 2003 when total harvest volumes reached 22.4 million m<sup>3</sup>. After 2003, harvest rates declined due to deteriorating market conditions, the strong New Zealand dollar and the decision by some new private owners of the forests to reduce the areas of harvest in their forests. Similarly, export revenues from the sale of logs, sawntimber, board products, pulp and paper and other remanufactured wood products, continued to rise steadily between 1994 and 2003, reaching NZ\$3.488 billion in June 2003 (Ministry of Agriculture and Forestry statistics 2004).

**Environmental and social consequences.** The environmental impacts of the sale of the state plantations are difficult to assess, but were probably not very significant. The standards of plantation management, according to a number of people involved in the forestry sector at that time, did not change to any noticeable extent. The introduction of the Resource Management Act (RMA) in 1991 placed considerably more pressure on plantation managers to manage their forests in a sustainable manner and through the 1990s there was a gradual overall improvement in the standards of plantation management, particularly in the areas of soil and water protection and conservation of biodiversity. The administration of the RMA (discussed below) led to improved harvesting and road construction, particularly on hill country, and improved riparian protection alongside lakes, streams and rivers. Some private companies became involved in projects aimed at conserving or protecting important rare or endangered bird and plant species such as the native kiwi, native falcon and the native flowering tree, the *pohutakawa*. Over recent years several of the large and medium-sized plantation owners have gained FSC certification which adds to the need to manage the plantation estate to very high standards.

The social consequences of the sale of the plantations were not of the same scale as those which occurred when the Forest Service was disestablished. Some NZFC staff lost their jobs, but many of the field contractors involved with harvesting, silvicultural operations and plantation establishment simply carried on under new contracts with new plantation owners.

## **CHANGES AFFECTING THE DEPARTMENT OF CONSERVATION AND MINISTRY OF FORESTRY**

Since its establishment in 1987, the DoC has retained the stewardship of approximately 4 million hectares of indigenous forest and scrub land making this department the country's largest forest land manager. Since 1987, the total area of forest under the DoC's control has gradually increased as indigenous forests have been withdrawn from production and placed in the conservation estate. The largest addition to the conservation estate occurred in 1999 when the Labour Government decided to halt all timber production from state-owned indigenous forests (mainly under the control of Timberlands West Coast Ltd) and placed them in the conservation estate.

Ever since it was established, the DoC has always appeared to receive insufficient government funding to carry out its departmental objectives (Young 2004), despite the fact that its funding has increased substantially since 1990. The DoC also appears to suffer from the fact that it is not only responsible for developing conservation, preservation and protection policies, but also for managing and implementing them. In addition, the DoC has an important advocacy role for the conservation of natural resources, which makes this department truly multifunctional. These circumstances force the DoC to manage competing demands on its resources (Hartley 1997). Hartley suggested that to enable the DoC to manage the conservation estate more efficiently and effectively, its advocacy role should be removed from the department and its policy development and advisory role should be separated from its service function role. To date this has not happened.

The funding and competing function anomalies within the department were highlighted in 1995, when a DoC viewing platform located on the West Coast of the South Island, collapsed, killing 13 people. An investigation of the incident showed that systemic problems and underfunding contributed to the tragedy and led to a restructuring of the regional organization of the department. Since 1995, the DoC has appeared to operate more efficiently than in earlier years and has initiated some groundbreaking conservation projects such as its "mainland island" programme, pest eradication projects, habitat restoration programmes and endangered species breeding and release projects.

The MoF lost approximately half its total staff when the FRI was severed from the ministry in 1992, as part of a major restructuring of New Zealand's government science and research organizations. In 1997, a review team consisting of senior public officials from the State Services Commission, the Ministry of Agriculture, the MoF, the Treasury, the Department of the Prime Minister and the Cabinet and *Te Puni Kokiri*, recommended that a merger of the MoF and the Ministry of Agriculture should proceed. A cost-benefit analysis showed that the benefits (ongoing efficiency gains and cost savings) outweighed the costs of the merger. The review team also recognized that such a merger would not occur without risks and that explicit attention would need to be given to forestry stakeholder concerns that a merger could lead to a loss of forestry skills, focus, capability and knowledge (Government Review Team Report 1967). In 1998, the remaining small MoF was merged with the Ministry of Agriculture to form the Ministry of Agriculture and Forestry (MAF). At the time of the merger, the forestry sector expressed concern that the forestry component of MAF would be very subordinate to the larger agricultural component and would lose some of its ability to effectively bring forestry issues to the attention of the government and provide policy advice in a timely fashion. The merger did bring about a rather unusual situation in that the MAF reported to two ministers, the Minister of Forestry and the Minister of Agriculture. The forestry activities of MAF, at least in the first few years after it absorbed the MoF's activities, have appeared to mainly focus on collecting and publishing statistics, border control activities and trade development activities.

Institutional structural changes that have occurred since the demise of the NZFS are presented in Figure 3.

## **REFORMS IN THE SCIENCE SECTOR AFFECTING FORESTRY SCIENCE AND RESEARCH**

The bulk of forestry and wood product research has been conducted by the state-owned FRI in Rotorua since its establishment in 1947. Other providers of forest and wood product research have included the two largest private companies, Carter Holt Harvey and Fletcher Challenge Forests, universities (particularly Canterbury and Auckland universities), the Department of Scientific and Industrial Research (DSIR), the Soil and Water Division of the Ministry of Works and two government research associations (Logging Industry Research Association and Building Research Association of New Zealand).

The state sector reforms set in motion by the Labour Government in the mid- and late 1980s soon extended to the science and research sector. The FRI, which had been almost entirely supported by an allocation from the Forest Service's departmental funding up until the early 1980s, operated on a diminishing government funding allocation after 1984 and an increasing commercial revenue stream from work done under contract for the private sector, overseas organizations and other New Zealand government agencies (Kininmonth 1997). By 1991/1992 the FRI operated on a total budget of NZ\$34.1 million; NZ\$20.2 million from the government Public Good Science Fund and NZ\$13.9 million from commercial activities (Kininmonth 1997).

Two reviews of science, research and technology in New Zealand were conducted in quick succession in 1986 and 1987–1988 respectively. The first review known as the Beattie Review was conducted by a Ministerial Working Party on S&T under the chairmanship of Sir David Beattie and aimed to determine the role that the government should adopt in science and technology (S&T) in New Zealand. Although the report of the Ministerial Working Party made a number of far reaching recommendations including the appointment of a minister for S&T responsible for the funding and operation of three research councils, 150 percent tax deductibility for expenditure on research and development and a doubling of New Zealand's expenditure on research and

development in both the public and private sectors by 1993/1994 (Report of the Ministerial Working Party on Science and Technology 1986), the government took little immediate action in response to these recommendations.

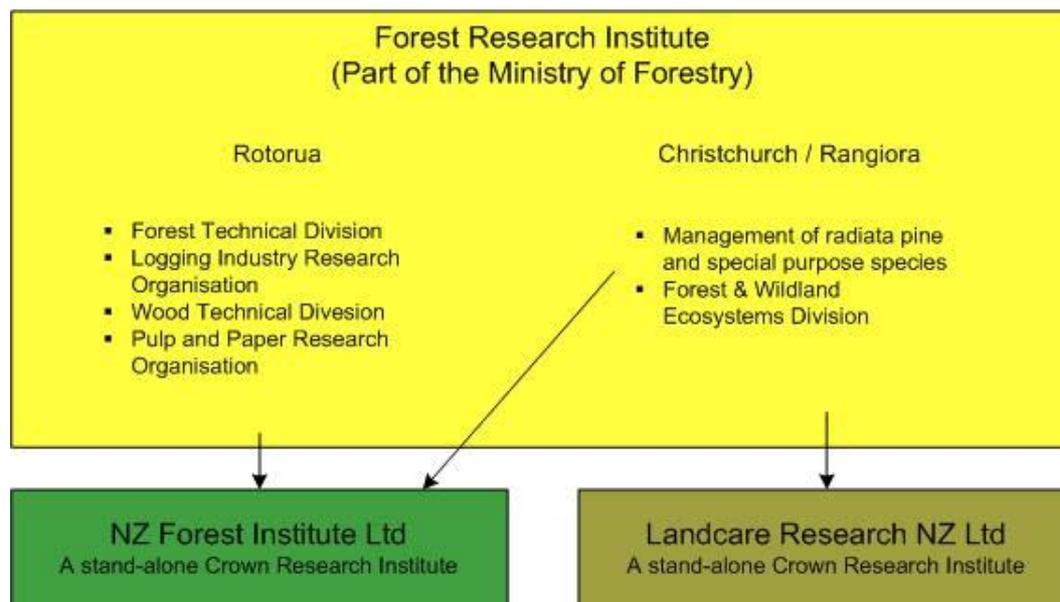
The second review was carried out by the Science and Technology Advisory Committee (STAC) to examine the organization and funding of science and technology. The review report (STAC 1988) highlighted the need for the government to fund research outputs, rather than to fund inputs, and the need for contestability in the allocation of government funding. The concept of a single contestable pool of funding for which various research organizations, including universities, would bid for funds appealed to the Labour Government.

One aspect of the review report which concerned the FRI was the statement that “There are particular difficulties in justifying a continuance of government funding for forestry research that is related to commercial exotic forestry”. Fortunately for the FRI, the government took no action in this context. However, the government (the Treasury) continued to debate the differences between appropriate research and public good research and the fine line which separated the two research types.

In 1989, the government announced that it intended to act on some of the recommendations contained in the two reviews and establish a Ministry of Research, Science and Technology (MORST) to provide research policy advice and determine research priorities, and a Foundation for Research, Science and Technology (FRST) which would also help determine priorities, but also administrate a contestable research fund. Allocations from the fund were to be based on a bidding process. The change from departmental allocations for research to a competitive bidding process started in 1990/1991. However, this was just an embryonic reform of the science sector and more dramatic changes were soon to occur.

In 1992, after much planning and consultation by a Science Task Group that had been set up to report to the government about the re-organization of the state science sector, the four major state research organizations (FRI, DSIR, MAF Technology and the Meteorological Office) were re-organized into ten Crown Research Institutes (CRIs). The CRIs were established under the Companies Act (1955) and were Crown companies with more commercial powers than the research agencies they replaced. Each CRI operated under a CRI board appointed by the minister of CRIs. Each board reported to the two shareholding ministers of the CRIs (Finance and CRI ministers).

The shift in the organization of the government science sector to a CRI structure resulted in some structural and status changes for the FRI. It became detached from the MoF to become a stand-alone CRI. The Rotorua-based component of the FRI remained largely intact, although there were losses of science and technical staff in some areas of research deemed to be superfluous to requirements in the new CRI. However, the bulk of the Christchurch/Rangiora-based component of the FRI, which was known as the Forest and Wildlands Ecosystem Division of the FRI, was transferred to a new CRI, Landcare Research NZ Ltd. The areas of research transferred to Landcare Research NZ Ltd included wild animal management, forest biophysical processes, forest hydrology, rehabilitation of modified landscapes and forest and wildland ecology. Only a small contingent of Christchurch/Rangiora people working in the management of radiata pine and the special purpose species section remained with the FRI and its nomenclature changed to NZ FRI Ltd. The broad structural changes are illustrated in Figure 5.



**Figure 5. Re-organization of the FRI in 1992**

The impacts of the re-organization of the FRI into a CRI have been both positive and negative. Kininmonth (1997) noted that on the positive side, the government gained greater appreciation of the importance of research and development, including forestry research, to the economy and development of the nation; greater commitment to increased funding for research and development and the company structure has enabled a more commercial orientation which has helped to stimulate development and commercialization of new technologies and encouraged partnerships between industry and CRIs.

On the negative side, the cost of research has risen because of (1) an escalation in transaction costs and overhead costs, (2) considerably more attention being accorded to safe, short-term commercial research and revenue-earning projects, possibly at the expense of longer term innovative research and (3) apparent growing dissatisfaction among scientists owing to limited advancement prospects, their inability to influence the prioritization of research and the considerable extra-curricular time they spend on developing bids and performing short-term commercial work. In 2005, scientists from a number of CRIs attracted considerable media coverage when they raised some of these issues.

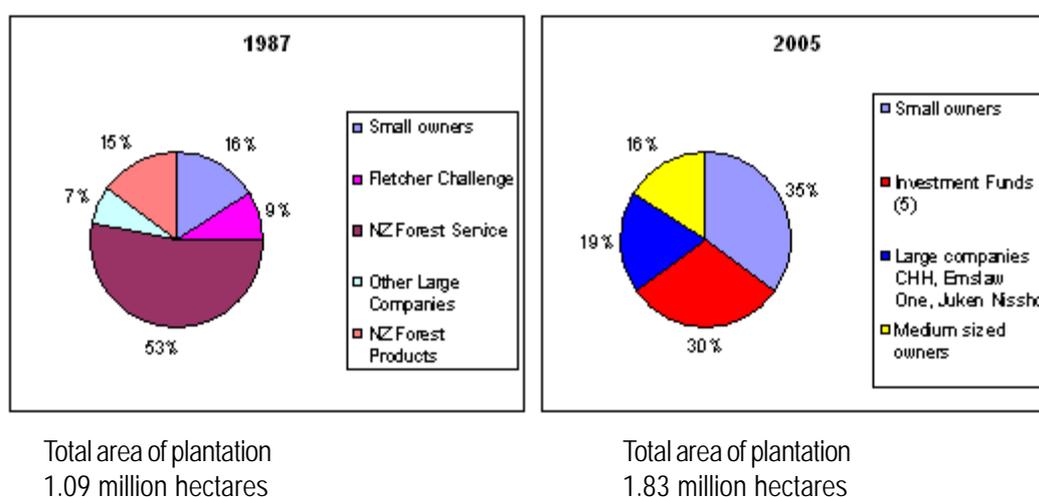
NZ FRI Ltd nomenclature changed to Forest Research Ltd in 2002 and then to “Scion” in 2005. Much of the original production forestry research including genetic tree improvement and forest protection work has been incorporated into a joint Scion–Australian CSIRO research arrangement called “ENSIS”. There has also been a noticeable shift in the focus of forestry and wood product research over the last decade. The proportion of research into wood product development, wood processing and pulp and paper products and processing has steadily increased as the proportion of research effort into the establishment, growing and harvesting of forest has declined. Most of the wood products and processing research is concerned with radiata pine. Currently, one of Scion’s main thrusts is on the development of new biomaterials from radiata pine.

## RECENT CHANGES AND DEVELOPMENTS IN THE FORESTRY SECTOR

The ownership of plantation forests has continued to change since the late 1990s. The most notable change has been a large expansion in ownership of the New Zealand plantation estate by North

American institutional investors. Investor firms known as Timber Industry Management Organisations (TIMOs) have dominated the purchase of plantation forests since 1998. In simple terms a TIMO is an investment adviser who manages funds that focus on generating investment returns from timberlands (McKenzie 2003). By late 2005, five large TIMOs accounted for approximately 30 percent of the total plantation estate (Edgar 2005). Unlike many of the forestry corporates, TIMOs are usually free of debt and are therefore free of the problems associated with having to concentrate on maintaining cash flows. Instead, their focus is on increasing the value of their asset base. Of particular interest is the ownership by Harvard Management Company (Kaingaroa Timberlands) of most of the central North Island plantations including Kaingaroa forest. Harvard Management Company purchased the Central North Island Partnership forests managed by Fletcher Challenge Forests in December 2003. In the same year the other forests managed by Fletcher Challenge were purchased by foreign investors thus effectively ending Fletcher Challenge's involvement in plantation forest ownership.

There is a stark difference in the pattern of ownership of the plantation estate in 1987 prior to the corporatization and privatization of the state-owned plantations, and the ownership pattern in 2005. Figure 6 shows that the Crown owned over 50 percent of the forests in 1987. In 2005 Crown ownership was a little over 2 percent (plantations under the stewardship of MAF and Land Information New Zealand) and the bulk of the ownership was in the hands of companies, TIMOs and other medium- to small-scale private owners who were not involved in the New Zealand forestry sector in 1987.



**Figure 6. Ownership of New Zealand's plantation estate in 1987 and 2005**

Other recent important changes and developments summarized by Neilson and Buckleigh (2003) include:

- The realization by many in the forestry sector that forest ownership does not automatically provide attractive returns. Previously stated returns of about 8 to 10 percent on investment for tree farms are more likely to be 3 to 4 percent return on investment.
- The encouraging progress on certification of the plantation estate. Over 30 percent of the plantation estate has gained FSC certification.
- Continued growth in the harvest of pruned logs and associated expansion of domestic processing for the Asian and American wood product markets. Most of the recent expansion in the sawmilling sector has been undertaken by small private firms.
- Continued expansion of radiata pine log export volumes with most of the growth occurring in log exports to Republic of Korea, China and India.

- The emergence of the United States as the largest market (volume and value) for New Zealand's sawntimber products. Traditionally, Australia had been the largest market up until 2001.
- A growing threat to the expansion of wood product exports to the United States and Japan caused by increasing wood product exports from Europe and the increasing supply of softwood logs from the Russian Federation. The rising New Zealand dollar against the United States dollar, increasing costs of shipping and rising domestic electricity prices also represent potential threats to the future growth of New Zealand's wood export industry and the wood-processing industry.

Despite the impacts of the threats outlined above and several other factors including the Resource Management Act and New Zealand's climate change responses, New Zealand's forest resources will constitute an increasingly important part of the national economy, particularly the export economy. The expanding indigenous forest estate is the source of much of the country's biodiversity and plays a leading role in the recreation and tourism industries; it also constitutes a basis of New Zealand's "clean green" image. The harvest volumes (and hence the export volumes and revenues) provided by the plantation forests are expected to show steady increases up until 2023 (Goulding 2005; New Zealand Institute of Forestry Inc. 2005).

## LESSONS LEARNED FROM THE RE-INVENTION OF THE FORESTRY SECTOR

The dramatic changes imposed on New Zealand by successive governments in the late 1980s and 1990s not only led to the almost complete extinction of the state's involvement in plantation forest ownership, but also changed in a rather radical way, the profile of the forestry sector and the way it conducts its business. This section attempts to broadly examine the restructuring and reforms that influenced the forestry sector from the standpoints of their success or otherwise, whether or not they could have been implemented in a different way so that they might have been more beneficial and less disruptive to the sector and their longer term impacts on the forestry sector. Notable lessons learned from the reform of the forestry sector are also explored.

**Success indicators.** There are disparate views about the success of the restructuring of the forestry sector in the 1980s and 1990s. The success of the reforms should be judged, not by the power of the ideas that guided them, but by the extent to which they provided measurable improvements in the performance of the sector.

Douglas (1993) indicated that the total amount raised from the sale of the state plantations (approximately NZ\$3.5 billion) was satisfactory and met his expectations. Other observers in the forest industry considered that the forest plantations were sold too cheaply (Poole 1998; Horton 1995). Apart from the money raised from the sales, the most successful outcome of the plantation forest privatization process was the increased investment in wood-processing facilities by new private owners. Without the transfer of the plantations to the private sector, the level of investment in new sawmills and other wood-processing facilities would have remained at a lower level. The restructured sector also brought new skills and ideas into the forest industry especially in the business, commercial and marketing areas, which benefited the overall performance of the sector.

The major negative impact of the restructuring and reform of the sector was the social impact, as mentioned earlier. Many small rural forestry towns and communities were devastated and the social costs, although not quantified, were very high. The restructuring of the State Forestry Sector was carried out very rapidly and without prior public debate or consultation. The suddenness of the changes exacerbated the social impacts. Kelsey (1999) with reference to the wider

restructurings of the public sector, observed that the government policies of the 1980s and 1990s were “imposed with little warning and with callous disregard for their effects on people’s lives”.

The other negative impact that had long-term implications for the forestry sector was the loss of overall leadership and vision within the sector which, until 1987, had successfully been provided by the NZFS. Although there were attempts by the Forest Industries Council in the 1990s to provide leadership and vision, the sector has remained rather uncoordinated.

On balance it seems that the restructuring of the sector was successful and provided a sector that was more capable of taking commercial advantage of the increasing volumes of plantation wood that came on stream after 1990, than a state-owned sector.

**The re-invention processes.** The processes that the Labour and National governments adopted in the re-invention of the forestry sector left a good deal to be desired. The speed at which the new government policies were introduced and the lack of discussion and consultation with the public and, more particularly, the forestry sector, led to a general dissatisfaction with the process (as evidenced by a series of letters and articles in the newspapers and the *New Zealand Journal of Forestry* in the 1990s). The evidence suggests that the processes adopted were short on planning, were shrouded in secrecy, did not provide forewarning about what was to happen and did not include opportunities for public debate. Ironically, Roger Douglas, the main architect of the reforms, wrote in his sixth principle for structural reform (Let the dog see the rabbit) “people cannot cooperate with the reform process unless they know where you are heading. Go as fast as you can but, where practicable, give the community notice in advance”. It would have more accurately reflected his own reforms if he had reworded his principle to read “tell the public very little about what you intend to do because it is easier to obtain forgiveness than permission in implementing structural reform”.

**Long-term impacts.** An assessment of the long-term impacts of the restructuring of the sector is complicated by the many external factors that impose themselves on a sector primarily aimed at the export market. The most obvious long-term impact has been the creation of a less stable sector in terms of the major stakeholders. Prior to the mid-1980s, the sector had been very stable in its composition and coordinated in its overall functioning, but since then the plantation owners have continued to change in an almost bewildering way.

It is not possible to confidently judge whether or not the long-term trends in export earnings, planting rates and harvest volumes would have been different if the plantations had remained under state ownership but it is likely that the trends would not have deviated significantly from the actual trends.

The loss of a multiple-use approach to forestry in New Zealand was one of the long-term legacies of the restructurings and reforms of the 1980s and 1990s. Many of the older foresters and land-use planners lament this loss and are critical of the existing strong dichotomy between commercial and conservation (preservation) forestry. Perley (2003) refers to this situation as an allocative or segregated sector model, which does not cater for integrated forest land-use management and may, in the longer term, hinder the development of truly sustainable forest land-use options.

A further long-term legacy of the legislative reforms, particularly the introduction of the Resource Management Act (1991), the Employment Relations Act (1999), the Health and Safety in Employment Act (1992) and the ACC Act (2000) is the escalation in the cost of carrying out forestry. These additional costs come on top of rising energy costs, a strong New Zealand dollar and increasing shipping costs; they have impacted heavily on the forestry sector.

**Should the state have retained its ownership of commercial plantations?** Over the years this question has been debated by the forestry sector, but there does not appear to be any majority agreement for or against retention of plantation forests by the state. Those who believe that the plantations represent an important strategic asset with multiple functions probably favoured continued state involvement with the plantations. On the other hand, those who view the plantations as strictly commercial assets to be managed purely for commercial gain strongly favour the private ownership model. In retrospect, there is no doubt that the NZFS in its final form in 1987 had to be radically modified or disestablished. The department was large, cumbersome, inefficient and too costly to maintain. The department's successor, the NZFC, was more efficient and possessed more commercial capability than the NZFS. One possible alternative to privatization that was probably considered, but rejected by the Labour Government, was to retain the Corporation that would have had responsibility for managing the state forests via contracts with the private sector. The Corporation could have retained an important strategic planning and marketing role and would have contracted out the management of the plantations to private companies and firms using some type of competitive bidding system. Such an arrangement may have led to greater stability and cohesiveness within the commercial forestry sector and possibly reduced the social impacts that resulted from the privatization of the plantations. On the downside, this option would probably not have encouraged the same level of investment in wood-processing plants that resulted from privatization of the plantations.

**Lessons learned.** The restructuring of the state's forestry agencies and the introduction of new environmental legislation in the late 1980s and 1990s provide several notable lessons.

*Lesson 1.* In designing major forestry agency restructuring, there is a need for governments to keep the public informed about what is being planned. The process adopted by the government in the 1980s and 1990s involved very little public debate or consultation resulting in, at best, meagre planning to cope with the social impacts of the restructuring. Consequently, social costs were higher than they needed to be and there was considerable resentment towards the restructuring by many within the forestry sector.

*Lesson 2.* The results of the re-invention of the forestry agencies provide considerable evidence that the private sector is more able to effectively manage commercial assets such as industrial forests than the state sector. The private investors in the forests brought with them funding to invest in wood-processing facilities and commercial and business capacity.

*Lesson 3.* There is a need for a coordinating forestry body to provide leadership and vision for the forestry sector in New Zealand. The forestry sector (particularly the small- and medium-forest owners who are widely distributed throughout the country), has suffered from a lack of leadership, vision and coordination since the demise of the NZFS.

*Lesson 4.* The devolution of the state's science and research agencies to form ten Crown Research Institutes did not bring as many benefits to science and particularly forestry science, as anticipated at the time of the restructuring. The commercial company CRI model has proven to be costly to maintain and strategic research has suffered from the need to carry out short-term investigations and commercial work to meet revenue targets. Nevertheless, forestry research in New Zealand remains strong and continues to contribute significantly to the success of the forestry sector.

*Lesson 5.* The privatization of plantation forests may have initially influenced planting rates, total wood production and export revenues, but, in the longer term, other influences such as prevailing tax conditions, the strength of the local currency against the United States dollar, the overall rates of return from investment in forestry and other costs, such as shipping costs, have been the dominant influences on the trends in forestry planting, wood production and export revenues.

*Lesson 6.* Despite the current downturn in the forest industry associated with rising costs and falling profitability, the forestry sector appears to be positioned to steadily increase its contribution to the GDP and export revenues as increasing volumes of harvestable plantation wood become available over the next two decades.

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# RE-INVENTING FORESTRY AGENCIES: INSTITUTIONAL INNOVATION TO SUPPORT COMMUNITY FORESTRY IN NEPAL

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### INTRODUCTION

*If we don't change our direction, we're likely to end up where we're headed — Chinese proverb*

Change is an inevitable part of human life. The forest administration in Nepal, with its history of almost eight decades, has followed a path of incremental transition juxtaposed with fundamental modifications which have had profound impacts, both positive and negative, on the forest resources of the country.

The Department of Forests (DOF) in Nepal was established in 1925. Its original mandate was to administer timber exports to colonial British India and to supply wood and wealth to ruling Rana families.<sup>3</sup> Over time, the DOF developed into a powerful institution with technical, executive and judicial roles, and became the exclusive entity for forest control in Nepal (Malla 1992). Until 1978, it was the sole authority managing and utilizing forests in the country. The policy of controlling forests through a central authority was influenced significantly by the imperial forest policies being pursued in India at the time. The connection was mainly a result of senior DOF officials having been trained and educated in India. However, the interface between people and forests in the hills of Nepal is rather intimate and knowledge and skills introduced from India proved somewhat alien. Tension and conflict developed between local people as a result of the DOF methodologies and approaches. The colonial culture and belief system inculcated through education in India was, however, not deeply ingrained in DOF staff and this was an advantage in effecting the fundamental shifts in forest policy and management in Nepal that took place after 1978.

During the 1970s, Eckholm (1976) and other researchers popularized the “Theory of Himalayan Environmental Degradation”. The theory postulated that flooding in Bangladesh was related to the depletion of forest resources in the Middle Hills of Nepal. Nepalese hill farmers were blamed for the so-called “Himalayan degradation” owing to excessive extraction of forest products for subsistence needs. This theory became so popular that it drew international and national attention and led to a conference of Nepalese foresters in 1975. The conference discussed forest management issues and formed a task-force to formulate a National Forestry Plan, which was prepared and published in 1976. The plan was the first formal basis for the current community forestry approach in Nepal and included a proposal to transfer a substantial portion of government forest lands to local *panchayats*<sup>4</sup> (Malla 1992). The government, in promulgating the Panchayat Forest Rules (PFR) and Panchayat Protected Forests Rules (PPFR) in 1978,<sup>5</sup> admitted that the state alone could not manage all national forests and formally recognized the role of people's participation in forest management.

The implementation of these provisions, in addition to other factors, contributed to the formulation of a Master Plan for Forestry Sector (MPFS) in 1988. Three years of rigorous study in preparing

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<sup>3</sup> An aristocratic family that ruled Nepal from 1846 to 1951.

<sup>4</sup> *Panchayats* are local political units with locally elected leaders.

<sup>5</sup> See Appendix 2 for details.

the plan resulted in an historic and progressive recommendation to further decentralize forest management to the community level. The plan further recommended that the role of the DOF should be changed to that of advisor and facilitator. There were three key steps to re-inventing the forest organization:

- (1) legitimization and empowerment of Community Forest User Groups (CFUGs) as independent and voluntary organizations responsible for national forest management;
- (2) transferring the rights of forest access, use, management and withdrawal to CFUGs;
- (3) providing extensive re-orientation to forestry staff and community members so that foresters could effectively carry out their advisory role and local communities could better manage their forests.

## OBJECTIVES OF THE STUDY

The main objective of this study was to provide examples of restructuring of forestry organizations and institutions in Nepal and to analyse the core principles that led restructuring. Specific objectives were to answer the following questions:

- What were the factors that led to the restructuring of the DOF?
- What was the sequence of this restructuring?
- Who were the champions of this process?
- What were the specific objectives that the restructuring aimed to achieve?
- How were “re-invention” processes approached? Who was involved and how?
- Did legislation changes facilitate the process?
- How were these changes made?
- Were these changes successful?
- What lessons can be learned from the Nepal experience?

These questions are answered in the following sections and a definition of concepts used in the report is provided in Appendix 2.

## THE HISTORICAL CONTEXT OF FOREST MANAGEMENT IN NEPAL

Land has been a strategic resource since the unification of Nepal in the late eighteenth century. As the forest area was extensive and the population small, state law encouraged conversion to agricultural use as a strategy to increase the tax base. Forests were also used as an energy source for arms and ammunitions industries. The same policy was pursued by Rana families when they became the *de facto* rulers of most of the country after 1846. The 104-year-old Rana dynasty relied on taxing the peasants while allocating forests to family members and supporters in the form of *birta*<sup>6</sup> and *jagir*.<sup>7</sup> Although the Rana regime would occasionally issue orders to manage a particular forest for specific purposes, no general forest law existed to manage national forests until 1951 (Mahat *et al.* 1986).

Following the overthrow of the Rana dynasty in 1951, major changes occurred in land use and ownership. Similarly, systematic forest management started to emerge. With more than one-third of forest and agricultural land under *birta* tenure, the government nationalized the forests in 1957 and abolished *birta* tenure for agricultural lands in 1959. The Private Forest Nationalization Act of 1957 and the Birta Abolition Act of 1959 tried to reduce the political base of feudal lords and Rana

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<sup>6</sup> Land grants formerly made by the state to individuals, usually on a tax-free and heritable basis.

<sup>7</sup> Forests allocated to compensate servants of the state for the period of that service. At the end of the service or by decision of the government, the *jagir* forest reverted to the state.

cronies. The aim of the Forest Nationalization Act was to “prevent the destruction of forest wealth and to ensure the adequate protection, maintenance, and utilization of privately owned forests”. In order to achieve this aim, the government strengthened the DOF to police the forests, and began issuing licences for the harvest of forest products. However, in the hills, local communities continued to use the forests primarily for subsistence needs. Moreover, there were only five or six trained foresters to preside over the entirety of the country’s forests making adequate monitoring impossible (Gilmour and Fisher 1991). Nevertheless, villagers continued the informal conservation and use of forests employing traditional management systems wherein forests were integral features of the farming system.

The government promulgated the Forest Act in 1961 to demarcate government forests. Legal measures to protect the forests and associated punitive means of enforcement were also prescribed. Royalties associated with the sale of forest products were also incorporated within the Forest Act and its regulations but the social component of forest management and utilization was omitted. Professional forest officials were viewed as the legitimate forest custodians. Forest area at the time constituted about 50 percent of total land area, but with only a few government officials to manage the forests, the state effectively became absentee landlords.

Centralized authority over the forest was further enhanced by the introduction of the Forest Preservation Act of 1967, which re-inforced the power of forest officials to prosecute forest violators. These two forest acts further alienated local people from the forests and from the forest authorities. The central control of forest areas, combined with mismanagement by the bureaucracy led to widespread forest depletion and degradation during this time. The prevailing mode of forest management in many developing countries was similarly over-reliant on centralized professional forest officials to manage nationalized forests. In a mode of management referred to as “classical forest management”, technical solutions were sought to halt deforestation and this resulted in local people being held responsible for forest depletion.

In a similar vein to the “Theory of Himalayan Environmental Degradation”, the World Bank in 1978 projected that the hill forests of Nepal and the Terai would be entirely depleted within 15 to 25 years. The causal factors were cited as population growth and increased demand for forest products in the face of declining supply. The hypothesized gap between supply and demand of forest products was thus expected to lead to complete forest loss. This Malthusian scenario recommended tree planting on a massive scale to address the foreseen crisis. Yet again, a technocratic solution was advanced to restore and manage the forest resources of Nepal.

While classical forestry solutions, with their technological approaches and gap analyses, were being presented and debated, a quiet revolution was noticed in Sindhu, a district adjoining Kathmandu. The Divisional Forest Officer (DFO) of Sindhu, with support from the Nepal–Australian Forestry Project (NAFP), was experimenting with the involvement of local communities in the protection and management of forests, based on the communities’ existing forest management systems. The results were encouraging in that wherever villagers were involved in forest protection and utilization, the forest condition improved. The Sindhu experience, and experience from other districts, was shared and discussed at a national forestry conference in 1975, which was attended by all DFOs as well as senior members of the DOF and the ministry. The outcomes of the conference ultimately led to formulation of the National Forestry Plan in 1976. This plan became the basis for revisions of the Forest Act in 1978. Within the revised Forest Act provision was made for allocation of community forests to local political bodies known, until 1990, as *panchayats*. Forest plantations created by the village *panchayats* were established as Panchayat Forests (PF), whereas government forests protected directly by the *panchayats* were known as Panchayat Protected Forests (PPF). The distinction between them is detailed in Appendix 2. Thus, it can be claimed that community forestry in Nepal was first officially legitimized by the national government in 1978.

Forestry issues received intense global attention during the 1980s. Major donors agreed to support the formulation of “Tropical Forestry Action Plans” in developing countries to assess the condition of existing forests, analyse the causes of deforestation and to develop strategies for systematic protection. Nepal realized the need to update its Forestry Plan in the context of supporting people’s livelihood needs and the Seventh Five-Year National Plan (1985–1990) was thus formulated to this end.

## **FORESTRY SECTOR PARADIGM SHIFT — THE MPFS**

The fuelwood “crisis” and its connection with the Himalayan degradation theory was being challenged by preliminary assessments of community forestry practices being adopted in Kavre, Dolakha and Dhankuta districts. In the context of increased global recognition of the importance of forests, and country-specific “Tropical Forest Action Plans”, the government took the decision to develop a Master Plan for the Forestry Sector (MPFS). To this end an aid coordination meeting was organized in March 1984. Other meetings were held subsequently and the MPFS process was eventually launched in 1986 as a joint venture between the Nepal Government, the Asian Development Bank and the Finnish International Development Agency. The main objectives of the planning process were to:

- Prepare a long-term (25 year) development plan for the entire forestry sector, including priority programmes, implementable proposals and estimates of investment needs, which could be incorporated in the seventh and subsequent five-year development plans.
- Develop project planning, formulation, monitoring and evaluation systems, and donor coordination functions within the planning unit of the Ministry of Forests and Soil Conservation (MFSC) to enable MPFS proposals to be implemented within the framework of annual plans.

Under the MPFS rigorous studies of the forestry sector of Nepal were carried out for three years and various strategies were identified to restore and manage forest resources. The analysis and recommendations challenged prevailing attitudes in formal forest management. They proposed an alternative system for the management of land and forest resources founded upon three new strategies:

- Instead of being managed by a centralized authority (the DOF), forests should be gradually returned to local communities for management and utilization.
- Extensive training and re-orientation to allow forest officials to move beyond their old roles and identify with the new approaches to forestry. Similarly, community members were to be trained in sustainably managing the resources transferred to them.
- Forest officials were to assume redefined roles as advisors rather than custodians.

Until the 1970s, classical forestry was the dominant paradigm among forestry professionals in Nepal. Kuhn (1970) states, “scientists in any field and in any time possess a set of shared beliefs about the world, and for that time the set constitutes the dominant paradigm”. In the case of forestry in Nepal, the “paradigm acts as an ideology which justifies the maintenance of control over forest resources by foresters — nobody else can really be trusted to manage them” (Gilmour and Fisher 1991). This view has since been widely criticized for putting “trees” rather than “people” at the centre of forestry. Since the establishment of the forest administration in 1925, the DOF was conditioned, groomed and trained according to this paradigm. This entrenched mindset acted as one of the greatest barriers in handing over control of forests to villagers. Moreover, colonial forestry, which continued to be practised in India, also influenced Nepali forestry through its emphasis on technically oriented and hierarchically organized forest authorities. Forestry officials, exhibiting a classical forest management mindset, typically viewed local people as the greatest barrier to better

forest management. In this context, local people's access to forests needed to be restricted. The exclusion of local people from forest management was evidenced by the location of forest office buildings (up to 1980s) in isolated forests far from human settlements.

In spite of this deep-rooted professional ideology, it was the conference of senior DOF officials and field-based DFOs in 1975 that initially voiced the urgency of involving local people in forest management and conservation. The outcome of this conference became the basis for present-day community forestry. Current community forestry thus emerged from a paradigm shift and involved an entirely different professional culture with differing assumptions about the basis of forest management, the nature of multidisciplinary activities and the role of foresters (Gilmour and Fisher 1991). In this sense, a dramatic 180 degree turn in the way forestry was conceptualized and practised in Nepal took place.

There are many foresters in Nepal who believe that the term "community forestry" was actually coined and first given currency in Nepal. The first mention of community forestry in Nepal dates back to between 1952 and 1953, when it was referred to in a DOF policy statement (Gilmour and Fisher 1991). However, this policy was never implemented. The Forest Act of 1961 again introduced the policy of allowing some government forest land to be managed by village *panchayats* for their use (Mahat *et al.* 1986 cited in Malla 1992). Navaraj Baral, a forester working in Nepal, claims that the term community forestry was used before 1978 and prior to publication of *Forestry for local community development* (FAO 1978) and the Eighth World Forestry Congress in Jakarta in 1978 with its theme of "Forestry for People".

## FACTORS LEADING TO THE PARADIGM SHIFT

The interaction of several factors on both national and international stages led to the emergence and evolution of community forestry in Nepal. The strength of calls for change increased following broader sociopolitical alterations in 1951. The calls were answered in 1978 when the government began to initiate limited transfers of government-owned forests to local level political units. Although 1978 was an important year for community forestry development, the real re-invention of the forest agency only began after implementation of the MPFS in 1988, with the progressive policies of:

- Recognizing forest users as the managers of forests, entrusting them with the responsibility to protect and manage the forests and conferring the right to receive all income.
- Recognizing CFUGs as autonomous and self-governing institutions.
- Changing the roles of forestry staff to advisors and extensionists, and retraining the entire staff of the MFSC for their new roles.

The MPFS planning process involved reconfiguring and rescoping the duties and responsibilities of the DOF. At the same time, the process defined "community" for community forestry purposes as (sic) "a group or set of people with the common interest of getting a sustained supply of forest products. A community is not restricted by size.... the size of community to engage in community forestry would be mainly determined by the accessibility and the size of the forest resource, and the capacity of people for cooperation and collective management of their affairs" (Bonita and Kanel 1987).

The multiparty system in Nepal was restored through the people's revolution of 1990, when the MPFS was technically ready to be submitted to the national authorities. The change of political regime led to modifications in the core documentation of the plan but not the core messages (R. Laitalainen, personal communication). It also facilitated formulation of a new forestry law, which

increased the scope for community forestry. The Forest Act of 1993 specifically assigns forest resource related rights and duties to members of the CFUGs. The users have specific rights in relation to forest access, use and management and also forest product extraction.

Various factors contributed to the revised roles and responsibilities of Nepal's forest agency:

**Successful partnership with village leaders:** Several attempts were made in the 1960s and early 1970s to develop partnerships between local village leaders and forestry organizations. Some of them succeeded, and others did not. In the Kusha Devi area of Kabhre District, negotiations between the DFO and local people in the 1960s led to protection, control and management responsibilities being vested in local users (Bartlett and Malla 1992 cited in Malla 1992). Manandhar reported similar efforts in the Upallo Girku area of Nuwakot District (Manandhar 1980 cited in Griffin 1988). These efforts tended to be temporary, but useful lessons for enhancing people's participation were learned. Later, in the early 1970s, local people in Sindhu Palchok District demonstrated systems of protection and management of local forests that were more successful (Malla 1992). These success stories played an important role in stimulating the government to actively seek to enhance people's participation in forestry (Mahat *et al.* 1987; Griffin 1988 cited in Mahat *et al.* 1987, p. 38).

**Increased awareness and documentation of indigenous forest management systems:** In placing the forests under direct state control, two critical assumptions are made. One is that the people are ignorant and need to be taught or convinced of the importance of trees; the other is that common resources will inevitably be overused (Gilmour and Fisher 1991; Hardin 1968). Both assumptions have since been disproved by numerous practical and theoretical experiments and studies on indigenous forest management systems. More recent inquiry into indigenous forest management systems has revealed that there are many locations in the hills of Nepal where local people, when entrusted with sufficient power, regulate access to forest resources such that overexploitation does not occur (Hardin 1968). This led to a change in some of the negative views held by foresters about villagers and farmers and raised awareness of the potential for recognizing and trusting local people's forest management capabilities (Malla 1992). Thus, the development of trust in local organizations became an important factor in shifting forest management structures. Ostrom (1991) identified and analysed cases and conditions in which user groups have successfully managed natural resources in different parts of the world.

**Global concern on the Theory of Himalayan Environmental Degradation:** This theory, popularized by Eckholm in 1975, caused global concern over environmental degradation in Nepal. The situation was exacerbated by the World Bank's prediction of the disappearance of all accessible forests in the Hills by 1993 and in the Terai by 2003 unless large-scale compensatory action was undertaken. This alarmist view of the state of Nepal's forest resources served as a standard reference for many years (Taylor 1993). Such a gloomy picture exerted moral and political pressure on foresters to take bold and effective steps towards halting degradation and deforestation.

**The DOF's inability to enforce effective regulatory provisions:** Hill forests were much neglected until the 1970s as the department was strongly oriented towards the export of timber to India. The difficult terrain in the hills was not commercially viable for forest management and hence did not offer sizeable revenue to the state. Moreover, forest patches in the hills were so scattered that the department could not enforce effective regulations. The prevailing forest acts did not allow the traditional use of forest products by rural people, although their informal use continued unaffected. The provisions of the acts thus transformed villagers into unlawful forest users and the illegal use of forests was so widespread that any villager could be punished at any time for contravening forest rules. Under this policy environment, forest regulations were misused, in many cases for political and personal motivations. The solution to the illicit felling of trees was thought of in terms of more

patrolling of the forests, more legal cases against the offenders and the strict punishment of forestry “violations”. The department was also accused of rampant corruption and there were cases where people were charged for forest offenses simply because they could not afford a bribe or secure support through political influence. This situation led to weak and arbitrary enforcement of forest rules and widespread penalization of peasants following traditional subsistence livelihoods and least able to defend themselves. It was only after 1975 that foresters and other stakeholders began to seek alternative solutions.

**Learning from contemporary forestry projects and studies:** The Nepal–Australia Forestry Project (NAFP), which began in 1979 in Sindhu Palchok and Kavre districts, and the World Bank-funded (UNDP/FAO implemented) Community Forestry Development Project (CFDP), launched in 1981 in 29 hill districts, were two pioneering efforts in community forestry (Taylor 1993). Several other forestry projects supported by Switzerland, the United Kingdom and the World Bank (the Terai Community Forestry Development Project) were also underway. These projects tried to engage and learn from local people in various ways. Experiences stemming from these efforts were instrumental in the evolution of community forestry.

Gilmour and Fisher (1991) document case studies in Chaap al Danda forest (Sindhu Palchok District) and Tukucha forest (Kabhre District) where community forestry was attempted. These experiments generated a number of lessons for community forestry: the process of formulating a forest management agreement requires time for discussion and negotiation; obtaining information necessary for developing management plans does not require large meetings or formal surveys and informal discussions are often as effective if not more so (Gilmour and Fisher 1991). These studies together with other pilot experiments in Dhankuta and Dolakha districts emphasized the point that (sic): “If forest is to be effectively protected, managed, and used they need to be handed over to the actual users, not to the political bodies as provisioned by the Panchayat and Panchayat Protected rules” (N.K. Shrestha, personal communication).

A study carried out by a multidisciplinary team of specialists to review issues documented by Taylor (1993) also influenced the MPFS process:

*While the early successes of projects such as CFDP and NAFP were being trumpeted around international forestry and development circles through workshop papers and multimedia presentations, snags were developing in field implementation. Four major areas of concern were:*

- *establishment of Panchayat Forests, Panchayat Protected Forests, private nurseries and leased forest arrangements;*
- *livestock control and grazing management;*
- *forest management and utilization; and*
- *integrating forestry development within the District Development Plan under HMG’s<sup>8</sup> decentralization policy.*

*It was decided that an in-depth study of these themes was in order. HMG requested that it be a Nepali assessment. Accordingly, four 3–4 person teams were identified and charged with carrying out “special studies” in each of these areas. Importantly, each team consisted of a mix of specialists including people outside of the Ministry of Forests and Soil Conservation (e.g. Ministry of Finance, Ministry of Agriculture, National Planning Commission). The studies provided a sobering assessment of the community forestry projects, and proposed a lengthy list of remedial actions (HMG 1986 cited in Taylor [1993]). The studies were remarkable for the candor with which they*

<sup>8</sup> His Majesty’s Government.

*identified and discussed problems and for their spirit of self-criticism. They signaled the willingness of HMG, and of foresters involved in implementing these projects, to take a hard look at community forestry and to make mid-course corrections. In retrospect, the Four Special Study Reports constitute an important turning point. They opened up debate and set the stage for major changes in the orientation of community forestry programs, changes which were later to become formalized in the Master Plan for the Forestry Sector.*

**Broader policy shift towards decentralization:** In the early 1980s, the government initiated a broader decentralization approach to strengthen the *panchayat* political system. As a consequence, the Decentralization Act of 1982 and the Decentralization Rules of 1984 were promulgated. These provisions also legitimized the concept and practices of CFUGs in the management of development activities and this institutional approach was later incorporated within regulations for the management of community forests. In fact, the current Forest Act recognizes CFUGs as the main institutional vehicles for managing forests.

**Open discussions and a rigorous consultation process during the MPFS process:** The MPFS process took almost three years and used extensive Nepali and foreign expertise. The planning team sourced input from existing community forestry efforts and gave attention to the relationships that had developed among them. Taylor (1993) noted, “The synergy that developed between these various efforts opened the door for proposed changes of a more rapid and radical nature than would have been possible had each group been operating in isolation.”

Workshops and discussions took place at all levels from the field to central government. The Workshop on Community Forestry Management held in Kathmandu in November 1987 was particularly influential and the paper *Some views of the Master Plan for Forestry Sector Project on community forestry* by M. Bonita and K. Kanel had significant impact (N.K. Shrestha, personal communication). “In addition, there were several important spin-offs from the Workshop. The first was that the Master Plan team was able to present some of its thinking to a large cross-section of the forestry community. Their presentations were thoughtful, informative and well received. This gained additional credibility for the Master Plan process. The second was that a World Bank team charged with designing the major Phase II Hill Community Forestry Development Project happened to be in Kathmandu ... [and] could attend several of the key sessions. As a result, the team heard directly from field foresters (Nepali and expatriate alike) about major problems encountered in implementing community forestry programs and the need for some far reaching changes to address these problems. A third unanticipated spin-off was that the Workshop Proceedings were produced and widely distributed in record time... [in] a special issue of *Banko Janakari* ... This allowed for rapid and widespread diffusion of the Workshop papers and recommendations which could then be used as a point of departure for further discussion, debate and development of several of the central themes of the Master Plan” (Taylor 1993).

“Projects operating in many districts prior to 1988 were actively exploring various modalities for implementing community forestry, and had developed a consensus that the old ways were leading to an increase in forest loss and degradation and were negatively impacting on the livelihood of rural communities. There was also general agreement that the solution to both halting forest loss and improving rural livelihoods lay in empowering local communities to play a greater role in forest management. Along with this was a recognition that the DoF had to shift from a confrontational relationship with local communities to one built on consensus. Initially, the main proponents of the MPFS rejected the idea of a radical reform agenda, and proposed instead a traditional approach to forest policy with a heavy emphasis on command-control and industrial forestry as a way of using the forest sector to stimulate development. This led to direct confrontation with many people who were working in the districts to develop modalities to devolve authority for forest management to communities and for the government to decrease its direct control. The turning point was the first

CF conference in 1987, where it became very obvious that the various approaches being trialed across the country, with support from different bilateral and multilateral donors, shared many common elements. This was the first time that it was realized by the MPFS team that a powerful dynamic was being played out across most of the hills, and one that they could not afford to ignore. Following the 1987 conference, a period of constructive collaboration ensued between the MPFS team and many others that resulted in the development of the final MPFS document. Unlike many other countries where the MPFS process had been implemented, in Nepal, it resulted in a useful and meaningful policy framework. In some other countries in the region the MPFS, developed by the same technical team that worked in Nepal, was never endorsed by the government” (D. Gilmour, personal communication).

## RE-ALIGNMENT OF FOREST ORGANIZATIONS AND THEIR ROLES AND FUNCTIONS

### A history of Nepal’s forest administration

Formal forestry administration started in 1925 and the initial body was called *Ban Janch* (forest checking office). In 1927 the *Kath Mahal* (timber affairs) office was established, and in 1939 Eastern and Western forestry wings were established. The main goal of these offices was to facilitate the supply of railway sleepers to the East India Company in India and maintain state control of natural resources. The current DOF was established in 1942 with three circles (zonal forest administration offices) and 12 *Ban Janch*. The structure and nature of the department was modeled directly on the Indian Forest Service and policy mirrored that used in British India (Pokharel 1997). The key role of the department until 1951 was to export timber to India and implicitly to enrich the Rana families.

The department was re-organized in 1951 with two circles, 11 forest divisions and 44 range offices. Re-organization occurred regularly from then onwards; in 1960 with seven circles and 22 divisions; in 1968 with 14 circles and 75 district forest offices; in 1976 with nine circles and 40 divisions; and in 1983 with five regional directorates and 75 district forest offices. Although there were many changes in the structure, these were not conducive to developing dynamic or effective forestry organization (Joshi 1993). The most recent restructuring took place in 1993 to support the MPFS and the Forest Act, enacted in 1993. Currently, the department consists of 74 district forest offices, 92 *Ilaka*<sup>9</sup> offices and 698 range posts. The Ministry of Forests, established in 1959, was also restructured and renamed several times, and is at present called the Ministry of Forests and Soil Conservation (MFSC). A summary of the history of forest administration in Nepal is given in Table 1.

<sup>9</sup>A political subdivision within a district.

**Table 1. History of forestry administration in Nepal**

Stages	Year	Administrative changes/events
Feudal stage	1925	Ban Janch established
	1927	Kath Mahal established
	1939	Eastern and Western wings established
	1942	Establishment of the Department of Forests
	1943	Forest Service Act promulgated
	1951	Two circles and 44 ranges in the Terai
	1951	Institute of Forestry established
Centrally controlled stage	1957	Private Forest Nationalization Act
	1959	Ministry of Forests established
	1960	Chief Conservator's Office, seven circles and 22 divisions
	1961	Timber Corporation of Nepal established
	1966	Nepal Fuelwood Corporation established
	1968	14 circles, 75 district forest offices (but failed to implement)
Paradigm shift stage	1976	National Forestry Plan and nine circles, 40 divisions
	1978	PF/PPF Rules promulgated
	1982	Decentralization Act
	1983	Five regional directorates and 74 district forest offices
	1984	Decentralization Regulations
	1984	Private and Leasehold Forestry Rules
Expansion stage	1987	First National Community Forestry Workshop
	1988	Master Plan for the Forestry Sector
	1993	Forest Act legislated
	1993	First National Forest Users Groups Workshop
	1993	Restructuring of the Ministry of Forests
	1995	Forest Rules framed
	1998	First amendment of the Forest Act, 1993
	2000	Special forest policy for the Terai
	2001	Revision of community forestry guidelines
	2001	Second revision of the Forest Act, 1993
2003	Collaborative forest management guidelines	

Adapted from Pokharel (1997) and Joshi (1993).

The aim of restructuring in 1993 was to facilitate implementation of six primary and six supporting programmes identified by the MPFS. To support these programmes, the ministry was ordered to include five divisions, five departments and three parastatal corporate bodies.

The DOF is by far the largest organization within the ministry and almost 70 percent of the staff under the ministry work within the DOF and its district offices. The department has three divisions, namely: the Community Forestry Division, the Planning and Monitoring Division and the National Forest Division. The Community Forestry Division facilitates the implementation of community forestry which is identified as the keystone forestry programme in Nepal. The district forest offices are disaggregated into five different categories depending upon the size of the district, the area of forest available and the number of offices and staff: Category A (three *Ilaka* offices and 15 range posts); Category B (two *Ilaka* offices and 12 range posts); categories C and D (one *Ilaka* office and eight range posts); and Category E (no *Ilaka* office with eight range posts).

## Emergence of the role change

There had been a gradual shift in the role of the forestry administration since promulgation of the Panchayat Forest Rules (PFR) and Panchayat Protected Forests Rules (PPFR) rules in 1978 (A.L. Joshi, personal communication). However, this did not become obvious until the MPFS clearly and boldly proposed the new role in a progressive way in 1988. It is difficult to identify a single event that is strongly identified with this change. However, various factors converged in the preparation of the MPFS that were influential. Forest degradation and illegal felling were, for example, so rampant that some change was inevitable and the ability of DFOs to perform their duties at the time was seriously compromised (B.P. Pokharel, personal communication).

The systemic problems of the old system were so profound that the search for radical alternatives continued. Bonita and Kanel (1987) describe the shift: “With the passage of a Community Forestry Act, which would recognize community forestry as the main strategy for forest restoration and development, there would inevitably come the need for acceptance of the changing roles of forest officers. Foresters would no longer be the chief agents directly responsible for forest development, which would be the role of the people. Indirectly, however, the foresters have a very important role. They would be the organizers, facilitators, and supporters of development.” Some professionals with higher education in areas such as forest economics and development science were also key players during the MPFS planning process (B. Pokharel, personal communication). They recognized the need for appropriate staff training in preparation for new roles.

## Is it a real change?

Many people now believe that an encouraging and significant change in the role of forestry administration has taken place, especially those working in the Middle Hills. Those interviewed acknowledged and greatly appreciated changes in the role of forestry staff after 1988. Two female rangers observed that people’s perceptions of them had taken a more positive direction: “People used to run away when they saw us in the villages, but now they come looking for us and ask for further support. If there was no role of this kind, we would not have joined the forest service either” (R. Pokharel and K. Dahal, personal communication). Some of the committed pro-people foresters were highly effective in proposing and practising the new approach. Certain DFOs were so proactive in transferring forests to communities in the early days that senior departmental staff reacted negatively to their enthusiasm (Don Messerschmidt, personal communication). Boxes 1 and 2 narrate DFO experiences *vis-à-vis* the new mandate.

**Box 1. Wrong perception about villagers**

As a DFO, I have experienced both a traditional and a new role as forester. During 1988 and 1989, I was the DFO in Kailali District. Kailali is a Terai district in the far-western region of Nepal. In nearby Tharu village, some of our field staff reported that they were shot at by a local Tharu youth during a forest patrol. When the incident was reported to me, I gave an order to the armed forest guards and mobilized the police force to operate a search operation in the village and initiate legal action against the youth. This action was thought necessary, as no other forest staff would be able to patrol if we were not strict on such incidents. Moreover, we used to perceive all villagers as forest thieves as well. So, any strict action against forest thieves would be justifiable. When our armed guards searched the village there was much terror in the village and almost all the youths ran away. We caught the youth, who was suspected of having fired at the patrol. A case was filed against him. He was jailed for quite a long time. It was only after a long time that I found out that the youth was innocent, and the forest guard was guilty. The shot was not aimed at the staff. When I reflect back about that incident, I feel very sorry for the boy. What a wrong perception we had about the villagers and how wrongly we treated them.

Later in Darchula District, I was again the DFO but with a completely different role. I could mobilize people to manage forests. We were able to form two all-women users' committees. The women in the committee were so impressed that they even said "can there be such a DFO!".

**Padam Bahadur Chand, ex-DFO, Kailali and Darchula**

**Box 2. Change has to happen in us**

I don't believe that the traditional control and policing role brought any meaningful impact even in the Terai. I was the DFO in Kailali District some years ago. The problem of forest encroachment was quite serious in Terai districts at that time, and Kailali was one of the worst. I needed to evacuate 10 000 hectares of encroached forests in my new role, not for other reasons. I did this by mobilizing people and forestry staff without using the police force. I presented myself to the people as a facilitator seeking their support for forest evacuation. I didn't present myself as a forest custodian as a traditional forester in the Terai would. When people saw that I was different from the usual DFO, they also presented themselves differently. They participated in and strongly supported evacuation of the people, and replanting of the encroached area. This success created envy even among neighbouring DFOs, as they were not able to accomplish anything in their districts. So, my conclusion is that many times we want others to change but in reality we have to change first by changing the roles that we were conditioned to.

**Navaraj Baral, ex-DFO, Kailali**

Other people have also noticed significant changes in forestry staff. Don Messerschmidt, a community forestry specialist, observed greater participation of villagers and better understanding that the forests belong to the people and people should manage the forests. Hukum Bahadur Singh, a proponent of community forestry, identifies a significant change in the forest agency. His observations on role change are:

- "Forestry staff members are more proactive now. They used to be reactive in the past. They would only visit the field if tree felling occurred.
- There is now a closer relationship between forestry staff and villagers. Even forestry buildings are constructed in close proximity to communities these days.
- There is a positive attitude. Forestry staff have increased listening and learning skills and are more receptive to issues raised by villagers.

- Foresters are perceived to be open to partnership-building and multistakeholder participation.
- There is a breakthrough in the way forestry staff are perceived by people. Government staff used to think ‘our forests’ and people also used to think ‘their (government) forests’ but now people think ‘they are our forests’”.

Bhola Bhattarai, the Secretary of the Federation of Community Forestry Users Groups of Nepal (FECOFUN) shares one of his own stories in Box 3.

### **Box 3. A 180-degree turn**

In the 1980s my parents decided to construct a house in my village in Gorkha District. I was a small boy studying in a local school. My brother paid some royalty to the forest office and got a *purji* (licence) to get some timber from the nearby forest. The local forest guards used to make regular visits to our house. We used to consider them “big” men and had to arrange *kukhura* (chicken) and drinks for every visit. As we are a Brahmin family, we had to get these things from a nearby Magar village. One time, there was an election in the village and rangers passed through our village. They saw the piles of timber in our construction site and accused us of cutting more trees than allowed by *purji*. We were asked to arrange some money in order to settle the issue. My brother refused to pay. So they ordered us to the District Forest Office. After a few days, when we made a visit to the District Forest Office, we found that the *Ban Mudda* (legal forest case) was already there against us. At that time *Ban Mudda* used to be considered in the same vein as a murder case. Our entire family was terrified, although in the end we were withdrawn from the case.

In 1991, an Assistant Forest Officer (AFO) from the District Forest Office visited our village to form a community forest user group. We were informed about the concept of community forestry and the forest officer described very clearly the legality, procedures and the benefits of community forestry. The villagers were reluctant in the beginning, as they thought that the DFO would retain control, and the forest guards would be the bosses. The villagers were later convinced and formed a committee. In 1994, we formally registered the forests as community forests. During this facilitation process, we found very good AFOs and very supportive rangers. In 1995, I was involved in FECOFUN and used to be in regular contact with the District Forest Office. I was very impressed with the positive role of the DFO and AFOs. This is a 180-degree turn compared to the role they played in the 1980s.

**Bhola Bhattarai, Secretary, FECOFUN**

However some forestry staff still believe that the DOF should play more of a custodial role. They consider that their authority has diminished as a result of the paradigm shift (B. Acharya, personal communication). Such beliefs are more prevalent at higher levels than at the lower, grassroots levels in the department and the ministry (N. Baral, personal communication).

## **THE FOREST AGENCY: TOWARDS A TRANSFORMATIVE PROCESS**

One way of understanding organizations, and in this case the forestry agency, is to see them holistically through a conceptual framework integrating subjective and objective aspects. Wilber (1998) proposed a framework of four “worlds” defined by subjective and objective factors operating at individual and collective levels (Figure 1). This kind of analysis is particularly important when we attempt to view human organizations not as machines but as complex, living social systems. In a social system, the subjective worlds of mind, consciousness, emotions, attitudes, relationships, culture, traditions, beliefs, myths and language are naturally integrated with the objective worlds of

behaviour, performance, plans, strategies, structures, processes, resources, technology and systems (Pradhan 2003). Only through an understanding of the inter-relations between these four quadrants, can one bring holistic change. Management experts such as Peter Senge and Margaret Wheatley have now recognized the crucial role of the subjective worlds in successful organizational change. In a recent book, Senge *et al.* (1999) focus on the subjective realms as being essential to initiate and sustain organizational changes.

	SUBJECTIVE/INTERIOR	OBJECTIVE/EXTERIOR
	INTENTIONS/ATTITUDES	BEHAVIOUR/SKILLS
Individuals	Attitude, ways of thinking Commitment, motivation Enthusiasm, inspiration Feelings, emotions	Behaviour, actions Individual goals and work plans Skills
Organizations	CULTURE/VALUES Shared values/principles Shared assumptions Morals, ethics Language, conversations	SYSTEMS/STRUCTURE Structures, process, procedures Policies and laws Coordinated actions Resources

**Figure 1. Wilber model of wholeness and integration**

Source: Wilber (1998).

Although the forestry agency does not yet operate in such a holistic modality, it is noteworthy that the restructuring process did not seek to isolate the various components but rather dealt with the structure as a whole. Pradhan (1993) states that “There is very little understanding of what it actually takes to develop and manage high performing organizations in Nepal” and the focus is on treating the parts rather than the whole. Nevertheless, we have tried to identify and analyze the changes brought about by the reinvention process in terms of the four quadrants applied to the forest agency”.

**Behaviour and skills quadrant**

There has been substantial change in the behaviour and skills of forestry staff over the last two decades. Community forestry concepts and practices have provided space for pro-people foresters to flourish and some forestry staff to become community role models. In 1990, one of the rangers in Sindhu Palchok District became a vegetarian just to avoid the practice of forest guards offering chicken to their seniors or supervisors during field visits (R Pokharel, personal communication). Offering chicken in this fashion during field visits used to be an established tradition in the forestry sector. The ranger devised a creative way to break with the established culture. Such people have been observed at all levels, demonstrating skills and innovative ideas to address negative aspects of the institutional culture. Community forestry has provided them with the space to try out new ideas. On the other hand, the sociopolitical changes resulting from the people’s movement in 1990 and the new situation created by the political conflict have been so profound that no forest guards would dare to ask for chicken in the village these days (M. Banjade, personal communication).

The massive training programmes implemented in the 1990s re-oriented many staff towards community forestry and their new roles. The interaction of staff with forest users and the public

served to develop sympathy and re-educate many mid- and lower-level staff members. However, such re-orientation is not perceived to have taken place at the higher levels. Navaraj Baral says, “When the MPFS was prepared, people at the higher level recognized the need for re-orienting and retraining the entire staff. Through the implementation of CF, the lower staff was thus re-oriented but we now see a need for re-orientation at higher levels. If we write another Master Plan, we would propose to re-orient and retrain the entire senior staff”.

The DFOs and other field staff are now demonstrating much more supportive attitudes than before. This has reduced tension between forestry staff and forest users, and has opened up more room for interaction, discussions and collective learning. This has helped to create a positive environment for forestry staff to learn, educate, reflect and change (N. Timsina, personal communication). This is considered to be a step forward in the transformation of the forest agency. There are now several cases where forestry officials are expressing their dissatisfaction with higher level officials and are inspiring FECOFUN to lobby against regional administrators who are perceived to be constraining CFUG roles and activities in several places.

During the past decade the leadership and motivational skills of forestry staff have increased considerably; these improvements have been influenced by exposure, training and interaction. In this respect, departmental skills greatly exceed those of other sectoral organizations. There are now many DFOs and AFOs who are skilled in evoking commitment and motivation in people and creating a positive working environment. The leadership at the department and ministry is also more open and accommodating now as compared to 1988 and earlier. It is hard to correlate community forestry and the broader changes that have taken place in the political landscape, but we consider that the interface created by community forestry between people and civil society has greatly influenced the leadership style of at least the forest bureaucracy.

### **Intention and attitude quadrant**

The intention and attitude quadrant is very important but largely ignored by empirical science and positivism as well as by many development professionals (Pradhan 2003). We believe, however, that this quadrant is critical to community forestry as results are fundamentally affected by the attitudes and thinking of people working in community forestry at different levels. For this reason, it is worthwhile examining the extent to which attitudinal changes are generated by community forestry.

Increases in collaborative activities indicate that trust between forestry professionals and villagers has improved significantly. Increased trust is also evidenced by the degree to which forest users invite DFOs to their annual assemblies as chief guests. DFOs at present receive so many invitations to attend CFUG general assemblies that for some individuals it is difficult to manage. There are many forestry staff members who are committed to community forestry and express that their self-esteem has increased as a result of this people-centred approach (N. Baral, personal communication). There is broad recognition of the attitudinal changes that have taken place among forestry professionals. These changes are seen to represent a significant paradigm shift, especially by those who recollect pre-1988 attitudes.

There is suggestion, however, that these changes are a short-term and situation-bound behavioural shift rather than an attitudinal change that is permanent, sustainable and deep in nature. This suggestion is supported by a range of evidence, for example, DFOs appearing to have transformed while working in the hills are seen to revert to being rigid and traditional when posted in the Terai (B. Pokharel, personal communication). Similarly, some DFOs who were very positive towards community forestry when involved in community forest projects were less supportive when posted to other areas. DFOs like Navaraj Baral view this not only as individual weakness but also indifference

towards motivating staff to embrace deep-rooted change amongst the department's leadership. This phenomenon is somewhat to be expected as the re-enforcement theory states that "consequence shapes behaviour". If the system does not appreciate attitudinal change it is very unlikely that the change will be sustained once circumstances alter.

### **Culture and values quadrant**

Organizational culture and values include beliefs, traditions, practices and behaviour that comprise the unspoken background against which people perceive the world (their clients, employees, leaders, quality, service, etc.) and think, act and work together (Pradhan 1993). The cultural context within which most public decisions are made in Nepal is manipulated by connection and kinship, *source-force* (influence by power and connection) and *afno-manche*<sup>10</sup> (Bista 1991). Pradhan (1993) calls it a "jagir culture", which is in essence a feudal culture, inherited from the sixteenth and seventeenth century Moghul regimes and nourished and solidified by the autocratic Rana regime and the *panchayat* system. This feudal culture can be witnessed in most decision-making, *inter alia*, transfers and promotions, performance evaluation, accountability and reward systems. Culture and values extend beyond the forest sector to encompass the civil service, the configuration of authority and power and policy and the economy as well. The forest bureaucracy cannot be expected to differ significantly in underlying dynamics from the predominant systemic culture of feudalism. However, there are some positive signs of change that have resulted from the improved people-forest agency interface cultivated by community forestry.

There is a wider realization among forestry professionals that forestry is now multidisciplinary rather than monolithic. Forestry staff are now more open and positive towards multistakeholder participation and many DFOs are also embracing, at least in practice, an affirmative culture of mutual support, cooperation and harmony among district forestry stakeholders.

### **System and structure quadrant**

The system and structure quadrant addresses the structure, process, systems, rules and policies of an organization or community. This is reflected in the substantial institutional change that has taken place during 25 years of community forestry. Most of the changes and impacts from the re-invention process are observed in this quadrant.

The policy shift undertaken by the MPFS in 1988 and the subsequent legislation, guidelines and procedures developed over the last 17 years are the most important observable changes in system and structure. These changes have together led to the establishment of generally capable and democratic CFUGs. Many community forestry practitioners have been proud that CFUGs have remained democratic even when all other democratic institutions in the country collapsed.

There were also a number of internal changes to the forest agency. One of the most important is the mode of communication between forestry staff and the public; many training courses and workshops have aimed to enhance communication at different levels. Vertical communication has not changed much but horizontal communication between district line agencies, civil society and communities has increased substantially. Demonstration of internal changes has also been evidenced in the decision-making authority. Formerly, there was much discussion and confusion over who should have the authority to transfer forests to communities. For quite a long time authority remained with the regional director. But the Forest Act in 1993 enacted a progressive provision by according DFOs the authority to transfer forests. Rules and authority have now been so devolved to DFOs that they do not require any directives from the DOF and the MFSC to implement community forestry (A.L. Joshi, personal communication).

<sup>10</sup> One's own people.

## ACHIEVEMENT OF THE RESTRUCTURING ENVISIONED BY THE MPFS

Full acceptance of the MPFS at various levels came quite slowly. When the planning process began in 1986, there were those who dismissed the exercise as a triviality. Most of these sceptics became converts when the draft MPFS was presented by the Ministry of Finance and the National Planning Commission in 1988 (Taylor 1993). Successive governments in the 1990s took ownership of the plan and initiated a number of reforms. The most important were the preparation of the Forest Act (1993) and Forest Regulation (1995). Subsequent legislation and guidelines (1996) greatly facilitated the process of restructuring. The legislation was not only in line with the MPFS but was even more progressive as it did not restrict the transfer of forests and expanded the scope of community forestry beyond subsistence needs. The Forest Law of 1993 legitimized the new policy, the new institutional mandate for the DOF and new roles for DOF staff — ambiguity no longer existed. The MPFS can be considered a success to the extent that “there is now no argument that empowerment of communities to take control of their forests is an appropriate and effective way to ensure that the forests in the hills are managed sustainably for the benefit of the state and local communities” (D. Gilmour, personal communication).

The highlight of the policy was to award both territorial and community forestry roles to a single agency — the DOF (B. Pokharel, personal communication). This provision greatly influenced the process of re-educating and re-inventing the forest agency. Had there been two departments, as in some other countries, the forest bureaucracy would probably have been barred from the retraining opportunity. Furthermore, there would likely have been much futile contradiction and tension between the two departments. Contrastingly, Jim Bampton (personal communication) believes that the DFOs’ roles should be disaggregated to improve performance. In his opinion, the DFOs should be more concerned with regulation and forest management should be allocated to CFUGs or other forest management units.

The restructuring of the forestry agency to implement the MPFS was not well planned and roles were not effectively identified nor assessments of capacity made to implement different roles (N.K. Shrestha, personal communication). Nevertheless, the establishment of departments and several divisions was in line with the MPFS, although the ministry’s current organizational model is quite different from that originally proposed. It could be argued that the present model is based on practical experience and more effectively meets present-day needs but it is questionable whether a process of iterative learning and implementation took place.

Despite this, the establishment of FECOFUN and entry of NGOs into the forestry sector are considered to have positively influenced community forestry. Civil society, through dialogue, interaction, debate and tension has contributed to the reform and re-orientation of the forest agency (N. Timsina, personal communication). Don Messerschmidt thinks that the “best thing that ever happened to forestry in Nepal is FECOFUN” and M.R. Banjade agrees (sic): “If FECOFUN was not created, the forest bureaucracy and the community forestry policy change would have been much more regressive” (M.R. Banjade, personal communication). Frequently, FECOFUN strongly resisted policy changes, such as the amendment of the Forest Act, 1993 and financial ordinances (government levy of 40 percent of CFUG forest product sales). Although FECOFUN remained controversial among government forest officials, today the bitterness seems to have diminished. There is now considerable collaboration between them as evidenced by the existence of several working groups, joint organization of workshops like the *Fourth National Community Forestry Workshop* and the recent process to amend inventory guidelines.

If we look cumulatively at role change-related achievements in community forestry, it becomes apparent that about 25 percent of the national forests (forests outside the protected area system) are now managed by more than 14 000 CFUGs scattered all over Nepal. In terms of area they manage

more than 1.2 million hectares of forests and about 35 percent of all households in Nepal are participating in the management process. Kanel (2004) and Kanel and Niraula (2004) identified three main community forestry achievements:

- The condition of transferred forests has improved substantially. The stock, cover and biodiversity of these forests are substantially greater than those of adjoining national forests.
- The CFUGs annually make more than US\$10 million from the sale of forest products to one another at nominal prices and to outsiders at competitive prices. They are spending this money on forest conservation, community development, local infrastructure and poverty reduction initiatives.
- CFUGs are now the only democratically elected institutions operating in the field. They are the entry point for rural development, social mobilization and deliberation.

### **Educating and re-orienting**

The Institute of Forestry (IOF) has been the largest provider of human resources in the forestry sector. Education in the IOF has not been well-integrated with present-day forestry needs (K. Shrestha, personal communication). “At the present time, professional interactions and collaborative exchanges between the IOF and the MFSC are minimal. Officially, there are links between the IOF and MFSC at the highest level. There are, however, few practical linkages between IOF, faculty members and forestry sector practitioners. The limited cooperation that does exist, is based more on personal basis than institutional collaboration e.g. a few MFSC staff occasionally give guest lectures at the IOF. Unfortunately, the lack of links has resulted in some curricula being out of date and thus not providing the competences that students require for the contemporary workplace. IOF students, who have recently entered the forestry sector lack required skills and knowledge” (MFSC 2004).

For some time community forestry was not included in forestry curriculum. Until recently, staff studied it only after recruitment to the forest service (R. Pokharel and K. Dahal, personal communication). The IOF remained the most recalcitrant part of the system and there was strong resistance to fundamental change in the curriculum. IOF staff treated the new approaches to forest management in the hills as an interesting diversion from “proper” forestry and for a long time did not take them seriously (D. Gilmour, personal communication). It was only recently that the IOF realized the need to review curricula and responded by convening a major conference attended by the ministry, the DOF and delegates from forestry projects. The conference made comprehensive recommendations but the Curriculum Development Centre was not sufficiently influenced to accept the changes suggested.

Training and re-orientation have been central thrusts of the MPFS. It was deemed necessary for forestry staff to assume new roles as facilitators and extensionists. Until the mid-1990s the training focus was on attitudinal changes and re-orientation towards people-centred approaches. Senior staff also had the option of attending several such sessions as a part of their own training. Experience of community forestry implementation led many people to realize that different skills were necessary for such activities. Many of these skills such as surveys, inventories and management of forest, including non-timber products, were technical but a number were social such as sensitivity to gender and equity issues and skills necessary for participatory rural appraisal, team building, communication and training of trainers. Presently, the Human Resources Development and Training Section under the MFSC oversees the training component at the central and regional training centres. Apart from these training components, all community forestry projects possess a strong bias towards enhancing forestry staff capacity through training, education and workshops. More recently the MFSC prepared and approved the Human Resources Strategy-2004, the recommendations from

which are currently being implemented. The strategy focuses on a range of options to enhance the capacity of the ministry and its staff. Many elements of the strategy are, however, beyond the capacity of the ministry as they are subsumed under broader governance systems (K. Shrestha, personal communication).

## **DIFFICULTIES AND CHALLENGES**

**Momentum within the community forestry movement appears to have dropped since the mid-1990s:** Re-invention and the paradigm shift in forest management has not been a linear process and ups and downs have occurred in relation to policy revisions and organizational reform. Some of those working in forestry perceive that the momentum of community forestry as a movement began to decrease in the late rather than the early 1990s. There is a perception that the government has attempted to assert greater control over community forestry since 1998 through decisions defying the spirit of the MPFS and the Forest Act. Ojha *et al.* (2005) listed the decisions made between 1998 and 2004 (Table 2) that exemplify how the government has attempted to control community forestry. Netra Timsina explains one of these questionable decisions: “The patron–client relationship of politicians and bureaucrats that was destroyed by the 1990 movement was regained during the mid-1990s. The bureaucracy was much weakened during the 1990s as a result of the people’s movement and the removal of senior bureaucrats by the then Nepali Congress government. The government established through popular vote was also bound to make decisions in favour of people. As a result, the most progressive legal provisions were enacted and bureaucrats could not display any resistance. However, in the mid-1990s many corrupt politicians were already in power and the government became unstable due to the fluidity in politics. All of these factors advantaged the bureaucracy in regaining control in community forestry”.

However, government officials argue that the state is not trying to control community forestry, but trying to incorporate lessons learned and rectify mistakes in order to enhance its performance. The question of how to restore momentum and harmonize these two perspectives is a key challenge for community forestry policy-makers and practitioners.

**Table 2. Overview of forest policy decisions since 1996**

Forest policy decision	Level of decision	Summary content of the decision
Forest product sales outside districts	MFSC	Without fulfilling demands of the local community and adjacent districts, a CFUG cannot sell forest products in other places. (April 1996).
Monopoly rights on timber sales	Cabinet	The Timber Corporation of Nepal was granted monopoly rights over the sales and distribution of timber outside CFUGs in Nepal (9 February 1998).
First amendment of the Forest Act, 1993	Parliament	The amendment restricted some of the rights of the CFUGs (December 1998).
Ban on green felling	MFSC	Ban applied to all types of forests including community forests (1 November 1999).
Community forestry restricted in the Terai	MFSC	Community forestry was restricted in the Terai to degraded land isolated from the well-stocked forests. (28 April 2000).
Forest inventory guideline	DOF	A compulsory guideline for complex inventory systems in community forestry. (September 2000).
Second amendment of the Forest Act, 1993		Attempted to curtail CFUG rights (February 2001) but it was not ratified.
Sharing of CFUG income	MFSC and MOF	Government finance ordinance for sharing of 40 percent income from the sale of surplus timber to the government (1 July 2003).
Collaborative forest management guideline	MFSC	Guidelines to implement new forest policy in the Terai. (2003).
District Forest Coordination Committee Directive	MFSC	A new guideline to manage multistakeholder planning at the district level.
Sharing of CFUG income	MOF	This government finance ordinance for sharing income from sale of surplus timber reduced it to 15 percent and only for two species (2005 July).

Sources: Ojha *et al.* (2005) and Chapagain *et al.* (1999).

**Principal agent problems at the CFUG level:** Grassroots organizations such as CFUGs face principal agent problems at the local level. These problems have manifested themselves through the capture of decision-making fora and benefits by local elites.

**CFUG fund management and linking community forestry to poverty reduction:** Rates of misappropriation of community forestry funds are increasing (Shrestha 2005). Knowing how to increase the accountability and responsiveness of these institutions to forest users and particularly poor, disadvantaged groups and women therefore remains a challenge. Strengthening representation in CFUG committees is part of this, as is building trust and stronger relationships between and among community, government and forest management so that benefits from improved forest management are directed towards poverty reduction. Allocating areas within community forests to poor and marginalized subgroups and providing them with credit and other services through local providers could help improve forest management and reduce poverty at the same time.

**Increasing the productivity of community forests:** Many community forests are not managed to effectively increase productivity although enhanced silviculture can lead to gains. The challenge lies

in managing forests to increase forest product harvests and meet the needs of the poor; any surplus can be sold and proceeds re-invested in programmes that benefit the poor.

**Enhancing transparency and accountability:** As income from forests increases, CFUG decision-making becomes more complicated (Shrestha 2005). The issue of transparency in the sale of forest products and the allocation of funds becomes very important. Contractors, CFUG committees and DFO staff may form a coalition and attempt to extort rents from community forests. Public auditing and the facilitating role of NGOs become very important at this stage. Creation of district and village level fora for deliberation and negotiation can enhance transparency and accountability at the CFUG level.

**Controversy over community forestry transfers in the Terai:** The cabinet decision of 2000 created controversy by transferring Terai forests to local communities. There are still over 380 legally constituted CFUGs in 20 Terai districts, but the remaining forests (about 48 500 hectares) have not been transferred due to the cabinet decision. There are “informal” CFUGs, not registered with the DOF, but still protecting “their” forests. The challenge in the Terai lies more in resolving the so-called “distance users” dilemma. This could be achieved through a benefit-sharing mechanism between the CFUG and the distance users (users living some distance from the remaining forest). In fact, some of the CFUGs in the eastern Terai (Morang District) are experimenting with this already. It may be too costly to directly involve the distance users in day-to-day forest management activities, but their assistance in controlling forest theft and encroachment could be very useful and they could be compensated for this role. As tensions between CFUG members and distance users are resolved, community forestry in the Terai could be normalized. Resolution will not, however, address the issue of treasury revenue loss.

## LESSONS TO LEARN

**Social or even conventional forestry reform is not linear but an iterative and “muddling through” process:** There is convergent opinion that community forestry brought about a fundamental paradigm shift in forest management in Nepal. This shift in mindset holds that institutional innovation or reform should precede technical innovation in forestry development. As rural people are dependent on forests for their livelihoods and ecological services, they need to be given responsibility for forest management and utilization. The process of participation involves creating institutional arrangements to allow local people a say in both decision-making and benefit-sharing. In this way people are provided with an incentive to better manage and sustainably utilize forest resources.

**Negotiations and building consensus among forest stakeholders is essential for changing or re-inventing forestry organizations:** Community forestry in Nepal was initially led by forest officers. Internalization of the concept through attainment of a critical mass of foresters and the training that was provided for them did much to move community forestry beyond direct government control.

**Transferring property rights is the key to empowering forest users:** Forests in developing countries face exclusion and extraction problems. The Nepalese Forest Act and other national regulations have tried to resolve these twin problems by allowing local people to organize themselves into CFUGs — legal entities registered with the DFO. Households within these groups then have rights and obligations to manage the forests transferred to them. CFUGs are required to prepare and gain approval for forest operational plans which include extraction schedules to ensure the forest is sustainably managed. Monitoring and enforcement of regulations is also performed by the CFUGs. Forest management at the local level is devolved to CFUGs to perform within the constraints of the

operational forest plan. In sum, forest use and management rights are transferred to the users. However, the user groups can neither sell the land nor convert it to other land uses.

**Community forestry is an institutional building process:** One of the unique characteristics of community forestry in Nepal is that all forest product benefits accrue to CFUG members. The CFUG members can use forest products themselves or sell them to outsiders. The money thus generated has to be used for forest or community development-related activities. The users elect a committee of around 11 members from among themselves to implement CFUG decisions. In other words, the committee members are accountable to the CFUG. Thus, community forestry is also an institutional building mechanism at the lowest level and contributes to the development of village level social capital. It is also a unique mode of devolution of authority to democratically elected local level institutions.

**Communities have legal rights to forest management and utilization:** The process of forest transfer and the accompanying rights and responsibilities of CFUGs are clearly detailed in the Forest Act, forest regulations and existing guidelines. It is not a benefit awarded by the government as in Joint Forest Management in India where people are privileged with forest access, in contrast to Nepal where communities have legal rights. They can thus sue the government if it makes decisions contrary to those specified in the Forest Act and regulations. In fact, FECOFUN filed a case in 2001 against the cabinet's decision to levy a 40 percent tax on the sale of surplus timber from the community forest. The Supreme Court's verdict (on 28 March 2003) revoked the cabinet decision and stated that imposing a tax on the sale of forest products from the community forest was contrary to the provisions of the Forest Act. Later, the government inserted a provision in the Finance Act indicating that it would levy a 15 percent tax on the sale of surplus timber from two species (*Sal* and *Khair*) of Terai CFUGs.

**The disaggregation of forestry functions as the key reform in forestry governance:** In the case of Nepal, the classical mode of forest management needed to be disaggregated into at least three functions to be performed by different institutions:

- (1) Regulatory and policy formulation (enabling environment) functions should be performed by the government.
- (2) Forest management functions should be performed by devolved community organizations; their capacity should be strengthened and government forestry staff should be re-oriented and retrained to execute their new functions.
- (3) Forestry associations and the federations of CFUGs or NGOs should act as advisers to these forest management organizations. Thus, forest management can be improved and communities' capacity to resolve the open access problems inherent in classical forest management can be strengthened.

**Re-orientation and role change are painful, as maintenance of the status quo is always the preferred tendency:** The identity of DFOs and rangers, and public perception is important. Even after 25 years of community forestry implementation, civil society groups and project professionals classify DFOs into three broad categories — open development-oriented, traditional control-oriented and mixed (P. Neil, personal communication). They also observe two distinct patterns in the ministry — one that favours community forestry and one that is opposed (B. Bhattarai, personal communication).

**Re-invention is a continuous process so maintaining momentum is essential:** The re-invention of the forest agency and CFUGs for the management of Nepalese forests is a continuous process mediated by foresters, CFUGs, NGOs and informal and formal rules and policies. Creating the rules — and roles — of the game appears to be as important as playing the game behind the rules, and roles. The challenge lies in maintaining momentum so that dominant players and the elite at the

ministerial, departmental and community levels do not hijack the process to benefit their own interests. The paradigm shift accompanying the re-invention of forest agency roles will continue to ensure that the characteristics of the four quadrants in Figure 1 evolve simultaneously. The unique feature in Nepal is that a critical mass of role models within the forest agency and beyond has been created. It appears unlikely that the sector will regress to the old paradigm of forest management.

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## Appendix 1. Persons consulted

Name and organization	Name and organization
Mr Peter Neil Project Coordinator Livelihoods and Forestry Programme	Dr Bigyan Acharya Environment and Forestry Program Specialist USAID
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Mr Kanaihya Raj Shrestha Planning Officer Human Resource Development and Training Section	Ms Kalyan Dahal Ranger, District Forest Office, Kathmandu
Mr Navaraj Baral NRM Specialist	Mr Padam Bahadur Chand Senior Forest Management Specialist Nepal Australia Resource Management and Livelihood Project
Mr Hukum Bahadur Singh Community Forestry Specialist	Mr Bhola Bhattarai SecretaryFECOFUN
Dr Netra Timsina Mr Mani Ram Banjade ForestAction	Dr Don Messerschmidt Development Anthropologist and Community Forestry Specialist
Dr Don Gilmour Forestry Consultant	Mr Rauno Laitalainen, Team Leader, the MPFS Preparation Team in 1988
Dr Abhaya K. Das ProfessorInstitute of Forestry, Pokhara	Mr Baban Prasad Kayastha Ex-SecretaryMFSC
Dr Riddish K. Pokharel Associate ProfessorIoF, Pokhara	Mr James Bampton Terai Forestry AdvisorLFP
Mr Jagganth Koirala DFO, District Forest OfficeKaski	

## **Appendix 2. Concepts and terms used in this study**

### **Village *panchayat***

Village *panchayats* were the lowest level of political bodies, consisting of nine territorial units called “wards”. Eleven elected members — nine ward members from each ward, one mayor and one deputy mayor known as *Pradhanpancha* and *Upa Pradhanpancha* ran a village *panchayat*. After the re-instatement of multiparty democracy in 1989, the *panchayat* system of polity was abolished. The Village Development Committee (VDC) has now replaced the village *panchayat*.

### **Panchayat Forest**

Any forest, two-thirds of which needed planting, but was handed over to an adjoining *panchayat* for management, protection and utilization was called a Panchayat Forest.

### **Panchayat Protected Forests**

Any forest, which needed protection or enrichment planting, but was handed over to an adjoining *panchayat* for its management, protection and utilization was called a Panchayat Protected Forest.

### **Forest Act, 1993**

The Forest Act promulgated in 1993 is the present basis for smooth functioning of the community forestry programme in Nepal. This act also provides implementation guidelines for the operation of government-managed forests, protection forests, leasehold forests and religious forests.

### **Forest Rules, 1995**

The Forest Rules were made under the Forest Act of 1993. These rules guide the implementation of community forestry programmes in Nepal. These rules also explain the operation of government-managed forests, protection forests, leasehold forests and religious forests.

### **Community forests**

Community forests are the parts of national forests that are managed and utilized by local users organized as CFUGs, legitimized as independent and self-governing institutions by the government. They have a charter of incorporation, and are responsible for the management of national forests provided to them. While transferring the national forests as community forests, the DFO has to consider accessibility or distance from village communities to the forest, and the interest and capacity of the users in managing the forest. The objective of the community forestry programme is to produce collective benefits to the local communities of forest users from the development, conservation and utilization of the forest.

### **Community Forestry User Group (CFUG)**

An independent and self-governing entity formed by a number of households living near a particular forest area and legally recognized by the Forest Act, 1993. The group is responsible for the management of a particular community forest transferred to them. The constitution of the user groups controls the democratic functioning of the user groups. The CFUG members have rights awarded by the legislation, and as mentioned in the operational plan. They can use the forest products internally at a price fixed by the group itself, and can also sell the surplus forest products to outsiders at market price. They also have funds, and income from the sale of forest products and any other source has to be deposited in these funds. The funds can be utilized for forest protection and community development activities.

## Community Forest User Committee

A committee of CFUGs formed normally by election or selected by the user members for effective implementation of the day-to-day activity of CFUGs. It comprises approximately 11 members and they constitute the executive wing of a CFUG. The committee has no rights according to the Forest Act and rules. However, they exercise rights as authorized by the user groups and as mentioned in the operational plan. It has been reported that most of the executive members of the CFUGs are the elite or wealthy, and they do not necessarily represent the interests of the poor, women and socially disadvantaged members of the group.

## Operational Plan

A legal document prepared by user groups for the management of a particular forest area under their jurisdiction and approved by the DFO. The plan guides the management of a particular community forest normally for five to ten years.

## Process of transferring community forests to user groups

The following major steps are carried out in the process of transferring community forests to CFUGs:

### *Letter of Interest to the DFO*

First, the local community members living around the forest have to give an application to the DFO expressing their interest in managing the particular forest surrounding them.

### *Investigation for transfer*

Once the DFO receives the letter of interests, a ranger (forest technician) is sent to help the community identify the traditional users of the forests so that they are not excluded from the user group. The ranger also helps the users in preparing the constitution of the user group.

### *User group formation*

Once all the traditional users are identified, a constitution to form a CFUG is prepared. Then, the users in a group have to give an application to the DFO according to the format mentioned in the Forest Rules of 1995. With the information on the user group, the constitution will contain, *inter alia*: (i) objectives of forest management, (ii) rights, duties and responsibilities of the user group, (iii) forest protection measures and (iv) fund utilization measures. Once the user group is formed and its constitution is registered, it is officially legitimized by the DFO. A certificate of registration is given to users as proof of the user group's formation.

### *Operational plan preparation*

According to users' needs, and depending upon the productivity of the forest, the users prepare a simple management plan for the forest, and the local ranger helps them with this process. Operational plan preparation is very important because the users will have to follow it in managing the forest and extracting forest products. Estimation of annual yield is mandatory for preparing an operational plan. An operational plan will contain information, including the objectives of forest management, a rough map of the forest, division of the forest into compartments and silvicultural prescriptions to be followed in managing the forest. After preparing an operational plan, users have to submit it to the DFO for approval.

*Transfer of the forests*

If the DFO finds that the operation plan confirms to the rules and procedure, then it is approved, and a transfer certificate is given to the user group in a format prescribed in the Forest Rules, 1995. Subsequently, the users have to manage the forests and utilize the forest products according to the approved operational plan. If the operational plan has to be amended, the user group can do this by informing the DFO (according to the Forest Rules, 1995). If the operational plan is not followed, the government may reclaim the community forest, but it has to be handed over to a reconstituted CFUG. In other words, once a forest is transferred to a community, the government cannot use it as a government-managed forest. It has to remain a community forest.

# INSTITUTIONAL RESTRUCTURING IN SARAWAK, MALAYSIA

# 6

Barney Chan<sup>1</sup>

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*Fings ain't wot they used to be.* Frank Norman, 1959

## SUMMARY

The Chief Minister of Sarawak, as the minister in charge of forestry, was the initiator of changes, initially in response to intense international criticism of the logging industry in Sarawak, Malaysia and subsequently as projects carried out by the International Tropical Timber Organization (ITTO) in Sarawak identified potential spheres for change.

The ITTO Sarawak Mission (involving three trips to Sarawak from 1989 to 1990) made three main recommendations that resulted in six ITTO projects for Sarawak, one of which studied the human resource needs of Sarawak in order to meet the requirements of managing its forests sustainably.

A new flexible model — instead of a rigid government department — was needed to handle a rapidly changing environment. The chief minister recognized that this new environment required the creation of an independent entity able to work in a private sector environment.

In keeping with this new model, the existing Forest Department was downsized and its operational functions were vested in a newly created Sarawak Forestry Corporation (SFC). Under an innovative agreement, a private company, the Sarawak Forestry Corporation Sdn Bhd,<sup>2</sup> owned by the SFC, supplied management personnel and general staff to the SFC to execute and perform its functions.

Some initial improvements in delivery of services due to the re-engineering have been noted, though it is generally thought to be too early to detect any significant changes.

## PREAMBLE

Demands for forests to be managed sustainably have been at the core of relatively recent institutional re-invention in Sarawak, Malaysia. A largely traditional Forest Department has had most of its operational roles supplanted by a more dynamic corporation that operates largely according to private sector principles. Under an innovative institutional arrangement, most of the SFC's staff are employed in a private company created, and indirectly owned, by the Government of Sarawak.

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<sup>1</sup> eSFM Tropics, Sarawak, Malaysia.

<sup>2</sup> Sdn Bhd (Sendirian Berhad) means Private Limited in the Malay language.

## INTRODUCTION TO SARAWAK

It is vital to understand the geopolitics of Sarawak in order to appreciate the complexities of this institutional restructuring.

The Federation of Malaysia was formed when three existing sovereign entities were joined on 31 August 1963: Malaya, North Borneo and Sarawak (initially Singapore was part of Malaysia but seceded in 1965). Unique in this union was the respect given to the smaller and relatively undeveloped states of North Borneo and Sarawak. Together with the other states of Malaya, they were given authority — and retained control — over forestry and land matters. This means that the federal government has no direct control over forestry; moreover revenues from forestry are paid to the state, rather than the federal treasury. These arrangements are enshrined in the Malaysian constitution.

Regulation and oversight of international trade and commerce, and other commitments of national interest such as environmental and social matters, are in the hands of the federal government and state governments adhere to federal directives on such matters.

Pensions for civil servants are administered by the federal government and therefore, any increase in staffing of the civil service must have the agreement of the federal government. This has an impact on any institutional restructuring within the state civil service.

Geographically, Sarawak has a total land area of about 12.3 million hectares and lies just north of the equator, on the island of Borneo. Three major river systems, the Rejang, Tatau and Baram, demarcate the operations of the timber industry of Sarawak because river transportation is crucial to the logging industry.

The population of Sarawak was 2 071 506 in 2000 (Department of Statistics 2000), demonstrating broad ethnic diversity. There are 16 major ethnic groups in Sarawak with significant numbers living in or near the forests, many of whom derive subsistence livelihoods, especially in very rural areas.

Forests (not including palm oil plantations) cover some 71 percent of the land in Sarawak. In 2005, Sarawak produced just over 12 million m<sup>3</sup> of logs, from which almost 3 million m<sup>3</sup> of plywood were made and exported, along with more than 1 million m<sup>3</sup> of sawntimber (Sarawak Timber Association 2006). Other timber exports included mouldings, dowels and furniture. The total value of timber exports in 2005 amounted to US\$1.87 billion<sup>3</sup> (Sarawak Timber Association 2006).

Sarawak has almost 6 million hectares of Permanent Forest Estates (PFEs), which produce about 9.2 million m<sup>3</sup> of logs each year. The ITTO mission to Sarawak confirmed the sustainability of this annual production (ITTO 1990). However, approximately 3 million m<sup>3</sup> of logs are produced each year, in areas of agricultural conversion and state land forests, which are outside the PFEs. This production is not considered sustainable.

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<sup>3</sup>RM6.85 billion, converted using the July 2006 exchange rate of US\$1.00 = RM 3.66.

## THE SIGNIFICANCE OF ITTO PROJECTS IN SARAWAK

### The ITTO Sarawak mission

The Chief Minister of Sarawak personally invited ITTO to send a mission to Sarawak during the Sixth Session of the International Tropical Timber Council in May 1989, held in Abidjan, Côte d'Ivoire. This was in part to demonstrate that intense international criticisms of logging in Sarawak were incorrect and unwarranted.

The mission was established under a Council Resolution *to assess the sustainable utilization and conservation of tropical forests and their genetic resources as well as the maintenance of the ecological balance in Sarawak, Malaysia, and to make recommendations for the further strengthening of sustainable forest management policies and practices, including areas of international cooperation and assistance* (ITTO 1990).

The mission comprised ten experts representing a diverse range of interests. These experts made three trips to various sites in Sarawak, with each trip lasting two weeks. In Sarawak, they interviewed scores of stakeholders within government, local communities, the timber sector and NGOs.

The final overall assessment of the ITTO mission was, among other findings, that sustainable management of the forests of Sarawak was partly achieved; the ITTO mission felt that full achievement depended on immediate actions in three priority areas (the third is very relevant to this case study), summarized here:

1. Control of logging of the hill *dipterocarp* forests.
2. Improvement of catchment management and control of felling operations.
3. Increase in staffing of the Forest Department to ensure “control of operations on the ground, to provide technical training and education and to undertake research”.

The mission made several recommendations in its final report published in May 1990 and of particular relevance is its recommendation to strengthen the Forest Department, especially in the areas of (i) control, (ii) planning, (iii) research, (iv) education and training and (v) public relations. The mission felt strongly that this could only be done by increasing the staffing of the Forest Department.

While the state government accepted all of the recommendations made by the ITTO mission, it was understandably concerned about **increasing** the staffing of the Forest Department given the significant implications for finances and the overall size of public bureaucracy.

The ITTO mission report was presented, debated and adopted in the Council Session of May 1990, held in Bali, Indonesia. In subsequent Council Sessions, the international community came forward and offered funding and resources to carry out six ITTO projects to address the recommendations made by the ITTO mission.

### The manpower development study

The most pertinent (for this case study) of the ITTO projects was the *Study on Manpower Development of Sarawak Forest Sector*. ITTO summarized the project as intending “to provide a core of adequately and appropriately trained and re-trained staff which would enable the re-constituted state forestry instrumentality to start an immediate, effective and efficient transition to sustainable forest management in all aspects” (ITTO 1992).

An ITTO preproject assessment was carried out and its analysis concluded that the “Forest Department did not have enough staff for adequate supervision and control of timber harvesting

operations” (ITTO 1992). The state authorities accepted this finding, but were reluctant to increase the number of employees to meet such expectations. Increasing the number of employees in the Forest Department would mean an increase in the state civil service; and this had implications — not only in that such an increase would require federal government endorsement (because it manages the pension fund of all civil servants in the country), but also for other parts of the civil service, because other departments might also expect commensurate staff increases.

The pre-project assessment recommended the structure of the Forest Department should be changed in order to facilitate employment of requisite additional staff, along with provision of appropriate training. These additional staff would improve what appeared to be an already efficient delivery system of forest management and monitoring — to make it even more effective. Not many options, however, were available to address all of these concerns.

This presented the state authorities with a difficult problem as the obvious path was not palatable — in terms of costs and political expediency. The state needed a new and innovative way forward.

### **FORMATION OF THE SARAWAK FORESTRY CORPORATION (SFC)**

Transforming the recommendations of the ITTO project studies into plans which could be implemented on the ground proved to be challenging. While the Chief Minister of the state government could see the advantages, some other members of the civil service were reluctant to embrace the changes. Their reluctance could be interpreted as more of a fear of leaving their comfort zones rather than substantive concerns over specific changes. After all, the status quo, the way the existing Forest Department was run, was understood by all. Moreover the staff had mainly been civil servants operating within these structures all of their working lives.

The state government studied several options to undertake the recommendations made by the ITTO projects as well as the desire of the state to develop economically. This was to be balanced with the implications of any such changes on the public service. In order to capture all of these elements, several strategies were considered:

- Privatization, a tried and tested approach in Malaysia.
- Corporatization, another typical approach in Malaysia.
- Hybrids of privatization and corporatization.

During the study period, staff of the existing Forest Department were understandably apprehensive, as their professional futures were at stake. Their concerns can be summarized into three main areas:

- Being made redundant if the new organization chose not to employ them — on whatever basis.
- Fear of the unknown if they were chosen to join a newly created organization and the expectations of the new employer.
- Worry over the possible loss of existing “perks”, such as subsidized housing and car loans, and accumulated annual leave. Some worried over the loss of seniority in service.

During the study period, the Sarawak Forest Department Employees Union protested. Union leaders were critical of potential changes. The union’s preoccupation was with maintaining jobs for union members, and to that extent it even took the state government to court.

Eventually a model was proposed whereby the operational functions of the Forest Department were vested in a newly formed corporation. The main functions of the streamlined Forest Department would basically be to execute the laws applicable to forestry (Forest Ordinance 1954, National Parks and Nature Reserves Ordinance and the Wild Life Protection Ordinance 1998) with a very much reduced staff.

Meanwhile, a new corporation, the Sarawak Forestry Corporation (SFC), would act as an agent of the state government for the performance of such functions or responsibilities as stipulated in the Sarawak Forestry Corporation Ordinance 1995 (Chapter 17). The functions are stated under Section 10 of the Ordinance:

- (a) to act as agent of the Government and to provide services in administering, assessing, collecting and enforcing payment of royalty, premia, fees and other dues or levies chargeable under, and to perform other functions conferred by, the Forests Ordinance, the National Parks and Nature Reserves Ordinance and the Wild Life Protection Ordinance, 1998;*
- (b) to act as agent of the Government to enforce compliance by all licensees, contractors, subcontractors, operators and those involved in the logging and timber processing industry of all laws and regulations governing their operations, and the conditions, directives, plans and schemes contained or imposed on any permit or licence issued to them under the Forests Ordinance;*
- (c) to act as agent of the Government to enforce provisions under the Forests Ordinance, the National Parks and Nature Reserves Ordinance and the Wild Life Protection Ordinance, 1998;*
- (d) to carry out and implement plans and policies of the Government for the sustainable forest management, forestry development, reforestation, and rehabilitation and research of any nature into forest produce and resources;*
- (e) to undertake research on all aspects of forestry including the management of wild life and other non-timber resources in the forests;*
- (f) to advise the Government on all matters relating to forestry, management of forests, forestry research and development and enhancement of the utilisation of forest produce;*
- (g) to manage and administer, on behalf of the Government, all forest reserves, protected forests, communal forests, national parks, nature reserves, wild life sanctuaries, and areas reserved for forestry research, recreation and conservation;*
- (h) to provide consultancy services;*
- (i) to plan for and undertake human resource development in forestry and timber processing industries; and*
- (j) to perform such other functions as are conferred on the Corporation by any other written law.*

In a stroke of brilliance, the state government also created, and indirectly owned, a private company named Sarawak Forestry Corporation Sdn Bhd to supply the SFC with management personnel and general staff, and generally any human resources needed by the corporation to discharge, execute and perform its functions.

The significant difference between Sarawak Forestry Corporation Sdn Bhd and the Sarawak Forestry Corporation is the flexibility given to management in terms of creating or deleting work positions. Direct employment under Sarawak Forestry Corporation would have to have been agreed upon by the federal government, because it has implications for federal pension funds, and would have significantly increased bureaucratic requirements for every new position.

The Sarawak Forestry Corporation Sdn Bhd is a private limited company formed under the Companies Act 1965. This company gave itself a brand name of SARAWAK FORESTRY (the company refers to itself in capital letters). SARAWAK FORESTRY, like all private companies

under Malaysia’s employment laws, takes care of its employees’ retirement pensions by contributing to a provident fund.

SARAWAK FORESTRY swiftly re-engineered the approaches, operations and mindset of the “old Forest Department ways of doing things” into a modern private organization, with specified principles (SFC 2002). These were:

- Vision 2020 Principles<sup>4</sup> and Objectives;
- national policy on the environment;
- international standards governing sustainability and conservation;
- SARAWAK FORESTRY’s Vision, Mission, Objectives and Brand platform;
- a business model based on integrity, customer focus, accountability, recognition and environmental stewardship; and
- focus on core functions assigned by the Sarawak Forestry Corporation Ordinance.

The significant differences between the existing Forest Department and the proposed SARAWAK FORESTRY are shown in Table 1 with the expected outcomes from this change given in the right-hand column.

Brainstorming sessions held among senior managers developed a vision statement for SARAWAK FORESTRY: “To be globally recognized as the leader in tropical forest conservation and products”.

**Table 1. What will change?**

	<b>Forest Department</b>	<b>SARAWAK FORESTRY</b>
Vision	Local player	World class global player
Strategy	Forest industrial production	Forest conservation
Structure	Part of government service	Not part of government service
Systems	Inadequate IT, limited performance measurement	Up-to-date IT, performance measurement by key performance index (KPI)
Staff	Civil servants, foresters, locals	Management by business sector, administrators, foresters, locals + specialist expatriates
Skills	Administrative, bureaucratic	Empowered, accountable, performance matters
Style	Jobs for life, little concept of customer service	Customer-focused, entrepreneurial

Source: Slide in a presentation, Meet and Greet session. SARAWAK FORESTRY

<sup>4</sup> Vision 2020 Principles set out the road map by which Malaysia plans to achieve “developed country” status by 2020.

The final result of the changes left the Forest Department administering regulations and policy matters, and SARAWAK FORESTRY responsible for operational matters.

### **The formation of SARAWAK FORESTRY**

Sarawak Forestry Corporation Sdn Bhd was registered as a private company on 21 November 1997 in preparation for a launching that was not straightforward. Initial staffing plans had to be modified and improved when difficulties emerged in the early months.

In the early stage of the institutional restructuring in Sarawak, a small team of senior Forest Department officers worked with an expatriate chief executive officer (CEO) and various consultants to design the framework of SARAWAK FORESTRY. It was decided that the CEO should be accountable to a board of directors while executing his work through six business units, namely:

1. Sustainable Forestry & Compliance
2. Security & Assets Protection
3. Corporate Services
4. Protected Areas & Biodiversity Conservation
5. Applied Forest Science & Industry Development
6. Strategic Planning, Special Projects & Land Use

Three smaller departments were also set up, reporting directly to the CEO:

- (i) Communications & Public Affairs
- (ii) Quality Assurance & Internal Audits, and
- (iii) Human Resources.

Brainstorming sessions were again carried out to translate the vision statement into a mission statement to guide SARAWAK FORESTRY. The mission statement is: “To conserve and develop Sarawak’s forest products and services, while maintaining a balance of economic, environmental and social interests”.

An important challenge also addressed during the brainstorming exercises was how to manage the human resources of the new organization when, most likely, many of the employees would be drawn from the old Forest Department. In other words, how to motivate the former civil servants to perform to the level and manner expected of workers in the private sector.

Senior management felt strongly that a set of values must be established and adhered to by all employees. This could be achieved initially by selecting the correct employees and afterwards by inculcation and training. Obviously the potential parameters were wide when it came to inspiring workers, however SARAWAK FORESTRY decided on a set of values pertaining to:

- Integrity
- Customer focus
- Accountability
- Recognition for performance
- Environmental stewardship

(Sarawak Forestry Corporation 2002).

These values are referred to as “I CARE” and were used virtually as a daily battle cry within SARAWAK FORESTRY. On top of these values, all employees were made to understand in no uncertain terms that they would be measured against international standards.

Staff were drawn from the old Forest Department and were inculcated with the set of I CARE values. A strong orientation programme was drawn up to impress upon the new employees the importance of discipline, even in seemingly routine matters (for example coming to work on time, carrying out standard duties, etc).

The process to populate the new institution turned out to be more difficult than expected. Not everyone in the old Forest Department was to be offered a position in the new agency. An Establishment Committee was set up by the state government to assist in identification and selection of suitable candidates. The committee was chaired by the director of forests, with two officers from the Forest Department, one from SARAWAK FORESTRY and one from the state employment ministry. In the end, the entire employment approach resulted in two distinct phases.

- Phase 1.

After a pre-assessment process by the Establishment Committee, selected persons from the Forest Department, especially senior officers and those in critical positions, were offered permanent employment in SARAWAK FORESTRY. This approach was not entirely successful as some candidates did not accept the direct offer, thus, not all the positions in SARAWAK FORESTRY were filled. Many reasons were offered to explain this, but the fear of change was perhaps the most significant: There was general concern by those who had worked for many years in the public service of being uprooted and joining what was essentially the private sector. This phase started at the end of 2002 and ended around the first quarter of 2004.

- Phase 2.

In response to the unsatisfactory progress in Phase 1, the state government, under the Civil Service Rules, “seconded” senior officers from the Forest Department in batches to SARAWAK FORESTRY. The concept of “secondment” was to allow the chosen officers a chance to experience working in the new environment in SARAWAK FORESTRY for three years, with all their original employment benefits from the Forest Department kept intact. A secondment could be terminated by the officer concerned, the state government or SARAWAK FORESTRY. At the end of three years, SARAWAK FORESTRY would make a secondee an offer of permanent employment. This process proved to be more palatable, with 480 candidates accepting a pro-offered secondment out of a total offer to 741 candidates (N.B. some of these candidates would have come to the end of their three-year secondment by mid-2006, and then would have had to make the decision of whether or not to stay in SARAWAK FORESTRY).<sup>5</sup> Approximately 100 additional staff were employed from outside the Forest Department.

Phase 2 commenced during the third quarter of 2003. (There is overlap between the two phases, because offers of employment in Phase 1 were made in a gradual process, which meant vacancy problems became apparent before the phase was completed).

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<sup>5</sup> For various reasons, approximately 35 secondees had returned to the Forest Department by 2008.

## Operational launch of SARAWAK FORESTRY

The entire organization of SARAWAK FORESTRY could not be launched in one “big bang”; it had to be phased in gradually, not least to enable its new staff to adapt to a new working environment. But the overarching worry lay in ensuring smooth delivery of all services to the timber industry during the transition period. The launching schedule is shown in Table 2.

**Table 2. Launching schedule for business units of SARAWAK FORESTRY**

Date	Business units
9 June 2003	Corporate Services, Security & Assets protection, Strategic Planning, Special Projects & Land Use
9 Oct 2003	Sustainable Forestry & Compliance (Revenue Section)
15 Oct 2003	Applied Forest Science & Industry Development
17 Dec 2003	Protected Areas & Biodiversity Conservation (Southern Region)
10 Jan 2004	Sustainable Forestry & Compliance (Sustainable Resource Management & Compliance Section)

As the launch of the institution commenced, progressively more staff were needed as the multiple divisions of SARAWAK FORESTRY became operational. This part of the entire restructuring process was both complex and sensitive. The complexities lay not only in the correct choice of employees, but also on where they came from.

The Human Resources Department of SARAWAK FORESTRY then faced a major problem of how to measure the performance of these employees in their new jobs and surroundings.

A KPI was introduced as a gauge of their work as well as their understanding of the ICARE values. Each employee group was allowed to develop their own performance indicators for objective measurement (for example a key indicator for a researcher is, among others, publication of at least one research paper each year).

Nevertheless, despite the care of the Establishment Committee, there were some problems in the placement of staff from the Forest Department into SARAWAK FORESTRY:

- Some were critical that SARAWAK FORESTRY did not employ contract staff from the old department (N.B. in the old Forest Department, some staff were employed on short-term contracts and were not absorbed into the civil service proper).
- Some Forest Department staff perceived their employment in SARAWAK FORESTRY to be at a lower level than their previous position, thus creating unhappiness. Some alleged that they sensed “demotion” when moving over to SARAWAK FORESTRY.

## Improvements due to restructuring

No comparative studies were done before and after the restructuring to enable objective measurement of the performance of the former Forest Department and the present SARAWAK FORESTRY. However, there are indirect indications — and certainly some deductions can be made — to show an overall improvement.

### ***Change in mindset***

The mindset of SARAWAK FORESTRY is more progressive and professional than that of the old Forest Department. SARAWAK FORESTRY adopted new, modern management techniques and concepts almost unheard of in the old government department. For example, the new business units underwent ISO certification for their main line of work. With ISO certification, the work flow became more transparent, which in turn allowed for greater monitoring by both managers and users. Compliance with ISO certification means clients (i.e. the timber industry) are assured that, for example, application for a certain permit will be carried out in the time frame specified in the ISO certificate — not according to some arbitrary schedule of the officer in charge.

### ***Same work for less and with less***

Based on the annual budgets of both the Forest Department and SARAWAK FORESTRY, and their employee head counts, it is apparent that under SARAWAK FORESTRY, basically the same functions for the state government were carried out with fewer employees working on a much smaller budget. The data in Table 3 for 2003 to 2005 show the budget and number of employees left in the Forest Department after deployment of selected staff to SARAWAK FORESTRY. Table 4 shows the budget and staff for SARAWAK FORESTRY.

The improvements from staff deployments and rationalizations were realized in 2005. In 2005, the total number of employees in both the Forest Department and SARAWAK FORESTRY declined, and their combined budgets also declined when compared to the baseline year of 2002. 2002 was the final year the department was still working as a traditional government department and SARAWAK FORESTRY had yet to be launched.

**Table 3. Sarawak Forest Department (budget and employees)**

<b>Year</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Annual budget (RM million)	72.30	73.52	71.09	26.61	27.11
Number of employees	1 501	1 487	1 185	960	649

Source: Sarawak Forest Department.

**Table 4. Sarawak Forestry Corporation (budget and employees)**

<b>Year</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Annual budget (RM million)	26.90	77.93	50.00	42.00
Number of employees	709	905	753	722

Source: Sarawak Forestry Corporation.

### **Achievements of SARAWAK FORESTRY**

Initial achievements are by no means the only way to quantify the changes made from a traditional government department to a private sector-driven SARAWAK FORESTRY, but they do indicate some of the positive results of modern management techniques.

SARAWAK FORESTRY achieved ISO9001:2000, ISO 14001:1996 and OHSAS 18001:1999 certifications from the Department of Standards, Malaysia, the United Kingdom Accreditation Service (UKAS) and Moody International. The work processes of the three business units were likewise certified.

SARAWAK FORESTRY won the “Best E-Government and Services” award at the Multimedia Super Corridor Asia Pacific Information, Communication and Technology Awards or MSC-APICTA 2004 for its “TimberNet” innovation. The significance of this award is its acknowledgement of the adoption of information technology by the management of SARAWAK FORESTRY. By comparison, the old Forest Department was behind in its computerization programme.

Perhaps the most interesting, and arguably the biggest change from the “old style” was membership in the World Conservation Union (IUCN) in June 2006. The “old style” Forest Department was not comfortable with NGOs, especially internationally affiliated ones dealing with environment and conservation. This breakaway from conservative thinking and a willingness to work with “foreign NGOs” was a move, many felt, in the correct direction.

## CONCLUSION

The making or breaking of such a re-engineering exercise is very dependent on the political decision-makers, from the very top downwards. Sarawak had the benefit of a chief minister who not only knew the problems but was also interested in solving them. The chief minister’s enthusiasm for change percolated down from the state secretary (being the head of the civil service) through to the director of forests and the other government officers involved.

Training was instrumental in bringing about a new mindset in the staff of SARAWAK FORESTRY, many of who were former civil servants with many years of ingrained bureaucratic attitudes and work ethic. Training was carried out to build skills and capacities in regard to supervision, leadership, management, mentoring, financial management and work orientation.

Internal communications proved to be vital in transferring top management’s thinking down to the rank and file. SARAWAK FORESTRY conducted numerous informal meet-the-staff sessions (they call it “Townhall”) to facilitate such communications. Many observers would agree that such internal communications were severely lacking in the old Forest Department which led to poor performance and service delivery.

Complications and problems in this re-invention exercise came from two broad areas:

- (i) The system. SARAWAK FORESTRY created what is effectively a new system of working with which many of its staff were unfamiliar. Compounding this, the staff were also new to the organization.
- (ii) Mixture of old and new staff. Many of the senior officers in SARAWAK FORESTRY came from industries other than forestry, so they themselves had to adjust to a new sector. Some of the old staff from the Forest Department were understandably unhappy to work under such new “outsider” managers.

The re-engineering exercise in Sarawak was not a privatization exercise. Rather, it is a unique model of shrinking an existing government department by moving most of its functions to a newly created government corporation. Via an agreement, a private company supplied staff to undertake the work in the new corporation. The company runs like any other private company with a strong emphasis on efficiency of service delivery.

As of July 2006, the re-engineering process is less than three years old. The deployed staff are only beginning to settle into a more private sector-oriented work routine, while additional specialized staff are still needed to strengthen SARAWAK FORESTRY's operations.

Though the deployment plans have yet to run their full course, the institutional re-engineering in Sarawak can be considered thus far to be a conditional success.

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# RE-INVENTING FORESTRY AGENCIES: ESTABLISHMENT AND INSTITUTIONAL RESTRUCTURING OF THE FOREST RESEARCH INSTITUTE MALAYSIA (FRIM) SINCE 1986

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H. Norini<sup>1</sup>

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## INTRODUCTION

The Forest Research Institute Malaysia (FRIM) was established as a statutory body through a restructuring of the Forest Research Institute (FRI) in 1986. The former director-general of FRIM, Datuk Dr Salleh, envisioned the institute as one that would actively generate innovations rather than simply conducting basic research on standard topics such as plant and wood taxonomy. An issue that dominated the FRI's attention at the time was the use of rubberwood as an alternative source of timber. Raising the status of rubberwood from a source of woodchips and fuelwood to a highly sought-after species for the production of wooden furniture exemplified Dr Salleh's corporate vision (personal interview, 2005).

Many interacting factors — both internal and external — can trigger the restructuring or re-invention of an organization or agency (Nair 2006). These include, among others: failure to deliver on time, natural disasters, adaptation to the multiple roles of forestry, expanding information needs, expectations from stakeholders (including the government) and changes in philosophy and donor influence.

A multidisciplinary approach — encompassing economic, social and political domains — sufficiency of funding and production of timely results were central pillars in the establishment of FRIM and its subsequent efforts to carry out effective research and development (Abdul Razak 2003; Abdul Razak *et al.* 2005). Adjustment and incremental changes did not end once FRIM was established; rather, they became a continuous process enabling FRIM to remain on par with other leading worldwide research institutes.

In most of the world, research faces serious challenges with insufficient funding. With dwindling funds from its largest contributor, the Government of Malaysia (GoM), FRIM has been forced to seek funding from other sources, including the private sector. Funding scarcity often forces research to focus more on priority areas than on basic needs and the days when researchers were free to determine their own areas of interest are long gone. FRIM has come a long way to reach its present position as one of the most rapidly developing centres of excellence in tropical forestry research and development. In this context, we may ask: What were the reasons behind the establishment, restructuring and various incremental changes at FRIM? Has FRIM successfully accomplished its restructuring objectives? What mechanisms have FRIM used to overcome funding constraints? What strategies has FRIM adopted to ensure its relevance?

Successful restructuring and incremental change require comprehensive knowledge of the strategies adopted and the types of mechanisms to be used by a particular institution. Successful planning and policy formulation to support transformation can only be carried out with comprehensive baseline information. The findings from this case study will provide valuable feedback for FRIM and other

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research institutions; lessons learned will ensure that management can address future issues and challenges in forestry and remain in step with client needs.

## **THE RESTRUCTURING PROCESSES**

### **Approaches**

In the context of restructuring an organization or an agency, two approaches are commonly employed: The evolutionary or “Big Bang” approach, and the incremental approach (Nair 2006). The former is closely related to the Big Bang theory which attempts to explain how the universe began, specifically, through a short burst of intense activity (BBC 2006). With respect to organizational evolution, the approach aims to make substantial and dramatic change straight away (Nair 2006). In contrast, the incremental method effects change through a sequence of small adjustments.

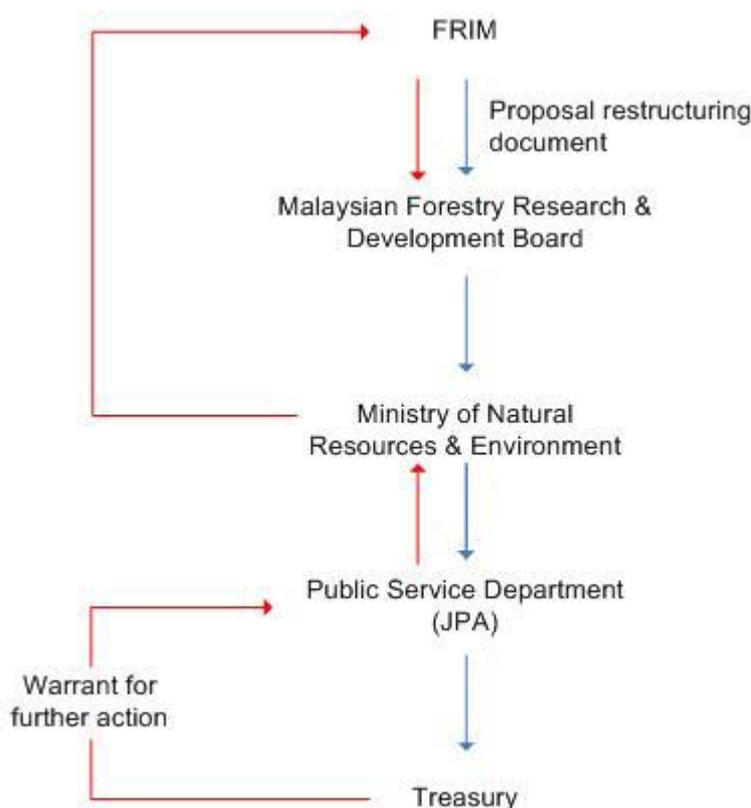
The metamorphosis of the FRI into FRIM followed the Big Bang approach. Even so, it took almost five years to achieve statutory body status because of bureaucratic hurdles. Subsequent change has been more or less incremental over the following 20 years.

Few records are available on the processes that took place in establishing FRIM. The standard legislative procedure was to prepare a bill and then submit it for further action to the Ministry of Primary Industries (currently known as the Ministry of Plantation Industries and Commodities). From the Ministry of Primary Industries, the proposal had to pass through the drafting section of the attorney general’s office to produce the final version, which was subsequently discussed at length and voted on by parliament before becoming an act. According to the second Chairman of the Malaysian Forestry Research and Development Board and Datuk Dr Salleh the erstwhile Director of FRI, it took great patience, persistence and single-minded zeal to make the FRI a statutory body (Kong-Ong 1995). The bill was finally enacted as Act 319, the Malaysia Forestry Research and Development Board (MFRDB) (Malaysia 1985).

Incremental changes that took place after the establishment of FRIM occurred either through directives from the cabinet or as adjustments to fulfill the changing needs of clients. For example, the cabinet instructed FRIM senior management to form the Medicinal Plants Division in January 1995. The formation of such a division was viewed as timely given the increasing importance of herbal and medicinal industries in Malaysia. More major changes took place in 2001 and 2003. Changes in 2001 were related to the formation of FRIM’s Business Centre — a pleasant business environment for clients to jointly develop enterprise opportunities using FRIM’s technologies and services. In 2003 four main divisions under the jurisdiction of the deputy director-general (R&D) were moved while another three divisions were placed under the senior director I, later renamed deputy director-general (operations). Figure 1 shows the steps involved.

### **Legislation, international conventions and agreements, and stakeholders**

The processes involved in the establishment and restructuring of FRIM were influenced most strongly by legislation, international conventions and agreements, and stakeholders. Although legislation might not be viewed as a direct influence, the framework it provides is essential for the process to function. The most crucial federal legislation supporting the move for a statutory body was the National Forest Policy (NFP) 1978 (revised 1992). The main objective of the NFP was to maximize social, economic and environmental benefits for the nation through sustainable forest management (Wong 2001). This objective demanded comprehensive information derived from research and development (R&D).



**Figure 1. Sequence for the restructuring via incremental change of FRIM in 2003**

Incremental changes and restructuring in a research institution are necessary to keep pace with clients' ever-increasing demands for R&D. For instance, before the 1980s R&D demands focused mainly on timber products. As a result, R&D was tailored to meet this demand. Forestry entered a new era in 1992 after UNCED in Rio de Janeiro and the focus of R&D was therefore altered correspondingly. The 1992 conference resulted in the "Forest Principles" or Chapter 11 of Agenda 21: Combating Deforestation. This non-legally binding agreement stimulated FRIM to redirect its thrust in R&D (Norini 2004). Besides federal legislation, the Fourth and Fifth Malaysia Plans (1981–1985 and 1986–1990) also influenced the development of FRIM and its growth thereafter (Anonymous 1981; 1986a). Other government documents that significantly influenced the growth of FRIM were the Industrial Master Plan I (1986–1995) and the Industrial Master Plan II (1996–2005) (Anonymous 1986b; 1996).

### Stakeholders

Little information is available on stakeholder involvement when FRIM was originally established in 1986. Nonetheless, considering that FRIM was meant to serve not only the Forestry Department Peninsular Malaysia but also the growing needs of its clients, stakeholder involvement or participation must have taken place in some form. The only evidence of stakeholder involvement that can be cited, however, is the process Datuk Dr Salleh undertook to gain support for the establishment of FRIM. Consultation would have taken place when he tried to promote the idea to relevant stakeholders.

## **Changes in organizational structure, functions, and values**

With its establishment as a statutory body in 1986, FRIM underwent organizational changes in converting from the structure adopted within the FRI (Figures 2 and 3). For instance, in 1967 there was no clear differentiation between forestry and forest product research. A small unit called “Wood Technology”, which was supposed to be under forest product research, was listed along with units under forestry research. Above all, there was no appointed committee to guide research conducted by the FRI.

The most crucial event was the formation of a Research Advisory Committee (RAC) directly accountable to MFRDB members and the director-general of FRIM (Figure 3). In fact, the formation of the RAC marked a new era in R&D management in FRIM. Within FRIM’s organizational structure, the director-general answers directly to the MFRDB, which has representatives from both the government and the private sector. Because any approval has to go through the MFRDB, the interests of FRIM’s clients are well-represented in decision-making processes. Such involvement by members of the board can also be considered as direct input from stakeholder and client groups.

The FRI was inaugurated in 1918 with the appointment of a forest research officer in Peninsular Malaysia (formerly known as Malaya). The FRI came into existence almost 18 years after the establishment of the Forestry Department Peninsular Malaysia in 1901 (Forestry Department Peninsular Malaysia 2003). Research conducted by the FRI in those days focused largely on testing various species’ characteristics, such as their physical properties, seasoning qualities, woodworking characteristics, durability and amenability to preservative treatment (Federation of Malaya 1948). Little emphasis was placed on research relating to social aspects of forestry such as the role of communities in forestry or the impacts of forest goods and services supply and the demand on them. Under FRIM’s direction, the scope of research expanded into not only forest management but also environmental science, forest products and their utilization, forest economics, forest biotechnology, medicinal plants and other topics. From a functional perspective, FRIM is not only responsible for conducting R&D but it also acts as a referral centre for all issues related to tropical forests. The process of restructuring placed FRIM in a position of even greater relevance than before. A number of restructuring advantages are listed hereunder.

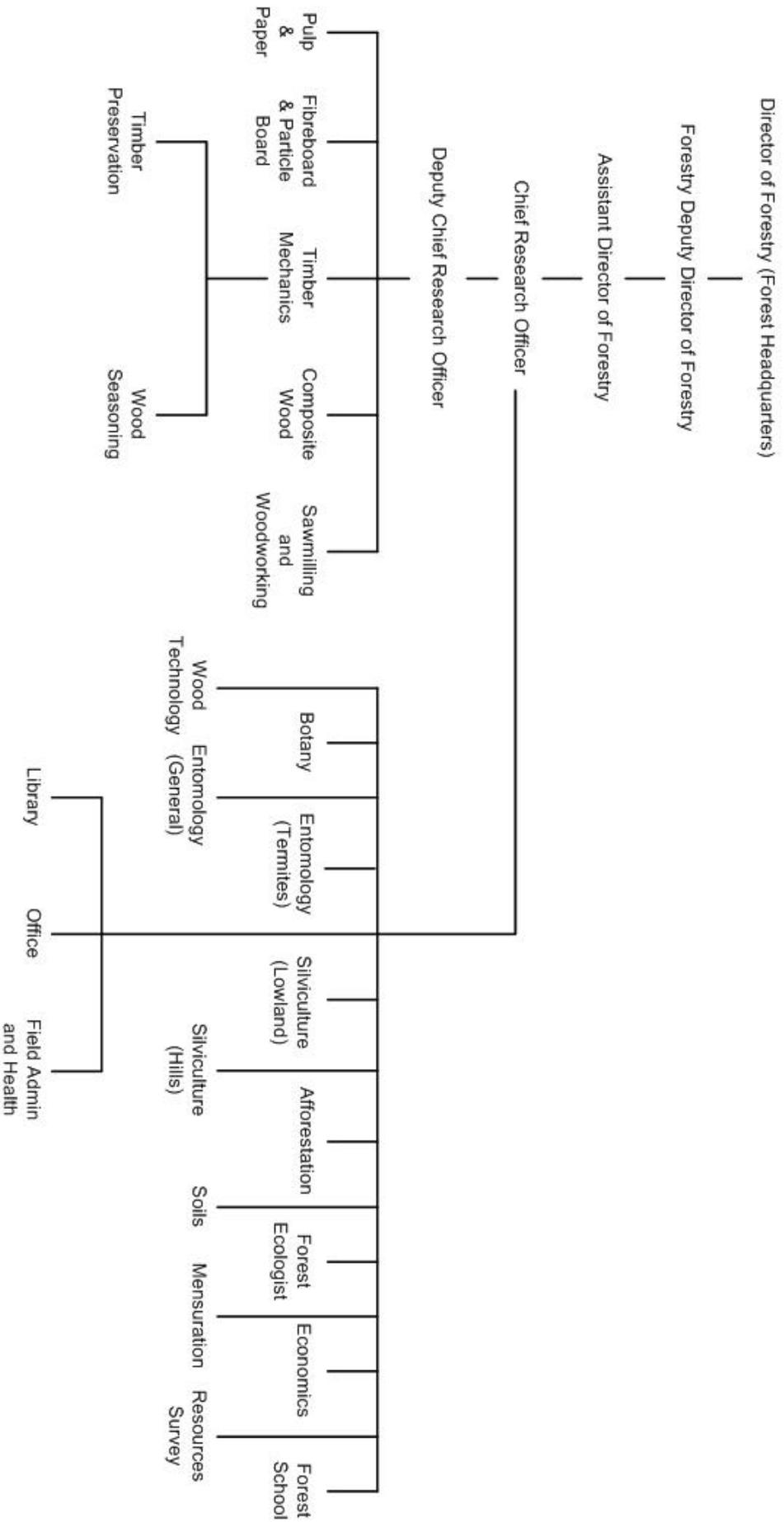
### ***No restriction on R&D***

As a small unit, the FRI’s capacity to engage in areas outside those identified for research by larger units under the Department of Forestry Peninsular Malaysia was rather limited. Restrictions related not only to Forestry Department directives on R&D areas but also to human resources, finances, equipment and infrastructure. Possessing only a small number of professionals with specialized training limited the number and extent of R&D projects that could be conducted. Today, the total staff complement at FRIM exceeds 700, almost twice the original number in FRI. This increase in human resources has enabled FRIM to expand considerably and to conduct research and development in a wide range of areas (FRIM 2006).

### ***More proactive participation and involvement in international meetings***

As a statutory body, FRIM is directly accountable to the Ministry of Natural Resources and Environment (formerly it was under the Ministry of Primary Industries). The FRI had previously answered to the Forestry Department Peninsular Malaysia. The FRI’s organizational structure had, however, prevented all pertinent issues related to forestry from being successfully channeled into the institute’s programming. This limited the FRI’s influence on decision-making at the national

Figure 2. Organization of the Forest Research Institute, Kepong, West Malaysia, on 31 December 1967



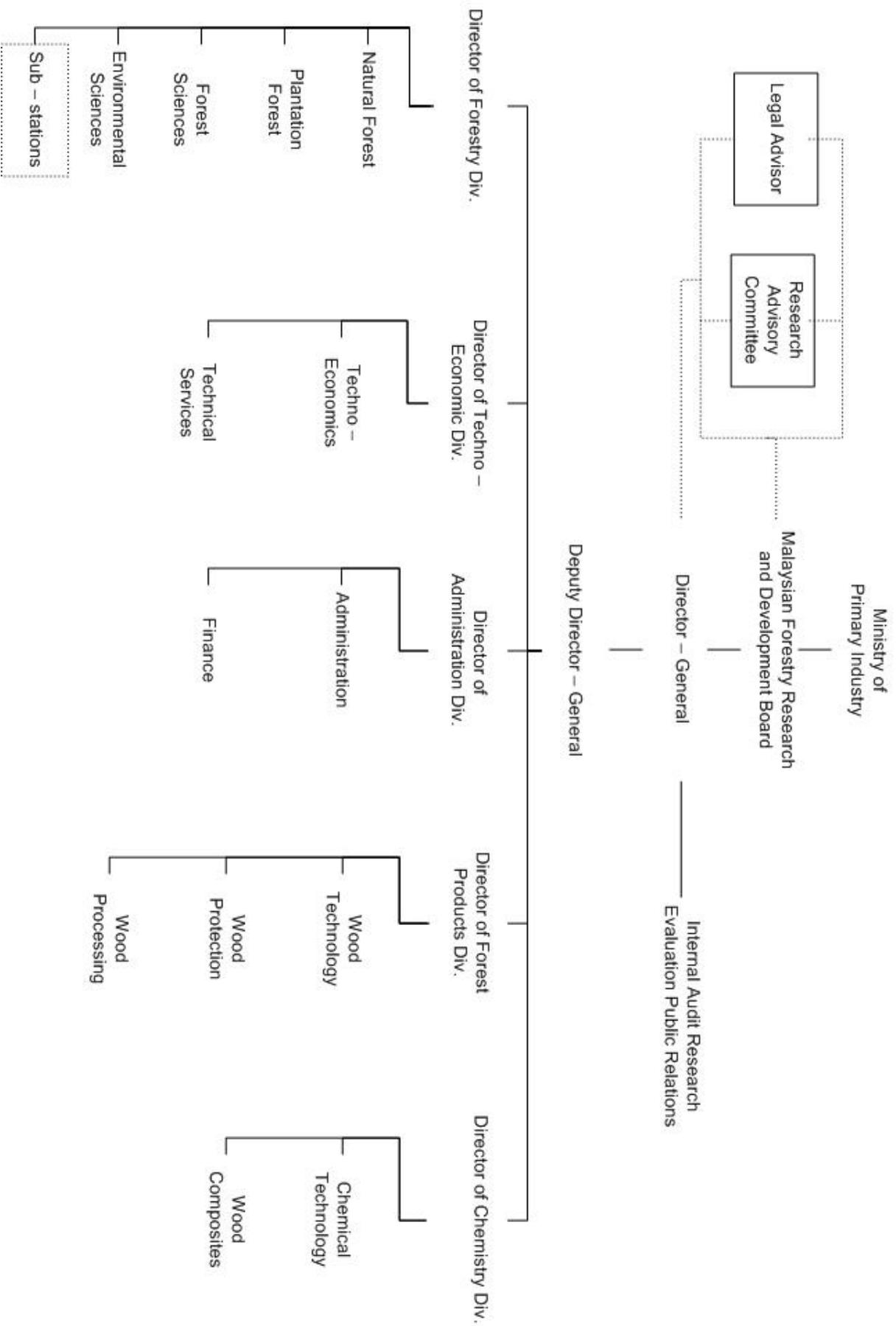


Figure 3. Organizational chart of the Forest Research Institute, Malaysia, Kepong, on 31 December 1986

level. With statutory status, FRIM staff can sit on any committee and this has served as an effective way to communicate and disseminate R&D ideas and concepts. The establishment of FRIM as a statutory body also allowed the institute to participate actively on the international stage.

### ***Decisions made more promptly***

The former FRI had to refer to the Forestry Department Peninsular Malaysia on almost every decision. As a statutory body, although FRIM is answerable to the MFRDB, internal matters such as administration and technical aspects are within the director-general's terms of reference (Malaysia 1985). Day-to-day decisions can thereby be made more promptly, and this has improved efficiency in all areas.

### ***Timely communication with clients***

Before FRIM became a statutory body, requests regarding services had to pass through the Forestry Department. This was more time-consuming than if communication had occurred directly with clients. Direct communication under FRIM not only saves time but also ensures that the correct information reaches the appropriate clients.

### ***More opportunities for technical training/higher learning***

Restricted by the limited number of scholarships available for higher learning, FRIM senior management developed a "split" programme for researchers to pursue M.Sc. or Ph.D. degrees. The programme allows candidates to spend more time in Malaysia conducting research, in addition to fulfilling a one-year residential requirement at their respective universities. This programme has not only been cost effective but has also enabled and encouraged more researchers to pursue higher learning abroad. The changes that were made, especially with regard to advanced education, helped to motivate researchers and increase institutional research capacity. There have also been positive attitudinal changes among research officers with regard to higher learning and the productivity of individual researchers has increased.

## **FACTORS CONTRIBUTING TO THE RESTRUCTURING PROCESS AND ASSESSMENT OF ACHIEVEMENTS TO DATE**

### **Leadership and management philosophies**

The former directors of the FRI were not enthusiastic about expansion and development of the institute. Most focused on fulfilling their job requirements and looked forward to promotions to state directors (personal interview, 2005). Because of the directors' short tenure and lack of interest in developing the institute, the R&D focus remained unchanged. Datuk Dr Salleh realized he could do little for the institute when he reported for duty as director in 1977. He did not receive encouraging feedback on the idea of converting the FRI into a statutory body from Dato' Mohamad Jabil, who was director-general of the Forestry Department, Peninsular Malaysia at that time. Nevertheless, Datuk Dr Salleh's perseverance resulted in the successful transformation of the FRI into FRIM and without such strong leadership, FRIM would likely never have been established. Datuk Dr Salleh and Dato' Abdul Razak, the current director-general, have ensured that FRIM has maintained its reputation as a centre of excellence for tropical forestry and forest product research up to the present day.

## **The Malaysian Agriculture Research Development Institute (MARDI) as a role model**

The acquisition of statutory status for an institute was not an entirely new concept for FRIM. Before FRIM was established, the Rubber Research Institute of Malaysia (RRIM) and MARDI were already statutory bodies under Act 1966 and Act 1969, respectively (Malaysia 1966; 1969), and served as models that FRI could emulate. Arguably, FRIM should have been established much earlier, even as early as when RRIM and MARDI were formed, considering the importance of timber and timber products for the nation's export earnings. A lack of political and sector interest prevented this from happening.

### **Back-up from all levels of staff — creating the critical mass**

It was important for senior management to convince staff of the advantages and disadvantages of the intended mission, in addition to maintaining the transparency of processes involved. The level of support for statutory status was evidenced by the high percentage of staff that were willing to join the MFRDB. Approximately 87 percent of FRI staff decided to stand alongside the board, clearly surpassing the critical mass for establishing and restructuring the FRI.

### **Political support**

Political support was crucial. Fortunately, the prime minister supported the move to make FRIM a statutory body. Thus leadership support at both political and operational levels was central to ensuring the establishment and restructuring of FRIM (personal interview, 2005).

### **Availability of resources**

Qualified staff were essential for FRIM's success. When FRIM was inaugurated in 1986, there were 67 Category A officers (Anonymous 1987) but only five decided to opt for government service. With so many research officers, FRIM senior management had every reason to fight for statutory status. That the researchers could be further trained and were valuable assets in supporting the institute to become a centre of excellence stimulated senior management to pursue its goal. Before the establishment of FRIM, most funding for R&D came from the government but with statutory status, FRIM could apply for Intensification of Research in Priority Areas (IRPA) grants.

### **National and international networking**

The role of international institutions might not have been perceived as directly relevant until FRIM was formed. Nonetheless, the network of organizations with which FRI was involved is believed to have had influence on the achievement of statutory status. In addition, Datuk Dr Salleh's appointment to the board of IUFRO in the early 1980s and appointment as President of the Malayan Nature Society (MNS) in 1978 carried some weight in supporting his mission to make the FRI a statutory body.

## **CHALLENGES FACED**

Obstacles to the establishment of FRIM as a statutory body are elaborated hereunder.

### **Opposition from the Forestry Department**

The greatest challenge faced by FRI senior management was the unwillingness of the former Director-General of the Forestry Department Peninsular Malaysia to support the goal of becoming

a statutory body. As such, all official communications between the Ministry of Primary Industry and the Forestry Department Peninsular Malaysia about FRIM were channeled through the former Deputy Director-General of the Forestry Department who was responsible for R&D (Personal interview, 2005). Dr Francis Ng, the former Deputy Director-General of FRIM confirmed this opposition to the establishment of FRIM as well as associated sabotage attempts in a personal communication to the author. Dr Ng expressed astonishment that the government permitted the (former) Director-General of the Forestry Department to continue in his post until retirement.

### **The newly introduced split programme**

As mentioned earlier, the split programme for Ph.D. candidates was established immediately after the formation of FRIM. Because a programme of this type was to Malaysia, there were challenges encountered in relation to the ability of candidates to complete the programme with the minimal levels of supervision available.

## **OUTCOMES AND INDICATORS OF SUCCESS**

There were three main objectives in establishing FRIM:

- (a) To carry out research for the development of appropriate technology related to the forestry sector in Malaysia;
- (b) to establish FRIM as a Centre of Excellence for Tropical Forestry and Forest Products Research; and
- (c) to develop FRIM as the national centre for technical information on forestry and forest products.

Hindsight has shown that FRIM not only achieved these objectives but surpassed them.

### **Research leading to the development of appropriate technology**

FRIM has made remarkable achievements in the development of appropriate technology for the forestry sector. Accomplishments include assessing the suitability of new clones of *Hevea brasiliensis* as a plantation species for wood production; rubberwood treatment; *in vitro* culture of *Calamus mannan*; and the development of a forest site-mapping manual - all carried out in 1986. Further information on annual development of appropriate technology can be found in FRIM's Annual Reports.

### **Centres of excellence for tropical forestry and forest products research**

Altogether FRIM has successfully established seven centres of excellence:

- the Timber Technology Centre (TTC),
- the Centre for Wood Composite,
- the Herbal Technology Centre, the Centre for Sustainable Forest Management (CSFM),
- the Centre of Forest Plantation Technology,
- the National Botanic Conservation Centre (NBCC) now known as the Tropical Forest Biodiversity Centre (TFBC) and
- the Centre of Excellence for Forest Biotechnology.

FRIM has also provided facilities for testing services. To date, 18 laboratories provide research facilities for a range of clients.

### **FRIM as the national centre for technical information on forestry and forest products**

As a centre for technical information, FRIM has generated several outputs. For instance, FRIM published its first issue of the *Journal of tropical forest science* in September 1988, *FRIM in focus* in 1996 and *Current research information system* (CRIS) in 1996. FRIM also organizes at least 30 major events annually comprising seminars, conferences and workshops at national and international levels. All of these activities are venues for the timely dissemination of R&D findings to clients.

### **THE COSTS OF CHANGE**

For FRIM, the cost of maintaining the status quo is considered higher than that of embracing change. Whereas most organizations or agencies incur considerable social and economic costs from job losses or budget cuts, the establishment of FRIM encouraged economic growth, especially in local forest-based industries, and no positions became were cut; those who did not side with the board were absorbed by the Forestry Department.

In this context, the cost of not changing largely relates to the potential loss of export earnings from the wooden furniture industry in Malaysia. The use of rubberwood as a new source of material enhanced the growing importance of the wooden furniture industry in Malaysian exports, i.e., from a mere RM58.8 million in 1988<sup>2</sup>, to more than RM3.9 billion in 1999 and RM5.4 billion in 2004 (Malaysian Timber Council 2006). There were 93 wooden furniture mills in Peninsular Malaysia in 1988, compared to 1,724 in 2003 (Anonymous 1990; 2003a). The boom in wooden furniture exports also supported the national economy by creating a substantial number of jobs.

### **CHANGES IN R&D ACTIVITIES**

To maintain relevance, senior management at FRIM continuously endeavor to improve research approaches and methods. Thus a number of incremental changes have been made in the organizations structure and functioning since the establishment of FRIM. This continuous and iterative process has enabled the institute to maintain relevance to clients.

#### **Expansion of the R&D programme**

Over the course of time, FRIM's objectives have been expanded to increasingly encompass forestry and forest products research. To date, FRIM has nine new programs:

- Sustainable Management of Natural Forests;
- Silviculture and Management of Forest Plantations;
- Planting Stock Production;
- Biotechnology in Forestry;
- Landscape and Recreation Forestry;
- Conservation of Forest Biodiversity;
- Natural Products Discovery;
- Wood Processing and Utilization Technology; and
- Development and Utilization of Composite Products.

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<sup>2</sup> US\$1.00 = RM3.69 (October 2006).

## Collaborative R&D with national and international institutions

FRIM's researchers have collaborated with a large number of organizations including the International Tropical Timber Organization (ITTO), the Japanese International Cooperation Agency (JICA), the Global Environment Facility (GEF), the Danish International Development Authority (DANIDA), the Food and Agriculture Organization of the United Nations (FAO), the International Plant Genetic Resources Institute (IPGRI), Deutsche Gesellschaft für Zusammenarbeit (GTZ), and other prestigious institutes as well as the private sector in the pursuit of forestry research with an international dimension (Table 1).

**Table 1. Selected research projects conducted by FRIM**

Year	Title of project	Funded by	Remarks
1995	A model for cost analysis to achieve sustainable forest management	ITTO	Compliance with Malaysian Criteria and Indicators (MC&I) increased the overall cost of harvesting by 62.6% (RM2 473.84/ha) and a rise of 69.6% (RM81.49/m <sup>3</sup> ) over conventional practices. This, in addition, imposed an incremental cost on the host country.
2000	Environmental Cooperation for Tropical Forest Restoration and Biodiversity Conservation in S.E. Asia	Korea-AKEKOP	The first phase of the project started in 2002 and ended in 2004. Phase 2 started in 2005. The project has been successfully implemented in almost all ASEAN countries.
2002	Genetic mapping of selected tropical timber species to study genetic variation in the populations for conservation	IPGRI	The project started in 2002 and is still ongoing with funding support from IPGRI. Three species of timber have been intensively studied to date.
2003	Multipurpose Forestry in a Changing Society	DANIDA	Ongoing.
2003	Conservation and Sustainable Use of Tropical Peat Swamp Forest and Associated Wetland Ecosystems	UNDP/GEF	The project started in early 2003 to document and develop conservation plans and sustainable use of peat swamps and associated wetland ecosystems. Duration (2003-2007).
2003	Managing a Drug Discovery Programme (Private)/ FRIM	Life Science Academy	Systematic study has been initiated to document and to discover active compounds from plants.
2003	Drugs from Microbes	NGS (Private) Japan/FRIM	The search for active antibiotics from soil microbes has been initiated.
2004	Conservation of Biological Diversity through Improved Planning Tools	GEF, GoM, ITTO, universities, and Perak Integrated Timber Complex (PITC)	Expected to begin soon.

Source: Abdul Razak *et al.* (2005).

FRIM's 2003 Annual Report revealed that 105 Memoranda of Understanding and Memoranda of Agreement were signed with external agencies during 2003 covering all aspects of R&D, including training for higher learning. Besides obtaining some funding through collaborative research, FRIM also receives regular financial support from the government on an annual basis. Financial records indicate that the contributions from the government were worth US\$5.4 million in 1992, compared to RM10.8 million in 2003 (Anonymous 1993; 2004).

### **Research coordination and management**

Formerly, R&D implementation was supervised by the Research Advisory Committee (RAC). The name of the committee was changed to the Program Advisory Committee (PAC) in 1995. Further assistance is provided at the programme level by the Technical Advisory Panel (TAP).

### **Continuous dialogue with the government and the private sector**

Besides the PAC and TAP, input from working groups and continuous dialogue with clients, both the government and the private sector, also gave direction to FRIM's R&D activities. The formation of PAC and TAP, as well as continuous dialogue with clients, were among the innovative ways in which FRIM sought stakeholder input.

### **Project assessment and monitoring**

To further ensure that research is properly monitored, project monitoring is implemented at both ministry and institute levels. The Research Management Division regularly conducts assessments of project outputs. Progress in project achievements is also closely monitored by the Ministry of Science, Technology, and Innovation (MOSTI).

### **Consultancy and technical services' opportunities**

The establishment of FRIM has opened doors for researchers to engage in consultancy and the provision of technical services. The 60: 40 division of consultancy income between researcher and institute is viewed as an attractive offer and constitutes another innovative approach introduced by FRIM to reward its researchers. In addition to consultancy, FRIM also contracts out technical services to clients. Income collected from such services goes directly into FRIM's account. Official records indicate that income from technical services provided to clients ranged from a low of RM316 000 (US\$84 000) in 1992 to a high of RM2.3 million (over US\$600 000) in 2002 (Anonymous 1993; 2003b).

## **COMMERCIALIZATION OF R&D FINDINGS**

The term *commercialization of R&D findings* is a buzz phrase for research institutions. FRIM, like other research institutions, is promoting the idea and wants all research to have commercial value. The GoM, in its own way, has created a variety of incentives and different types of financial assistance to encourage commercially valuable R&D activities.

## R&D incentives

Examples of incentives for companies carrying out R&D include:

- (a) Pioneer Status (PS) with tax exemption of 100 percent on statutory income for five years, or Investment Tax Allowance (ITA) of 100 percent on qualifying capital expenditures incurred within ten years, which can be offset against 70 percent of statutory income in the year of assessment;
- (b) A second round of PS for another five years, or an ITA for an additional ten years where applicable (Malaysian Industrial Development Authority 2005).

## Financial assistance

Aside from the aforesaid incentives, the government provides additional forms of financial assistance for R&D companies. Examples of these incentives are, *inter alia*:

- the Industry Research and Development Grant Scheme (IGS);
- Intensification of Research in Priority Areas (IRPA);
- the Commercialization of R&D Fund (CRDF); and
- the Cradle Investment Programme (CIP) and Grants for Local Small and Medium Sized Enterprises (SMEs).

Through these different types of financial assistance mechanisms, FRIM has secured funding of some US\$9.7 million, and another US\$110 000 and US\$150 000 under the Division for Research and Graduate Studies (DRGS) and the Demonstrator Application Grant Scheme (DAGS) respectively (Krishnapillay *et al.* 2002).

## Royalties for researchers

Another incentive for researchers concerns royalties on commercialized research. The arrangement to divide consultancy fees 60: 40 between the researcher and the institute, as described above, was not approved by the MFRDB. Therefore FRIM's senior management decided to follow the arrangement set out by the government whereby royalties are divided 50: 50 between the institute and the researcher. Based on sales, a researcher may receive royalties amounting to US\$8 000 per month or US\$96 000 per year. A total of US\$133 000 in royalties may be collected if it is on a one-off basis, as outlined in the government circular on Intellectual Property Rights (IPR) No. 5 (1999).

## FRIM's STRATEGIC PLANS AS GUIDING PRINCIPLES

A strategic plan keeps an organization on track in meeting its objectives. FRIM's Strategic Plan I (SPI) was prepared in line with aspirations re-iterated in all major national long-term plans, such as Vision 2020, the Second Perspective Plan, the National Development Policy and the Sixth Malaysia Plan (1991–1995) (Forest Research Institute Malaysia 1990), even though no direct reference was made to any of the aforementioned plans. For FRIM, contribution to national plans is in the form of R&D activities conducted under the umbrella of science and technology. Because science and technology are regarded as areas that can contribute tremendously to national development, the senior management of FRIM took every opportunity to provide support.

SPI and SPII are and will be in effect from 1991 to 2000 and from 2004 to 2013, respectively (Forest Research Institute Malaysia 1990; 2003). SPI was the first document to guide FRIM in implementing research activities in priority areas, as well as in establishing operational objectives. In preparing SPII, issues such as the environment, biodiversity, sustainable forest management, utilization

of lesser known timbers, furniture design and the new and emerging role of biotechnology in forestry were also taken into account. The seven strategies, together with plans of action, are:

- R&D,
- commercialization of R&D,
- development of centres of excellence,
- ecotourism,
- information technology,
- human resources and
- self-sustenance (Forest Research Institute Malaysia 1990; 2003).

Of the seven strategies, “striving towards 30% self-sustenance by 2008” is identified as a crucial and innovative strategy to cope with ever-increasing demands from clients.

## **ONGOING EVALUATION OF PERFORMANCE VERSUS TARGETS**

To ensure that planned activities are accomplished, ongoing evaluations of performance in relation to targets are conducted under each R&D programme. Appraisal is based on research projects, research impact, technology transfer and income. These four main areas are further divided into subcategories in the context of conducting in-depth evaluations of each R&D programme. For instance, research impacts are disaggregated into processes/products developed, processes/products commercialized, patents submitted, awards received and so forth. The compilation of all R&D programme appraisals helps to determine FRIM’s performance during any one-year period.

## **KEY LESSONS LEARNED**

Key lessons identified in this case study are presented in this section. These lessons might be used by other governmental agencies or organizations interested in pursuing statutory status and striving to meet clients’ needs.

### **Leadership and management philosophies**

Once a statutory body is established, the process does not end. From time to time, incremental change is needed to ensure that clients’ needs continue to be addressed. Because the field of forestry is dynamic, restructuring at some point in an organization’s life is unavoidable. Restructuring is therefore viewed as a necessity, whereas incremental changes are continual and integral processes for any well-functioning organization.

Both initial establishment and subsequent incremental changes, require strong leaders. Strong leadership is required in ensuring continuity in creating and sustaining organizational vision. Leadership alone cannot carry an institution far in achieving goals if it is not accompanied by strong and practical management philosophies. To accommodate new demands, management philosophies must therefore be changed accordingly. In other words, strong leadership and strong management philosophies are mutually supportive and are crucial in ensuring success.

### **Back-up from all levels of staff — the need for a critical mass**

As stressed earlier, support from staff at all levels is essential in any effort to re-invent or restructure a forestry agency. To secure support, the initiator together with senior management must convince staff at all levels of the necessity for the proposed plan. All processes must be transparent and

clearly articulated to staff. Care must always be taken to ensure that staff interests are carefully considered and that they do not suffer as a result of restructuring.

### **Political support**

Achieving status as a statutory body benefited greatly from the support of various political leaders, including the prime minister. Strong support from political leaders in addition to operations' leaders makes any mission much easier to accomplish.

### **Availability of resources**

Availability of well-trained human resources, funding, facilities and other assets is also a prerequisite to the success of a mission. Such resources not only help to justify a mission but also support its accomplishment. Before promoting the idea of establishing a statutory body, senior management must, however, be prepared to face realities that may arise such as staffing or funding constraints.

### **National and international networking**

This particular factor might not initially be considered critical to re-invention or restructuring, but the FRIM experience suggests that strong networking at national and international levels has a direct and important influence. In fact, the role of networking becomes even more prominent when a statutory body is born. Good networking assists in securing funding for research, not to mention the sharing of knowledge and experience in developing an excellent research institution.

### **Availability of a role model**

Having a model to emulate was an advantage for the FRI. In fact, the establishment of MARDI, or even the earlier RRIM, paved the way for FRIM. The establishment of FRIM should arguably have taken place much earlier, considering its multiple national contributions.

### **Challenges faced**

In the context of change, challenges are unavoidable. These may include opposition by individuals or groups who resist change or the processes involved in transitioning from one status to another. Being able to anticipate these challenges is very useful for decision-makers.

### **Costs of change and maintaining the status quo**

Transformation usually involves costs, be they social, economic, or political. In the case of FRIM, no jobs were lost. To handle costs efficiently, assessments to identify and quantify costs should be carried out with regard to the three different aforesaid areas. Quantification of social costs, for instance, will allow for mitigation of adverse impacts on affected persons. Similar assessments should also be carried out in relation to costs associated with not changing the institutional structure.

### **Other relevant factors**

Factors such as legislation and stakeholder participation are equally vital in processes of change. Without legislation in place, gaining support for the establishment of a statutory body is likely to be considerably more difficult. The establishment of FRIM as a statutory body did not, however, necessitate any changes with regard to existing legislation. Incorporating all interests from the beginning of decision-making processes will strengthen support from the organization's own staff as well as external stakeholders.

## **CONCLUSIONS AND RECOMMENDATIONS**

The story does not end with the establishment of a statutory body. In fact, challenges can be expected to emerge when shifts take place among institutional structures. To continually improve on organizational outputs and to stay relevant are almost overwhelming tasks for senior management in any organization. To sustain progress and become more successful, every possibility must be explored. In this context, the following recommendations are made for further consideration.

### **Commercialization of R&D findings**

To date, FRIM has made a major shift from limiting itself to conducting pure research to commercializing its R&D findings. With encouragement from substantial R&D findings to date that have potential for commercialization, such as forest biotechnology and the discovery of natural products, efforts to commercialize other R&D areas need to be stepped up. Thus, FRIM needs to develop a concrete and updated business plan to keep pace with demand.

The commercialization of R&D products usually leads to higher research costs and this is a factor that senior management at FRIM should bear in mind. As such, profit-making should not be the sole objective in commercializing R&D. The overall development of the overall economy should be of equal importance in decisions to commercialize R&D outputs.

### **Further development in R&D**

To stay relevant, there is a need for concurrent development in all aspects of FRIM's R&D, both upstream or downstream. A promising area for current R&D is in relation to non-timber attributes of forests, such as environmental services and carbon sequestration. The Clean Development Mechanism in relation to climate change is a topic that merits attention.

### **Striving for self-sustenance**

There are multiple means for FRIM to generate income. Before efforts are made, however, other relevant issues require attention. For instance, in order to ascertain that income generated from technical services can indeed be doubled or tripled, regular quantitative assessments of all service centres should be carried out. Such assessments improve efficiency and transparency, which ultimately generate more income for FRIM. Quantitative assessments should also cover the seven centres of excellence. In short, all ways to improve self-sustenance must be continuously reviewed.

### **Periodic review of FRIM's strategic plan**

To date, FRIM's R&D activities have been guided by a long-term strategic plan. To ensure that programmes established under each strategy do not become obsolete and continue to meet the demands of clients, it is recommended that the strategic plan be reviewed as, and when, needed.

### **Establish a Federal Forest Research Institute Malaysia (FFRIM)**

At first glance, the creation of FFRIM might seem impossible due to the differences in legislation, acts and other state matters that exist between West and East Malaysia. Nonetheless, more advantages than disadvantages are expected to be generated should the dream of such a federal institute become a reality.

## Other interesting but challenging recommendations

### ***Member of the National Forestry Committee (NFC)***

Its current organizational structure has enabled FRIM to participate actively in the formulation and implementation of forest policies, as compared to the former structure under the Forestry Department. Membership in the NFC would further strengthen FRIM's role as a major think-tank in all matters pertaining to forestry at national and international levels.

### ***Application of Act 319 to all states***

Looking closely at MFRDB Act 319, there is a possibility of extending the application of this act to both Sabah and Sarawak. The formation of FFRIM would be made possible with the acceptance of the act nationwide.

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# RE-INVENTING FORESTRY AGENCIES: ESTABLISHMENT OF THE CHHATTISGARH FOREST DEPARTMENT— PROCESSES AND KEY ISSUES

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R.C. Sharma<sup>1</sup>

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## INTRODUCTION

### A new state is born

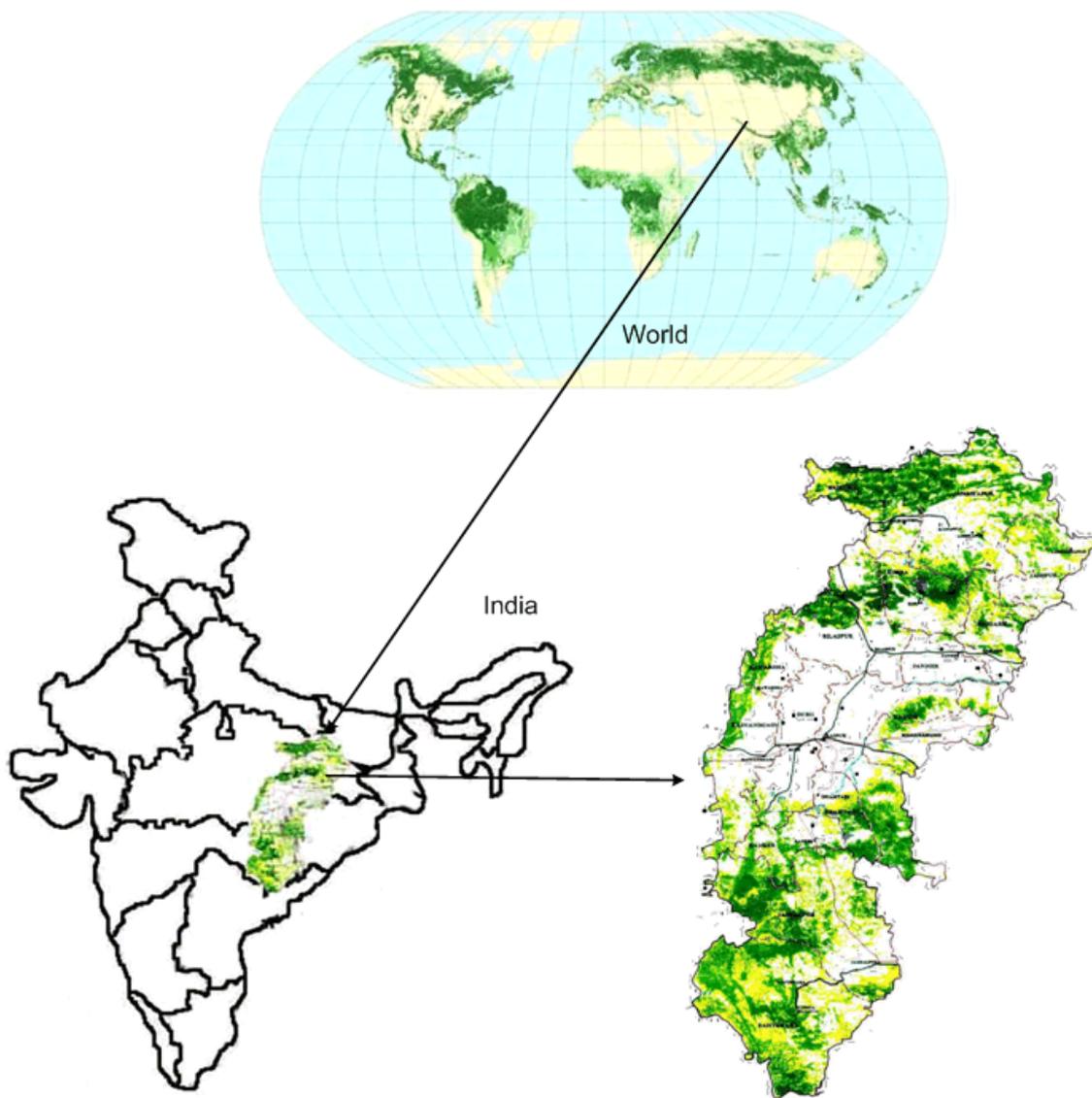
In 1956, the State Re-organisation Commission amalgamated a number of “left over states”, *inter alia*, Malwa, Vindhya Pradesh, Mahakaushal, Chhattisgarh, Bundelkhand and Baghelkhand in central India to form the separate state of Madhya Pradesh. Encompassing 44.3 million hectares, Madhya Pradesh became the largest state in the country. The state of Madhya Pradesh can be viewed as a microcosm of India itself, diverse in regions, languages and cultures, but linked through common aspirations (Singh 2000). Owing to its distinct identity and sense of marginalization, a movement for a separate state, known subsequently as Chhattisgarh began to gain momentum. No single factor was responsible for the creation of Chhattisgarh. A highly complex interplay of factors coupled with the longstanding demand for separate states of Uttaranchal and Jharkhand accelerated the process. The Legislative Assembly passed a resolution for the creation of Chhattisgarh in March 1994. A bill towards this end was passed by parliament and presidential approval of the bill on 25 August 2000 resulted in the Madhya Pradesh Re-organisation Act, 2000. The culmination of this led to the formation of Chhattisgarh on 1 November 2000.

The 16 districts of the former Madhya Pradesh (Raipur, Dhamtari, Mahasamund, Durg, Rajnandgaon, Kawardha, Bilaspur, Janjgir–Champa, Korba, Raigarh, Jashpur, Sarguja, Koriya, Kanker, Bastar and Dantewara) covering 13.5 million hectares, constituted the new state. Chhattisgarh is larger than the Republic of Korea, the Netherlands and Sri Lanka as well as the states of Kerala, Haryana and Punjab.

Chhattisgarh is richly endowed with minerals, forests and freshwater sources. It has forest cover of approximately 44 percent and is home to diverse tropical flora and fauna. With an average annual rainfall of 125 cm, the state produces some of the best rice varieties and it is known as the “Rice Bowl” of the country.

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<sup>1</sup> Indian Forest Service (retired).



**Figure 1. Location of Chhattisgarh State**

With a population of slightly over 20 million, the state has many scheduled tribes (ST) and scheduled castes (SC). In total the SC and ST population for India is 23.6 percent; in Chhattisgarh the combined population of SC and ST is 44.7 percent — 32.4 and 12.3 percent for ST and SC respectively.

### **Forest in Chhattisgarh**

Prior to division, Madhya Pradesh had a total geographical area of 44.3 million hectares, accounting for about 13.5 percent of the land area nationwide. According to state records, 15.5 million hectares were classified as forest, constituting 35 percent of the geographical area.

Table 1 shows the distribution of geographical and forest areas in the newly created state of Chhattisgarh (CG) and the rest of Madhya Pradesh (MP) after division.

**Table 1. Area distribution**

State	Geographical area (mha)	Forest area (mha)	%
Former MP	44.3	15.5	35
Chhattisgarh	13.5	5.97	44
Rest of MP	30.8	9.53	31

mha = million hectares.

There are three forest types in Chhattisgarh — Tropical Moist Deciduous, Tropical Dry Deciduous and Subtropical Broad-leaved Hill Forests (FSI 2000). The forests have been classified as sal (*Shorea robusta*), teak (*Tectona grandis*) and miscellaneous, including bamboo. Some of the best sal forests in the country are found in this state. Apart from timber, these forests provide many non-wood forest products (NWFPs) including tendu (*Diosporous melaxylon*) leaves, sal seeds, mahua (*Madhuca latifolia*) flowers and seeds, amla (*Emblica officinalis*), harra (*Terminalia chebula*), gum, lac (Indian shellac), tamarind and mahul (*Bauhinia* spp.) leaves. Moreover, several important medicinal plants are also found here. These NWFPs are important sources of income and serve as supplementary food sources during periods of famine and food scarcity, which are quite frequent. More than 50 percent of the people living in and around the forests depend on them for their livelihoods. The forests serve as a rich backdrop to the rural economy of the state.

This paper examines the importance and potential of the forest sector in Chhattisgarh. Opportunities are identified and ways to capture and strengthen them are analysed by revisiting the tensions that exist between ecology and livelihood security. In this context, re-inventing forestry agencies for the development of a sustainable, people-centred policy framework will be the core subject of this report.

## ESTABLISHMENT OF THE CHHATTISGARH FOREST DEPARTMENT

### Review of the government institutional structure in MP

The Principal Chief Conservator of Forests (PCCF), the most senior forest officer in the state, heads the Forest Department (FD) of Madhya Pradesh and is the chief state advisor on all forestry matters. He is assisted by the Additional Principle Chief Conservators of Forests (APCCFs) and Chief Conservators of Forests (CCFs) who supervise different branches at headquarters.

In India, forestry is on the Concurrent List of the Constitution, which empowers both the Government of India (GOI) as well as the states to assume responsibility for forestry matters. In line with the All India Services Act, the GOI, through the Union Public Service Commission (UPSC) selects members of the Indian Forest Service (IFS) who are collectively called a “batch”. The GOI assigns IFS officers to states depending upon vacancy availability. Before separation of Chhattisgarh, the IFS cadre strength of MP was 385. This consisted of 270 direct recruitment (DR) posts and 115 posts to be filled by promotion.

Before the formation of Chhattisgarh, Mr R.D. Sharma, IFS was PCCF of the undivided state of MP. Under his overall control and superintendence were 14 branches housed at headquarters whose roles included the supervision of state-level functions.

In India’s institutional forestry structures, the most important administrative unit is the *forest division*, headed by a Divisional Forest Officer (DFO). A forest division is then divided into six or seven *forest ranges* and for effective control and supervision, two to three ranges are combined to form a

subdivision. A forest range is further divided into subranges and beats. A *forest beat*, which is the lowest administrative unit, may comprise 10 to 15 km<sup>2</sup> of forest area. A range officer supervises a forest range while a subrange is headed by a forest deputy ranger or a forester. A forest guard, who is the most junior operative in the field, assumes responsibility for the forest beat.

Five to six forest divisions constitute a *forest circle* or *conservancy*, which is manned by a Conservator of Forests, who is a senior member of the IFS. The conservator is the highest field operative in the Forest Department. Senior officers at APCCF and CCF levels who are stationed at forest headquarters also assume responsibility for a circle *vis-à-vis* coordination and guiding field staff.

## TIMELINE AND KEY MILESTONES

### Infrastructure

Immediately after enactment of the Madhya Pradesh Re-organisation Act in August 2000, the state government appointed a committee to ensure that all the necessary arrangements pertaining to the restructuring of the state were complete by 31 October 2000 so the new government would be in place on that day. Similar committees headed by senior officers were created at the department level. The Forest Department established a committee headed by an APCCF; this officer visited the proposed capital city of Raipur in Chhattisgarh to take stock of existing infrastructure for the establishment of a state forestry headquarters. The immediate requirement was identification of a suitable building to house the office. There was already considerable pressure on existing government buildings to accommodate the state secretariat and other department heads and it was not possible to occupy a public works department (PWD) building, so arrangements needed to be made to re-allocate existing offices. Another stop-gap measure was the repair and improvement of existing buildings and subsequent construction of new ones.

Storehouses, machinery, tools, furniture and other equipment were inventoried in detail and allocated by headquarters. Field vehicles were distributed on the basis of existing location.

### Staff

Forest area and the number of existing forest management units formed the basis for determining required IFS cadre strength. The GOI fixed Chhattisgarh's IFS staffing at 115. The GOI asked all members to express preferences for state assignment. It was decided that those officers who were residents of Chhattisgarh would be allocated to their home state. In order to avoid undue hardship, it was also decided that those who were retiring within two years would be permitted to remain in MP if so desired. On this basis the Ministry of Environment and Forests allocated 110 IFS officers to Chhattisgarh. In the meantime, officers in charge of different branches of the existing forest headquarters prepared background information on existing and intended functions, responsibilities, relevant acts, rules, regulations and guidelines. Apropos to redistribution of SFS members, it was decided that those officers who opted to work in Chhattisgarh would remain there and any shortfall would be made up by allocating officials whose home district was in Chhattisgarh. Out of 457 SFS officials working in the undivided state, 135 were appointed to the new state.

The new department thus had a cadre strength of 115 IFS, 135 SFS, 484 forest rangers, 541 deputy rangers, 1 441 foresters and 5 556 forest guards. The composition of field formations after division is given in Table 2.

**Table 2. Field formations in MP and Chhattisgarh**

	Total	Chhattisgarh	Madhya Pradesh
Territorial Circle	22	6	16
Territorial Divisions	86	26	60
Production Divisions	28	6	22
Social Forestry Divisions	25	7	18
Working Plan Divisions	22	7	15
Tiger Reserve Divisions	5	1	4
National Park Divisions	6	1	5
Wildlife Divisions	2	1	1
Forest Ranger College	1	-	1
Forest Schools	4	1	3

### Creation of the department

His Excellency the President of India appointed Shri Dinesh Nandan Sahaya as the first Governor of Chhattisgarh. Shri Sahaya took office on 1 November 2000. The State Government of Chhattisgarh appointed Dr R.C. Sharma, IFS, as Head of the Forest Department (Principal Chief Conservator of Forests) who likewise took charge on 1 November 2000.

### Institutional structure

At the divisional level, it became apparent that there were coordination problems and human resources were not being optimally utilized. The workloads in some forest divisions were quite heavy and there was a shortage of field operatives.

At headquarters the problem was more acute. In undivided MP, there were 14 branches headed by the APCCF/CCF. However, Chhattisgarh was assigned only five officers at the APCCF/CCF level and there was no immediate possibility of increasing this number. Hence the workload at headquarters was disaggregated into the following five branches:

1. Administration (both gazetted and non-gazetted), vigilance and coordination.
2. Social forestry, research and extension, working plan and land management.
3. Wildlife, protection and the World Food Programme.
4. Development and planning.
5. Production, budget and accounts.

There were six territorial circles supervising various forest divisions in the field. Initially there were 26 forest divisions and a 27<sup>th</sup> one, Khairagarh Division, was later established. In order for the divisional office to be more responsive and people-friendly, it was decided to adopt a “single window” concept for forest administration by merging the functions of production, social forestry and wildlife divisions. This would result in increased workloads, so geographical boundaries were redrawn. To make the exercise participatory, a series of discussions was held with senior officers at headquarters as well as with field operatives and representatives from the general public. Thus four social forestry divisions (Rajnandgaon, Durg, Kanker and Ambikapur), seven production divisions (Mahanadi, Bhanupratap Pur, Kondagaon, Raigarh, Dantewarah, Awapalli and Bijapur) and one wildlife division at Raipur were abolished and their activities merged with corresponding territorial divisions. In the re-organized structure, efforts were made to ensure that the jurisdiction of a territorial division would be either consistent with the revenue district or form part of one district only, for better coordination with district administration. This led to the creation of six more territorial

divisions (Marwahi, Katghora, Dharmjaygarh, Udanti, South Kondagaon and West Bhanupratappur). The administrative structure in the field before and after re-organization is shown in Table 3.

**Table 3. Field formation after re-organization in Chhattisgarh**

Name of unit	No. on 1 Nov. 2000	No. after re-organization
Territorial Circle (conservancy)	6	6
Working Plan circle	1	1
Field Director, Project Tiger	1	1
Territorial Divisions	26	33
Production Divisions	4	0
Social Forestry Divisions	7	3
Soil Conservation Division	1	0
Working Plan Division	7 (including MIS Division )	7 (including MIS Division )
National Parks	3	3
Wildlife Division	1	0
Forester/forest guard school	1	1
Wildlife sanctuaries	10	11
Forest guard school	2	2

A major problem in Chhattisgarh was the lack of established work plans. The usual time frame for completion of a work plan is three years. However for various reasons this period elapsed and many work plans due for revision were not addressed on time. As the Supreme Court demands approved work plans, no felling permission could be granted. Timely revision of work plans became a high priority for participatory management as without it, villagers were not able to obtain their share of harvested forest produce. To overcome this dilemma, three social forestry division posts were suspended and redeployed to create three more work plan divisions.

### Management structure and style

Management structure and style in Chhattisgarh have responded to new public expectations and the directions provided by the National Forest Policy (1988) and State Forest Policy (2001).

The State Forest Policy envisaged that Joint Forest Management (JFM) practices should form the basis of forest management in the state. Forest Protection Committees (FPCs) were created in villages situated within a 5-kilometre radius of a dense forest area. Village Forest Committees (VFCs) were established in villages, excluding those with FPCs, within a 5-kilometre radius of a degraded forest area. Local Forest Department staff convened village meetings to introduce the JFM concept and, if villagers voluntarily decided to participate in forest protection and management, then a formal meeting with the help of local public representatives was organized. Necessary provisions were made for participation by landless people, marginal farmers and women in all JFM bodies, such as VFCs and FPCs.

In the context of participatory forest management, 6 994 JFM committees operate over 2.8 million hectares of forest area. This includes 3 591 FPCs and 3 403 VFCs in healthy and degraded forest areas respectively. Additionally, there are 938 primary cooperatives of minor forest produce gatherers who are engaged in collection and marketing of NWFPs, as well as a Forest Development Authority (FDA) in every forest division. This well-knit and widely spread network of forest committees provides a sound base for launching other development schemes.

International interest in sustainable forest management (SFM) demanded a management paradigm that ensures forest sustainability. Since the 1990s, many international and national actors have been labouring to formulate Criteria and Indicators (C&I) for SFM. Despite extensive scientific, social, economic and political debate, there continue to be different objectives and no consensus has been achieved on what constitutes SFM. At our present level of understanding, there are no agreed upon measures of sustainable harvesting levels, rejuvenating power and consequent resource implications. Markets for many of the societal and environmental services that forests provide are still immature. In India, uncertain tenure and resource access encourages overharvesting. Generally, forest revenues are credited to national or state exchequers and are not ploughed back into resource development or shared with local communities; with the consequence that locals perceive forests to be of little direct benefit to them.

Therefore, while seeking to maintain forest health and vitality, Chhattisgarh has accorded priority to evolving a package of proactive and people-friendly forest management practices to contribute simultaneously to SFM and people's well-being.

### **Important challenges**

In the new set-up, managing forests for enhanced community well-being (including poverty reduction) was an important aspect in gaining political visibility and support. To address the issue, innovative programmes — people's protected area (PPA), public-private partnership (PPP) and equitable benefit sharing arrangements (BSA) — converged with development activities outside the classical forestry domain. Although staff had excellent training and professional experience in executing silviculture and other technical forestry activities, the shift in management focus called for an altogether different set of skills. Therefore a key challenge facing the department was to build staff capacity and competency to address the new focus areas: participatory forestry; collaborative partnership (including biopartnership); interfacing with NGOs, the private sector and civil society; conflict analysis and management, negotiation and mediation; and gender sensitivity. This involved the twin challenge of developing improved tools, methods and human capacity as well as building and upgrading the institutional capacity of training institutes.

In a new state the expectations of the general public are usually very high; however the morale of the senior forest officers transferred from Bhopal to Raipur headquarters was very low. Many of the IFS officers who were supposed to occupy senior positions at forest headquarters were not happy with the cadre bifurcation formula followed by the GOI. Some of them wanted the GOI to revise the cadre allotment scheme and many requested cadre changes on various grounds. Senior officers of the other two All India Services, i.e. the Indian Administrative Service (IAS) and the Indian Police Service (IPS) were also dissatisfied with the norms followed by the GOI. Thus senior members of all three of the All India Services allocated to Chhattisgarh united to approach administrative and legal authorities.

Similarly departmental staff were distressed, particularly women, about having to leave their family members, including small children, in Bhopal. Raipur had not been developed as a capital town and amenities were scarce. The mass exodus of government employees from Bhopal to Raipur further compounded the problem. There were too many potential tenants for a limited supply of housing and finding accommodation became difficult. Therefore providing "shelter" to the staff who were shifted from Bhopal was a sensitive challenge. The local conservator of forests identified a few houses where headquarters' employees could be lodged in groups temporarily. This arrangement helped to allay the bruised feelings of the staff, but the dissatisfaction continued. After receiving petitions from employee unions and individuals, the MP government decided to re-assign female employees to Bhopal, and considered transferring cases on a mutual consent basis. Although this was a sympathetic gesture, it contributed to a general sense of instability.

## ADDRESSING THE SPECIFIC SITUATION IN THE STATE

### Setting the ball rolling

In an address to the people of Chhattisgarh, the Chief Minister stated:

*We are in a hurry to catch up with the developed states of India. Our endeavours would be meaningful only if the most backward areas within the state — in particular those inhabited by the tribes, the dalits, and other backward communities are paid adequate attention and the rays of development sweep them steadily and purposively. This in short would be an important element of development strategy.*

*The forest cover in Chhattisgarh helps sustain a substantial population. Forest-based industries would be encouraged in an environmental manner; people's participation would be a necessary element of this approach. The role of the Forest Department would be that of a facilitator and motivator.*

*We should try to encourage industries based on our raw materials and produce, right here in Chhattisgarh, so that we add value to our efforts and also employ our population gainfully to alleviate poverty.*

This laid the ground rules for crafting of the Forest Department's agenda.

### Madhya Pradesh Forest Department and the new focus of the Chhattisgarh Forest Department

Undivided, MP had the largest forest area in the country — more than 20 percent coverage — varying from scrub to multi-tier dense forests. The Madhya Pradesh Forest Department had pioneered or embarked upon every facet of forest administration; be it abolition of the contractor system in forest harvesting or endowing ownership of minor forest products to village-level organizations. It was also one of the first states in the country to adopt JFM. However despite several bold initiatives, many issues and grey areas remained and institutional structures needed strengthening. Realising that the Chhattisgarh Forest Department was a replication of the Madhya Pradesh Forest Department and that relations and ethos could not be undone overnight, it became imperative to develop new strategies to meet public expectations.

These issues included that:

1. Although JFM had led to better forest protection and regeneration, its sustainability was fragile. Outsiders perceived it to be a departmental programme for protecting the forest and questioned the power balance in partnership.
2. JFM resolutions were not supported by legal and financial legislation.
3. Entitlement regimes and appropriate benefit sharing among those who participated in JFM were not developed and made operational.
4. The World Bank Forestry Project helped to strengthen JFM. Many donor-driven JFM committees were constituted but with the project approaching termination and with no withdrawal strategy, many of them became dormant.
5. Minor forest produce or NWFPs, which are of major importance to forest dwellers, did not figure in the World Bank project, thus they suffered relegation in forest management.
6. Cooperative structure for NWFP management needed strengthening.
7. The role of medicinal plants for primary rural health cover (which is weak in forest areas) need to be accounted for.

8. There was a need for convergence of intersectoral development schemes and linking of forestry with poverty reduction strategies.
9. Although action was initiated in the 1980s to involve the private sector this had not been brought to any logical conclusion.
10. Apart from territorial divisions, multiple activities in the field led to poor coordination: A single window system was needed.
11. Biodiversity conservation through a protected area network with a sharp focus on faunal biodiversity had an exclusionary approach that needed to be rectified.

In short, the aim of the Chhattisgarh Forest Department was to ensure that JFM moved forward. This required a change in the thinking of the forestry administration, taking into account sociocultural norms, beliefs and systems born of history, culture and traditions.

### **Forest–rural poverty nexus**

At the outset, it was considered appropriate to examine the dynamics of people's impacts on forests and vice versa. It was hoped that the results of such an investigation would help to develop changes in policies, legislation and institutional arrangements for an effective forestry strategy that encompassed rural poverty. In the primary sector, people harvest natural resources to satisfy their basic needs through the use of traditional techniques and with products either consumed by producers or supplied to the market. But with anthropogenic pressures on natural resources that exceed carrying capacity, the problem has become acute in forest fringe areas where there is neither enough arable land nor sufficient employment opportunities. Many people practise subsistence agriculture with very low productivity; and in order to meet their growing foodgrain requirements they attempt more extensive cultivation including shifting cultivation or encroachment upon forest areas. Degradation of forests resulting from exploitation for fuelwood and illicit felling of trees is another indication of this problem. In this situation, steep slopes and areas unfit for cultivation of annual crops are brought under the plough, often with adverse environmental impacts. The water balance is adversely affected as well by disruptions in vegetation. Distortion of the hydrological cycle and consequent decreases in productivity contribute further to the cycle of poverty. Poverty and illiteracy coupled with malnutrition can be indirectly linked to population growth, accentuating resource degradation still further. Thus poverty in these areas becomes both the cause and the effect of natural resource degradation (Sharma 1999). This is exemplified in much of the country's forest areas, and no less so in Chhattisgarh.

Beyond strict economic measures, poverty is also equated with a deficit of particular skills, assets (stores, resources, claims and access) and activities required for generating adequate livelihoods. Livelihood security thus involves safety nets for ensuring people's physiological and psychological basic needs are met. Forests are often an essential element of these safety nets where poverty is prevalent.

### **Developing a new paradigm: people's protected areas**

NWFPs are recognized as providing important support nets, and in April 1999 the GOI with UNDP support initiated the preparation of an action programme for NWFP-related sustainable forest development, rural income generation and biodiversity conservation, covering Madhya Pradesh and Gujrat states (GOI 1999a). As a part of the project, the Managing Director of the Minor Forest Products Federation was asked to address "NTFP<sup>2</sup> — Resource issues and constraints for their conservation and management". In light of his previous experience and data collected from fieldwork,

<sup>2</sup> Non-timber forest product (synonymous with NWFP).

he reported that for biodiversity conservation in India currently, protected areas have been established focusing largely on faunal aspects, excluding human activity. His report recommended the establishment of protected areas for floral diversity but with a difference — that there should be a human conservation model to provide a sustainable flow of goods and services to meet the needs of the communities involved. This formed the starting point for the development of the People's Protected Areas (PPA).

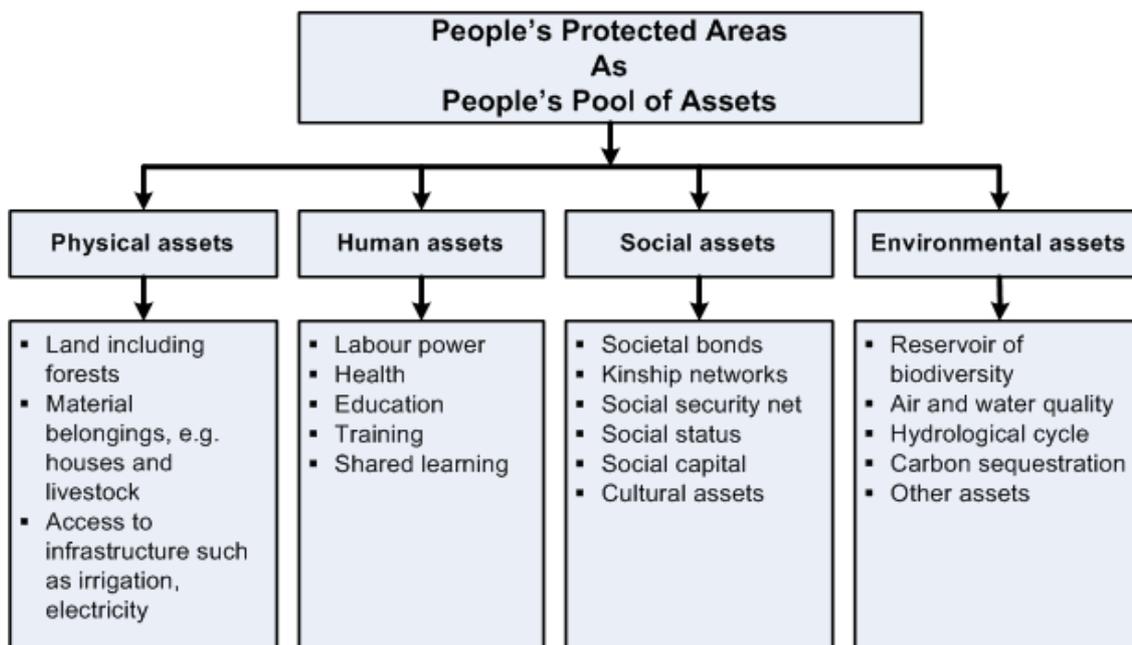
Preparatory work was started by the Madhya Pradesh MFP Federation in a forest in Sehore Forest Division. Villagers indicated that this area had once provided many NWFPs but due to uncontrolled exploitation, the resource base had degenerated significantly. When asked why they had not controlled such activities their reply was “This is an open green gold treasure. We have neither any authority to check nor any share in the produce so why should we care?” The message was loud and clear — any attempt at conservation and protection of the resource must clarify the rights, responsibilities and profit-sharing of the people involved.

In India, goods and services from the forests constitute a critical lifeline for poor forest dwellers by providing sustenance and livelihoods. Forests have been sources of invaluable medicinal plants because their preventive and curative properties became known and they were first used to address human health. However, during discussions it became evident that forest resources *per se* cannot make a significant dent in poverty alleviation. Hence a new search for additional components of PPA was needed.

Land and water are two of the most important natural endowments. With a judicious mix of interventions such as the development of irrigation facilities, the application of improved and modern agricultural practices and the creation of other income generation activities based on sustainable use of locally available natural resources, the possibilities for developing livelihoods can be enhanced. Activities involving NWFP collection, rope-making, honey collection, and nurseries or mushroom cultivation, shop-keeping and grocery stores provide a range of options (Sharma 1997).

The single most important asset of the poor is their labour potential. It follows that economic growth can reach the poor if it increases the demand for their labour, increases the demand for the products of their labour, or provides complementary inputs with which to make their labour more productive (Fields 1993). These human assets can be enhanced through education, training, shared learning and other capacity building exercises.

Thus the PPA capital base extended beyond environmental assets to include physical, human and social assets as well. Apart from macroeconomic problems, restricted or insecure access of the poor to environmental assets also fundamentally entraps them, so developing an appropriate entitlement regime became the prerequisite of the framework.



**Figure 2. PPA formulation and capital base**

### Development of institutional rationale

The primary objective of the Forest Department is to address the changing needs of forest-dependent communities by ensuring better synergies between people and forests through effective approaches that encompass the social, environmental and economic elements of forest management. In order to address these elements in Chhattisgarh it was imperative to harness the human side of the equation by adopting local technologies and traditional knowledge and mainstreaming them within broader development programmes. Rather than transplanting methods and technology without question, the thrust was on the improvement of existing local technology, including the use of information technology. Therefore, instead of focusing on ecology and forestry *per se*, the new assignment of the department was to enhance human livelihoods by employing the “E” strategy, i.e. “empowering”, “educating”, “enlisting” (their support) and introducing “equity”. Similarly, apropos resources, “enhancing and enriching” and “efficient” and “economic” were approached as windows of opportunity.

This approach is illustrated by the green triangle in Figure 3 (Sharma 1998).



**Figure 3. The local (green) triangle**

During the consultative process it became clear that forests in Chhattisgarh have significant potential to contribute to poverty reduction, food security and rural health by generating income, supplementing on- and off-farm income and raising the bargaining power of the poor via better access to natural capital assets. Accordingly the department crafted an institutional vision and core values.

*Vision*

To tap the vast array of forest resources on a sustainable basis in order to enhance local well-being by converting open access resources (OARs) into community-controlled, prioritized, protected and managed resources.

*Values*

- Highest respect and concern for local people and their traditional knowledge.
- Caring and sharing.
- Capacity building at all levels.
- Upgrading local technologies including the use of information technology.

Although these statements are not formally approved by the state government, they guide and direct the basic philosophy of the department. They have been incorporated, in one form or another, in state forest policy.

In order to convert these values into an implementable programme, the following issues were prioritized for inclusion within the work plan:

- Community-based participatory mapping and management
- Appropriate resource assessment methodologies.
- *In situ/ex situ* conservation and propagation.
- Forests and freshwater.
- Non-destructive harvesting.
- Grading, processing, value addition, certification, ecolabelling and marketing.
- Biodiversity conservation, prospecting and partnership
- Ecotourism.
- Carbon sequestration.
- Entrepreneur development.
- Public–private partnership (PPP).
- Gender sensitivity.
- Equitable benefit-sharing arrangements (BSA).
- Improved food security and health cover.
- Enhancement of social capital.
- Monitoring evaluation and people’s indicators for SFM.
- Enabling policy and legal frameworks.

### **Towards a new forest policy**

In order to address the above issues, it was strongly felt that the state should have its own forest policy. Although a National Forest Policy was promulgated in 1988 by the GOI, it was deemed necessary for the state to evolve an independent forest conservation strategy that addressed the state’s unique characteristics and challenges.

A draft policy paper was prepared by the department, which was discussed at a workshop organized by the Department of Culture in April 2001. This workshop was attended by anthropologists, archeologists, sociologists, NGOs, voluntary organizations and representatives from the media, besides government officials from different departments. In the first week of July 2001, members of forest user groups, presidents of various JFM committees, representatives from tribal, women’s and other village-level organizations were invited to a three-day workshop organized by the Forest Department, which tackled various issues relating to forests, including the aspirations and expectations of Chhattisgarh citizens. The meeting provided useful inputs for the draft policy. Finally in October 2001, a revised draft was submitted to the state cabinet for consideration. After cabinet analysis and incorporation of members’ suggestions, the forest policy was finalized. The state government endorsed the Chhattisgarh State Forest Policy, 2001 on 22 October 2001 (Government of Chhattisgarh 2001a).

Important developments in the State Policy are explained in Table 4.

**Table 4. Forest policy — objectives**

National Forest Policy, 1988	Chhattisgarh Forest Policy, 2001
Maintenance of environmental stability through preservation and where necessary, restoration of the ecological balance adversely disturbed by serious depletion of forests nationwide.	Unlocking the vast array of forest resources on a sustainable basis for the enhanced well-being of local people by converting OARs into community-controlled, prioritized, protected and managed resources.
	A shift in focus from major to minor forest produce, from crown to multi-tier forestry and from flagship species to smaller denizens of the forests.
	Maintenance of environmental stability through preservation and, where necessary, restoration of ecological balance adversely disturbed by serious depletion of forests in the state.
Conserving the natural heritage of the country by preserving remaining natural forests with their vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country.	Conserving the biocultural heritage of the state through preservation of biologically rich natural forests essential to the state's tribal castes.
Forest policy - essentials/principles	
Existing forests and forest lands should be fully protected and their productivity improved.	Existing forests and forest lands should be fully protected and their productivity increased. Efficient timber harvesting and utilization need to be promoted.
For the conservation of biological diversity, the network of national parks, sanctuaries, biosphere reserves and other protected areas should be strengthened and extended.	The network of national parks, sanctuaries, biosphere reserves and other protected areas should be strengthened and extended for the conservation of biocultural diversity in the state.
	Targeting the broad range of goods and services in terms of physical, human, social, cultural and environmental assets in conjunction with appropriate entitlement regimes, PPA envisages a proactive and people-friendly framework to ensure long-term protection and maintenance of biological diversity; at the same time providing a sustainable flow of natural products and services to meet local community needs. Therefore, a network of PPAs should be established as a livelihood asset for poor people

Other specific provisions to the National Forest Policy, necessary for translating the vision of the new department, are summarized below:

- No forest should be worked without a duly approved working/management plan.
- Periodic measurement of the effects of forest management.
- JFM practices should form the basis of forest management in the state.
- Community-based conservation and utilization of medicinal and herbal plants.
- Establishment of a Forest Crime Bureau with adequate legal and statistical support.
- Promotion of ecotourism to benefit rural communities.
- Addressing, via forest research, areas like JFM; women's and tribal empowerment; the role of forestry in poverty alleviation; social and livelihood analysis of forest-dependent communities; forest policy; cultivation and marketing of medicinal plants.
- Capacity building of local people, especially the members of VFCs and FPCs.
- Application of information technology and electronic governance.

The state not only formulated the policy, but also has started implementation and monitoring.

### **Creating an enabling environment: benefit-sharing arrangements**

The National Forest Policy (1988), the State Forest Policy (2001), the JFM Resolutions issued by the GOI and directives, as well as the Supreme Court of India's decisions, provide the basic policy framework for forest administration. The legal framework flows from the Indian Forest Act (1927), the Wildlife (Protection) Act (1972), the Forest (Conservation) Act (1980) and the Provisions of the Panchayats (Extension to the Scheduled Areas) (1996).

In order to inculcate the philosophy of "caring and sharing" in community-based conservation and development of forests, the state developed mechanisms to ensure communities received their share of forest produce. Tangible forest products can be grouped under two headings — timber and non-timber forest produce — and the state JFM resolutions of 2001 and 2002 make specific provisions for the sharing of these benefits.

In this context, when a committee has performed satisfactory JFM work, it is entitled to retain 100 percent of the forest produce obtained periodically from mechanical thinning and cleaning of rehabilitated areas and the cleaning of bamboo clumps in degraded forests. FPCs or VFCs that fell timber/bamboo receive 15 and 30 percent respectively; they can keep the produce or exchange it for cash value. In August 2003, the state enacted further provisions for the sharing of forest produce, which were eventually used in the development of a Public Private Partnership (PPP) model to involve the private sector in the rehabilitation of degraded forests.

The department helps VFCs to prepare microplans as well as with their execution and monitoring. The committee receives training on maintaining the accounts and the department helps with account auditing. It also ensures that forest produce and other benefits are distributed among the members and that weaker actors, especially women, participate in decision-making and distribution of benefits.

### **Methods, system and approaches**

Recognizing the importance of public involvement, the department has tried to engage as many stakeholders as possible in its approaches. The primary stakeholders (the FPCs and VFCs) are involved in the preparation of microplans with the help of the Forest Department. The village and forest areas allocated to each committee are included in this plan, which also contains forest management and village resource development programmes. Forestry operations have to be in alignment with the principles laid down for forest and wildlife management. To ensure a smooth working relationship between the Forest Department and the JFM committees — and also to imbue

a sense of empowerment and accountability — an MOU was signed between the Forest Department and the JFM committees outlining short- and long-term roles, responsibilities and implementation of the work programme. The MOU reflects the consumption and livelihood needs of forest-dependent communities, plans for rehabilitation of vegetation, and clearly spells out roles, responsibilities and powers. The MOU defines the procedures for transparent accounting of all types of forest produce (seasonal, annual and periodic) accrued from the forests according to the work plan. It includes financial accountability and mechanisms for distribution of benefits including the re-investment of revenues into NWFP management programmes.

An important task for the department is the training of field staff and JFM committees to cope with the new roles and evolving challenges. Initially, the human and material resources of the forester and forest guard schools was reviewed with a view to enhancing capacity and skills, and upgrading facilities. Curricula were revised to better reflect the department's philosophy, and the key issues and roles the new department was expected to undertake. DFOs were directed to ensure that field staff working under them attended these training courses. Training modules for VFC and FPC members were also crafted and regular batches were sent for training.

### **From promises to performance**

Action has been taken to execute the work plan under the new paradigm. The process of initiation, development and details of the operational modalities along with the impacts are described below.

#### ***PPA at work***

Initially 1 500 hectares of Dugli–Jawarra forest, located 100 km south of Raipur, were selected as a model site for implementation of PPA. A meeting of all JFM committees and staff posted in this area was convened and the basic concept of PPA was explained to them. At the outset villagers were reluctant, perceiving PPA to be yet another mode for establishing a protected area and curtailing their access to forests. But when: (1) They were asked to identify 1 000 hectares of forest adjoining their villages for grazing and other bona fide needs; (2) they learned that the balance of 500 hectares would be treated as a core area to be strictly protected against fire and other biotic pressure; and (3) that harvesting on a non-destructive basis could continue, some elders visualized the rationale behind the concept and became supporters.

Detailed clarification on sharing of produce and initiation of other off- and on-farm income-generating activities helped to allay resistance. Field staff had initial reservations but after assessing the overall costs and benefits, they agreed to the proposal. As VFCs and FPCs had participated in site selection, demarcation and preparation of the microplan from the start, people felt that they had been positively involved. When forestry operations were executed through the committees, resulting in waged employment and sharing of the harvested produce, the momentum increased with encouraging results. As testimony to the success of the model site, FAO selected Dugli–Jawarra as one of 30 case studies of exemplary forest management in Asia-Pacific, for its *In Search of Excellence* initiative.

To upscale the programme, regular planning was formulated with funding from the state budget. The Chhattisgarh State Minor Forest Produce Cooperative Federation Limited (CG MFP Federation) also earmarked funds to support establishment of PPAs. As a result, 32 PPAs, each extending over 15 000 to 20 000 hectares and encompassing more than 300 villages, have been established and serve as models of sustainable forest use. The programme has achieved *in situ* conservation in 122 632 hectares of forest and over 200 hectares of *ex situ* conservation and propagation. Facilities in

forest schools at Mahasamund, Jagdalpur and Sakti have been upgraded and training related to non-destructive harvesting, collection, grading, processing and value addition of forest produce has been imparted to 3 220 people from VFCs and FPCs as well as frontline forest managers. In order to extend basic health cover in interior areas, 39 forest hospitals have been established where traditional healers and local *vaidyas* (Ayurvedic doctors) provide treatment, mostly based on medicinal plants. Furthermore, various income-generating activities based on forest and other resources are underway, including NWFP collection, bamboo handicrafts, other handicrafts (leaf cups, mats and *sabai* rope), honey collection, *lac* cultivation, fish farming and sericulture.

### ***Dhamtari model: principle and practices***

It has already been indicated that the various line departments in the institutional framework are not truly effective due to limited infrastructure and facilities in interior areas. Thus, there is a clear need for an innovative system to be developed.

#### **Box 1. The proposed model**

The Forest Department in conjunction with VFCs, FPCs and NWFP primary cooperatives provided a practical option to facilitate, coordinate and, in some cases, execute the socio-economic development programmes of various government line departments. This would be particularly valuable *vis-à-vis* the Forest Department's physical presence and familiarity with forest dwellers in these areas. Collectively, these groups could form a Forest Fringe Area Development Authority (FFDA). To build technical capacity, experts could be inducted or hired and technical assistance could also be sought from line departments. Rural development funds available from the District Rural Development Agency (DRDA) for administrative units could be divided between the existing agencies and the FFDA.

The state agreed in principle to this concept, but as it involved other line departments, the matter had to be submitted to the cabinet. After deliberation, the cabinet approved the proposal to implement the concept as a pilot model for integrated development of villages located within a 5-kilometre radius of forests in Dhamtari District. The “Dhamtari model” is a unique venture where villages located in the fringe areas of the forests have been brought under the umbrella of forest administration through the merging of development schemes.

In Dhamtari District, 401 villages are within a 5-kilometre radius of the forest. Initially, rapid rural appraisal (RRA) was conducted with the involvement of VFCs/FPCs and self-help groups (SHGs) in 100 villages located near the forest. The total population of these villages is 31 711, of which 73 percent is scheduled tribes and 3.5 percent is scheduled castes. Out of 7 525 families, 4 721 are below-the-poverty-line families (BPLs) and 1 122 families are landless. Average family income varies from Rs.6 000 to Rs.8 000 *per annum* and the average landholding is one hectare.

To improve livelihoods, microplans were prepared for clusters of five to ten villages using RRA. The microplans address forest development as well as village infrastructure activities such as irrigation, roads, culverts and other matters relating to agriculture, horticulture, apiculture and animal husbandry. Each cluster has a forest official as the nodal officer, who is assisted by specialists and resource persons. Line departments also develop master plans for the planning of activities in each cluster. The formulated plan is submitted to the village *panchayat*<sup>3</sup> or *gram sabha*<sup>4</sup> — the grassroots levels of governance in India. Adopting the same approach, integrated block- and district- level plans are

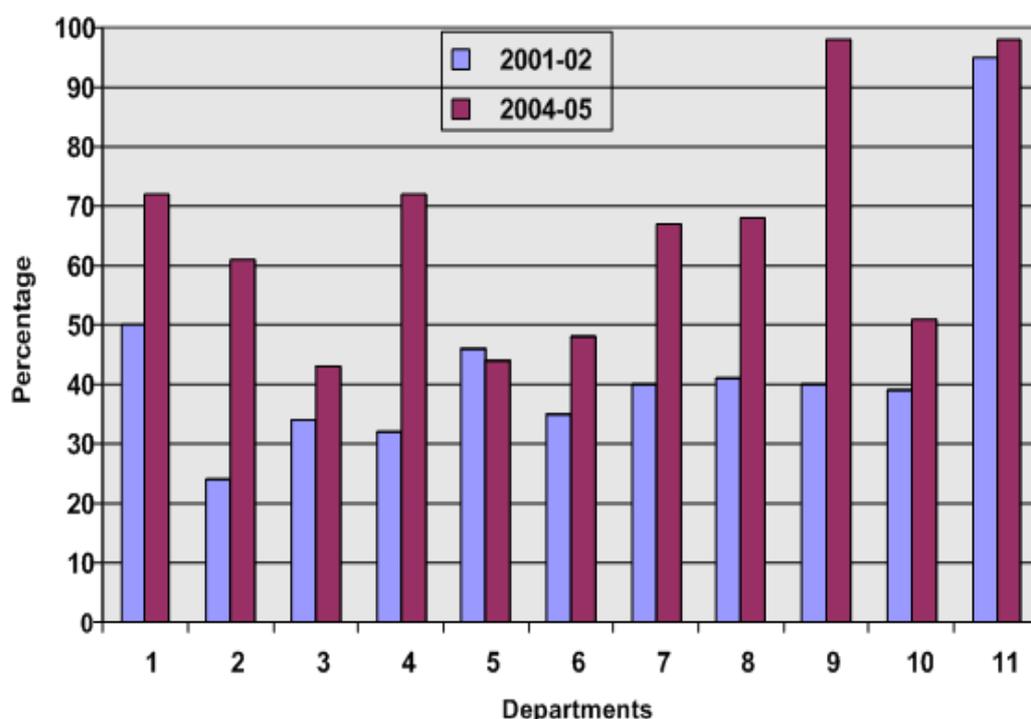
<sup>3</sup> Local governmental body.

<sup>4</sup> A body of persons registered in the electoral rolls of a village or a group of villages which elects a *panchayat*.

developed. Each line agency is involved in preparing plans for a village cluster, block and district. After approval from the district *panchayat* or the village *panchayat/gram sabha*, the microplan is implemented through its target group. VFCs, FPCs and SHGs execute the work and depending upon its nature, line departments also participate. Staff and villagers' capacity building, training and skill development form an integral part of the plan

### **Impact of the Dhamtari model**

More than 39 percent of the district's population resides in the project area. Prior to the project, line departments tended to opt for work in more easily accessible areas. Figure 4 illustrates increased allocation to the project area by line departments.



- |  |                          |                     |
|--|--------------------------|---------------------|
| 1. Rural Development & <i>panchayats</i> | 2. Tribal Welfare        | 3. Agriculture      |
| 4. Horticulture                          | 5. Fisheries             | 6. Animal Husbandry |
| 7. Health & Family Welfare               | 8. Woman & Child Welfare | 9. Public Health    |
| 10. Public Works                         | 11. Forest               |                     |

**Figure 4. Allocation to the project area by line departments**

This increased and more dispersed allocation and execution of development schemes in the project area has had a direct impact on the quality of life of inhabitants, as well as on the environment. For example, enhanced allocation by the Rural Development and Panchayat Department led to a foodgrain distribution jump from 375 000 to 2 748 200 kilograms, a rise in small-scale production activities from 102 to 434 and earnings increasing from Rs6 million to Rs75 million — all within three years.

These initiatives have resulted in lower incidence of wildfires and better control of illicit felling, grazing and encroachment. According to resource assessments carried out from 2001 to 2002 and 2004 to 2005, there has also been a distinct improvement in natural forest regeneration. Table 5 shows the impact on the availability and collection of NWFPs gathered on an annual basis.

**Table 5. Collection and value of NWFPs**

Items	2001–2002		2004–2005	
	Quantity (kg)	Value (Rs)	Quantity (kg)	Value (Rs)
<i>Aonla</i>	540	6 480	95 000	11 875
<i>Baibiding</i>	2 820	78 960	2 080	62 400
<i>Dhawai flower</i>	5 260	31 560	21 000	147 000
<i>Kalmegh</i>	3 680	22 080	68 800	447 200
<i>Mahul patta</i>	620 000	18 600	900 000	315 000
<i>Tikhur</i>	5 150	257 500	15 300	918 000
<i>Nagarmotha</i>	2 118	19 062	9 250	92 500
<i>Baheda</i>	1 835	3 670	4 000	8 000
<i>Belguda</i>	135	1 215	12 540	119 130
<i>Kosa</i>	82 400 pieces	65 920	456 000 pieces	410 400
<i>Satawar</i>	15	450	480	14 400
<b>Total</b>		<b>505 497</b>		<b>2 545 905</b>

Note. US\$1.00 = Rs47.00 (8 September 2006).

Thus there has been an increase of over 400 percent in the collection and trade of NWFPs.

During the three years of project implementation, development initiatives costing approximately Rs30 million established drinking water facilities, irrigation and construction of schools using village resource development funds.

A leading national newspaper reported the dramatic changes being experienced by the Dhamtari tribal belt in the following words:

*Decentralisation of power can do wonders for people. A proof of this are more than 2,500 tribal families in Dhamtari district. Over the past two years, life styles of mostly primitive Kamhar and Gond tribals has undergone a sea change, (sic, TOI 2005).*

### **Public–private partnership (PPP)**

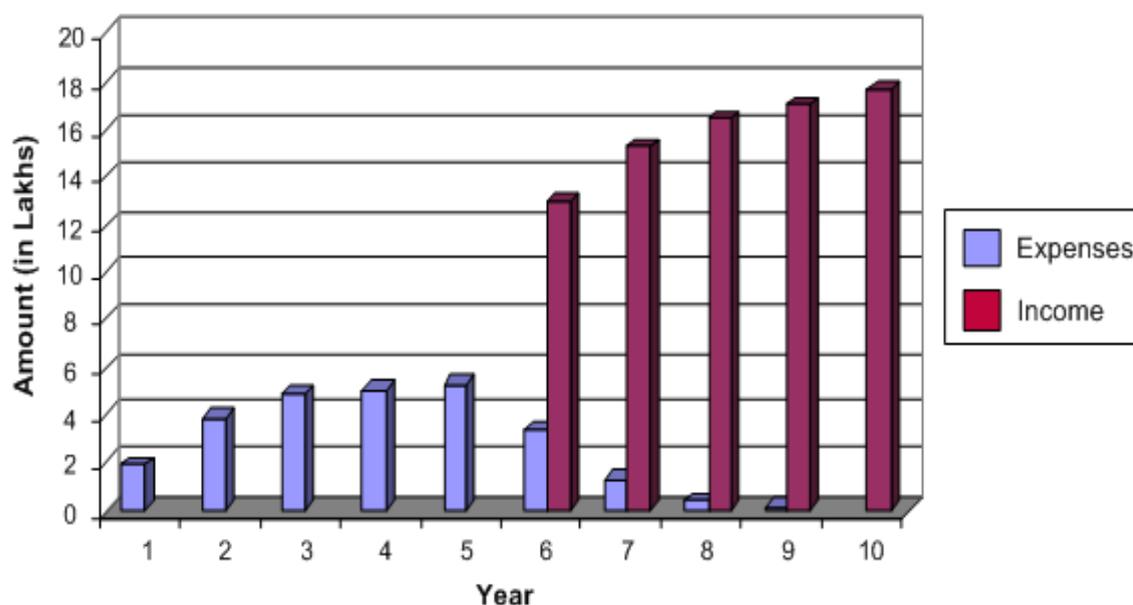
More than half of the people living in the vicinity of the forests depend on them for their livelihoods, consequently the state is making efforts to arrest the pace of forest degradation and simultaneously promote rejuvenation of depleted forests. However, this remains a Herculean task. With a large forest plantation programme, India has no arrangement/system for timely procurement/collection, cleaning, testing, classification, certification and safe storage of tree seeds to date (GOI 1999b). Planting is carried out to meet numerical targets. There are several reasons for exploring other avenues: the lengthy time period required for government rehabilitation of these areas; limited financial resources; the quality and general performance of previous efforts; and lessons learned from private sector participation in various countries, including China.

Chhattisgarh has tried to formulate a model by involving local people directly in the management of forests. Towards this end, during 2002, the Forest Department invited expressions of interest from all concerned with forest management, including forest-based industry. However because of much uncertainty, no response was forthcoming. Subsequent discussions were held with various industrial houses that use forest-based raw materials. A representative of JK Paper Mills Ltd Raigarh (Orissa) made a presentation at forest headquarters in Raipur which explained the details of an agroforestry model for plantations using eucalyptus clones on farmers' land in Orissa. Such plantations can be

harvested after five years and a farmer can obtain three more coppice crops. JK Paper Mills supplies quality planting material and technical guidance in addition to providing a buy-back guarantee of produce for all farmers.

A group of senior forest officers inspected and collected relevant information on plantations raised by JK Paper Mills in Orissa. The group was impressed by the agroforestry plantations and suggested that the model be tried in degraded forests. It was proposed that a pilot project be implemented through JFM *samitis*,<sup>5</sup> with ten VFCs identified in Mahasamund Forest Division, which borders Orissa. With a view to involving the *samitis* from the beginning, VFC members were taken to Orissa so that they could learn first-hand from the plantation initiative. After visiting these areas and discussions with counterpart farmers, the VFC members were enthusiastic and eager to initiate a similar scheme in degraded forest areas allotted to them.

On 5 August 2003, the state government made the following decree: VFCs that mobilized resources for rehabilitating allotted degraded areas either in cash or in kind from financial institutions or other employment generation programmes initiated by the state, would obtain 100 percent of the forest produce obtained from these areas on maturity. The *samitis* would be free to sell their share of non-nationalized forest produce and — after deducting the expenditure incurred by plantation formation, as well as the interest accrued on loans taken — the balance could be used by the *samiti*.



**Figure 5. Predicted income and expenses under PPP over ten years**

Thus for the first time in the country, rehabilitation of degraded forests through PPP mechanisms were initiated on a pilot scale in 2003 in Chhattisgarh. Mangalam Timber Ltd., the leading industrial house, supplied good quality planting material and provided buy-back guarantees to purchase eucalyptus wood with bark including twigs up to 2 cm in diameter. Twenty-three *samitis* in Jagdalpur, Raipur and Bilaspur Forest Conservancy planted eucalyptus, bamboo and aonla (Table 6).

<sup>5</sup> Another local government body.

**Table 6. Plantation from 2003 to 2004**

Name of conservancy	No. of <i>samitis</i>	Area (ha)	Total no. of plants
Jagdapur	10	250	269 860
Bilaspur	3	100	97 854
Raipur	10	250	275 000
<b>Total</b>	<b>23</b>	<b>600</b>	<b>642 714</b>

Encouraged by the performance of the plantations established in 2003, an additional 52 *samitis* came forward and more than 1 100 hectares were planted during the rainy season of 2004 (Table 7). During the 2005 season, approximately 1 500 hectares of degraded forest area had been brought under PPP.

**Table 7. Plantation from 2004 to 2005**

Name of conservancy	No. of <i>samitis</i>	Area (ha)	Total no. of plants
Sarguja	10	189	226 680
Bilaspur	4	100	120 800
Raipur	16	217	85 500
Durg	18	242	373 871
Kanker	19	151.04	421 414
Jagdapur	10	250	260 927
<b>Total</b>	<b>77</b>	<b>1 149.54</b>	<b>1 489 192</b>

On average one hectare of plantation generates 275 workdays of employment for VFC members, equivalent to Rs.16 500/hectare calculated at a wage rate of Rs.60/day. Thus during 2003, 2004 and 2005, the VFCs earned about Rs.10 million, Rs.18 million and Rs.25 million respectively in wages. At maturity, after five years, the VFCs will harvest 25 to 30 tonnes/hectare of eucalyptus biomass per year, the market value of which will be approximately Rs.2 million to Rs.3 million. The VFCs can further augment incomes through intercropping of suitable species and medicinal plants and collection of NWFPs. Carbon trading offers another opportunity for income generation. A spin-off effect of this programme will be employment generated in forest areas. Even landless forest dwellers will be assured income, processing industries will access necessary raw materials and the Forest Department will succeed in expanding green cover in degraded forests without any departmental investment. This is a win-win situation for all partners.

## PRINCIPAL DIFFICULTIES AND CHALLENGES

Although there were initial teething troubles in the creation of Chhattisgarh, the Forest Department has made remarkable progress in pursuing its vision for the future. Enunciation of the State Forest Policy in 2001, its implementation, monitoring and documentation has been widely applauded as the first action of its kind in India. Using forests for the enhanced well-being of local people, and implementation of PPAs are innovative approaches to addressing various social, environmental and economic facets of forest management. Involvement of user groups including forest-based industries for the rehabilitation of degraded forests through PPP is yet another national “first”. The state has developed one of the most people-friendly benefit-sharing arrangements in the country. NWFPs are being mainstreamed into forest management and Chhattisgarh is one of the few states to endow ownership of NWFPs on the Panchayat Raj Institutions. Chhattisgarh is the first state in which the

powers of the Registrar of Cooperative Societies have been awarded to forest officials to facilitate the work of cooperatives in the collection and trade of NWFPs. The Dhamtari model exemplifies the delegation of rural development officials' powers to forest officers, the outcome of which has widely been seen as a success.

Despite these initiatives, there have been a number of difficulties. The new state faces a crisis of rising expectations. People are in a hurry to catch up to other more developed states in the country. However historical neglect and infrastructural deficiencies cannot be rectified in only a few years. Some political extremists are active and there is social unrest in northern and southern parts of the state. Moreover there is the problem of few entrepreneurs in interior areas.

Forestry has its own peculiar challenges. It has a long gestation period and the output requires considerable time to bear fruit. To meet multiple societal needs, considerable time and effort are required for successful re-invention. People living in and around forests are poor and are not in positions to wait indefinitely before realizing benefits. The frontline managers are ageing and as there have been no new recruits, forest guards are 48 to 50 years old on average. In the initial phase, staff were reluctant to come to Chhattisgarh and their morale was very low.

Another challenge is that JFM committees do not have legal backing. Many committees have been established by line departments to implement their departmental agenda but target groups are baffled by the plethora of schemes. Although serious efforts are being made to link JFM committees with the *panchayats*, this has yet to materialize. Similarly, for fear of losing their authority at the village level, line departments are not keen to merge their committees with others.

During the last two years, while JFM has generated substantial funds for some VFCs/FPCs, this has not transpired in many locations for a variety of reasons. This raises the need for improved tools and methods to develop human capacity.

## **KEY FACTORS FOR SUCCESS OR FAILURE**

The desire and determination to attain a distinct position within the country have been key factors in the success of Chhattisgarh's initiatives. This was made possible mostly by the dynamic political leadership of the state's chief minister. Realizing the role and importance of forests in maintaining livelihood systems and providing local, non-destructive opportunities for disadvantaged forest dwellers, the state was committed to unlocking these resources for the improve of the lives of rural communities. "Think globally and act locally" became the slogan of the department. The vision and a new role for the department found support even in unexpected sectors of society. Encouragement and appreciation at political, social and administrative levels boosted the morale of Forest Department staff and led to the development of a new institutional culture and ethos. More importantly, the cooperation and meaningful participation of forest dwellers provided the basic foundation for launching innovative forestry programmes. All of these factors resulted in a vibrant, empowered forestry department.

However there is another side to the story. As part of the World Bank Forestry project, many forest officers from Madya Pradesh were sent to international institutes to undergo specialized training courses in the 1990s, but none returned to Chhattisgarh. Moreover, nearly a dozen forest officers were selected by the state government to occupy senior positions in other (non-forestry) departments, including the state secretariat, because there was a severe shortage of experienced and competent officers in the state. This had implications for the quantity and quality of senior officers left in the department.

Another important factor flowed from the federal polity of the country. Forestry is on the Concurrent List of the Constitution, therefore both the central and state governments are charged with addressing matters relating to forestry. If the same political party is in power both at central and state levels, things run smoothly. But in Chhattisgarh, there were two different political parties in power during the formative stages, which created tensions and complexities.

Nonetheless, despite setbacks, which are an integral part of re-invention, the proactive and people-friendly framework of poverty alleviation, sustainable forest management and biocultural conservation conceptualized by the state is expected to provide a roadmap for addressing the complex scenario of rural poverty and forest conservation.

## A CAVEAT

The Forest Department has never claimed its role is to resolve all social and environmental problems, but rather has sought to devolve responsibilities for problem resolution to community levels. Hence, very strong emphasis has been placed on the role of local people and their traditional knowledge. However, with new multistakeholder programmes for poverty reduction, such as PPA and PPP, their sustainability will directly depend upon cultivating the genuine support of new players in the process — communities and industry. This will require the department assuming multiple roles, often for which it has no precedent. This is a real challenge.

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Zhang Lei<sup>1</sup>

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## INTRODUCTION

Forestry in China has advanced considerably after 20 years of reform and development. A primary indicator of the impacts of the reform is the significant increase in total forest size and stock volume. On 18 January 2006, the 6<sup>th</sup> National Forest Resources Investigation revealed that national forest cover in 2003 amounted to 174.9 million hectares or 18.21 percent of the total land area. This represented an increase of 16 million hectares since 1998 or an average annual increase of 1.9 percent — double the figure for the period from 1949 to 1998. With an increase of 890 million m<sup>3</sup>, forest stock volume reached 12.5 billion m<sup>3</sup>, equivalent to 0.8 m<sup>3</sup> per capita. Thus the persistent exploitation experienced during the 1990s has been overcome and the steady rise of forest quantity and quality marks a historic turning point in the development of the forest sector.

The second indicator of the impact of reform is containment of national ecological deterioration through long-term large-scale afforestation. Scientific data show that desertification has been diminishing in 19 of China's provinces since 2002. Specifically, signs of receding sand cover and ecological rehabilitation are being seen in Inner Mongolia, Xinjiang and Ningxia — all key desertification zones. Dust storm frequency is also declining. Moreover, the area affected by water and soil erosion has decreased by 11 000 km<sup>2</sup> over recent years to 3 560 000 km<sup>2</sup> and in 2003, sediment volume in 11 of the country's main rivers declined sharply (by 50 percent in the Yangtze and Huai rivers). Wildlife species are also staging a recovery as a result of measures taken to protect biodiversity.

A third indicator of past efforts is the deepening extent of forestry reform. All domestic markets for timber and forest products have been liberalized. Although forest resources are limited, domestic production and forest products processing industries have developed rapidly as national economic growth has strengthened. In relation, China has become the world's largest exporter of wooden furniture and there has also been a dramatic increase in the export of non-wood forest products.

One of the major current challenges to Chinese forestry is to continue the progress achieved by the six key forestry programmes, namely:

- 1) The Natural Forest Protection Program.
- 2) The Program for Conversion of Cropland into Forests.
- 3) The Sandification Control Program for the Vicinity of Beijing and Tianjin.
- 4) The Three-North Shelterbelt Development Program and the Shelterbelt Development Program along the Yangtze River Basin.
- 5) The Wildlife Conservation and Nature Reserves Development Program.
- 6) The Forest Industrial Base Development Program in Key Regions with a Focus on Fast-growing and High-yielding Timber Plantations.

Reform of forest tenure in both state-owned and collectively owned forest areas is to be accelerated in order to enhance the productivity of forest land. The forest sector will also participate in the construction of new socialist villages, based on the directives of China's 11<sup>th</sup> Five-year Plan (2006–

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<sup>1</sup> China National Forestry Economics and Development Research Center, State Forestry Administration.

2010). Objectives include increasing farmers' income, boosting agricultural productivity and enhancing the natural environment.

## **THE HISTORICAL COURSE OF FORESTRY ADMINISTRATION IN CHINA**

The Communist Party of China (CPC) and the state have attached importance to forestry since the establishment of New China in 1949. The protection and development of forests and wildlife resources have been addressed continuously by the government through the establishment of agencies with experienced senior management. Although the forest sector and its functions have been modified over time, the system has been comparatively independent and stable.

### **Changes in organizational structure of the forestry administration**

Since 1949 central government has focused on organizational modification to address new requirements associated with economic reform and social development. Against a background of state government organizational reform, the internal structures of forest agencies have changed tremendously. The general setting has, however, been more related to needs for protection, development and exploitation of forests and wildlife resources. In the years mentioned below, changes in forest agencies coincided with reforms in state government organizations.

1949: The Ministry of Forestry and Land Reclamation

1951: The Ministry of Forestry

1956: Bifurcation into the Ministry of Forestry and Ministry of Forestry Industry

1958: Merged with the Ministry of Agriculture

1970: Incorporated within the Ministry of Agriculture as a department

1979: Ministry of Forestry

1982: Ministry of Forestry

1988: Ministry of Forestry

1998: State Forestry Administration

### **Organizational reform before 1982**

During the period of national postwar economic reconstruction (1949–1958), the main goals in Chinese forestry development were to contribute capital for the initiation of industrialization and to provide timber for large-scale construction. Therefore the forestry sector at that time was focused on timber harvesting and exploitation. In Northeast, Southwest and South China, forests were logged on a large scale. However, from 1958 to 1978 attention turned towards vegetative rehabilitation and species protection. During the 1970s, problems associated with the increasing seriousness of forest degradation and the greater frequency of natural disasters were addressed by the state. Since then, vegetative cover has gradually improved through harvest management, regeneration of logged-over woodland and the establishment of state-owned forest plantations on barren mountainsides and land suitable for forests and nature reserves. Protected areas have also been established.

After October 1949, the following offices were created under the Central People's Government: People's Revolutionary Military Commission, the Supreme People's Court, the Supreme People's Procuratorial Administration and the Government Administration Council. Under the latter, there were 35 commissions, ministries, administrative offices and councils, which were in charge of state administration. At that juncture, the Ministry of Forestry and Land Reclamation internally established the following branches: the Forestry Administration Department, Afforestation Department, Forestry Operation Department, Forestry Utilization Department and the General Office. Otherwise, the Bureau of Afforestation of Western Hebei Barren Sand Land addressed desertification in that area.

Agriculture and forestry ministries were established in the northeast, northwest, east, middle south and southwest administrative areas, respectively. Agriculture and forestry departments (*Ting* in Chinese) were components of each provincial government.

On 5 November 1951, the Ministry of Forestry and Land Reclamation was renamed the Ministry of Forestry as a result of administrative reclamation affairs being transferred to the Ministry of Agriculture. By 1953, the initial year of the first five-year plan in China, over 500 forestry-related agencies had been set up nationwide.

In 1954 a significant streamlining took place at different levels in central and local government. The State Council, however, subsequently began to add various agencies and offices and by 1956 there were 81 units — the greatest number of government agencies since the establishment of the People's Republic of China (PRC). On 12 May 1956, the Standing Committee of the National People's Congress decided to set up the Ministry of Forest Industry, with its ten internal departments responsible for forest industry throughout the entire country. The Ministry of Forestry continued in administering nationwide afforestation, forest management and production of forest products through its ten departments and bureaus. It adopted the administrative system of the former Soviet Union but with little effort to integrate with China's domestic situation. This resulted in an inevitable administrative dichotomy between forest harvesting and forest cultivation. On 11 February 1958, the 1<sup>st</sup> National People's Congress decided to merge the Ministry of Forest Industry and the Ministry of Forestry, and to set up constituent departments and bureaus based on the responsibilities of the two former ministries.

Between 1960 and 1964, a third comparatively major reform of government agencies was carried out to effect national economic adjustment and by the end of 1965 there were 79 agencies under the State Council. During the Cultural Revolution (1966–1976), government departments experienced radical changes. In 1970, the 79 agencies were either disestablished or incorporated among 32 new offices, of which 13 were led by the military. The number of central governmental agencies dropped to its lowest since liberation. In June of that year, the Ministry of Forestry was disbanded and incorporated with five other organizations including the Ministry of Agriculture and the Ministry of Agriculture Reclamation into the Revolutionary Committee of Agriculture and Forestry. In early 1975, it was renamed the Ministry of Agriculture and Forestry.

When the Gang of Four was smashed in 1976, the administrative system and organizational set up of the late 1950s were adopted and developed to enhance governmental rehabilitation as the economy had almost collapsed.

The offices of the State Council increased in number to 100 in 1981, reaching their highest level since liberation. But over the course of gradually deepening reform, the overstaffed administrative organizations were handicapped by the demands of the open door policy, minor reforms and economic and social development. Thus there was an urgent need for re-invention.

After the Third Plenary Session of the 11<sup>th</sup> Central Committee of the Communist Party of China and during the initial stages of reform and introduction of the open door policy, forestry reconstruction became a major objective. The state re-enforced the forest sector according to working requirements and underscored the independence of forestry administration. The combined structure of the national agriculture and forestry administration system was, however, not changed fundamentally. In May 1978, it was decided to make the state forestry administration directly subordinate to the State Council. The new set up was administered by the Ministry of Agriculture on behalf of the State Council. In February 1979, the Central Committee of the CPC and the State Council decided to detach forestry functions from the Ministry of Agriculture and Forestry and form the Ministry of Forestry as the ministry responsible for national forestry management and the forest industry.

## **Organizational reform in 1982**

### ***Reform of the state administrative system***

From 1982, top-down organizational reforms at different levels were carried out by the State Council to harmonize with economic reforms and the open door policy launched after the Third Plenary Session of the 11<sup>th</sup> Central Committee of the CPC. Large-scale reform lasted for three years and was aimed at structuring and perfecting communist party and governmental organizations at various levels. The reform was based on enhancing human resources and simplifying administration and also aimed at reconstructing government to allow further development of economic reforms. Economic administrative departments were therefore disestablished or incorporated to provide optimum conditions for deepening economic reform. Consequently, some of the more mature departments were transformed into economic organizations.

Retirement systems were put in place and selection of younger staff with higher education and skill levels was encouraged. Mandatory age and educational requirements were stipulated for heads of department at different levels. Assistant positions were also reduced and, consequently, the quality of senior management improved considerably. To simplify administration, the number of ministries, subordinate offices and administrative bodies in the state council was reduced from 100 to 61. With respect to staffing, the total number of positions was reduced from 51 000 to 30 000 and the average age of senior officers fell from 64 to 60 at the ministry level and from 58 to 54 at the bureau level.

During the reform, efforts were aimed at reconstructing and optimizing the administrative system. A breakthrough was achieved by simplifying leading groups at different administrative levels, abandoning lifetime positions for senior staff and increasing the rate of influx of younger staff. An overall revolution in administration was not, however, called for as the economic reforms at the time focused primarily on rural areas. As a result, the highly concentrated administrative system supporting the planned economy remained intact and a full transformation of governmental functions could not be realized.

### ***Forestry scenario before reform***

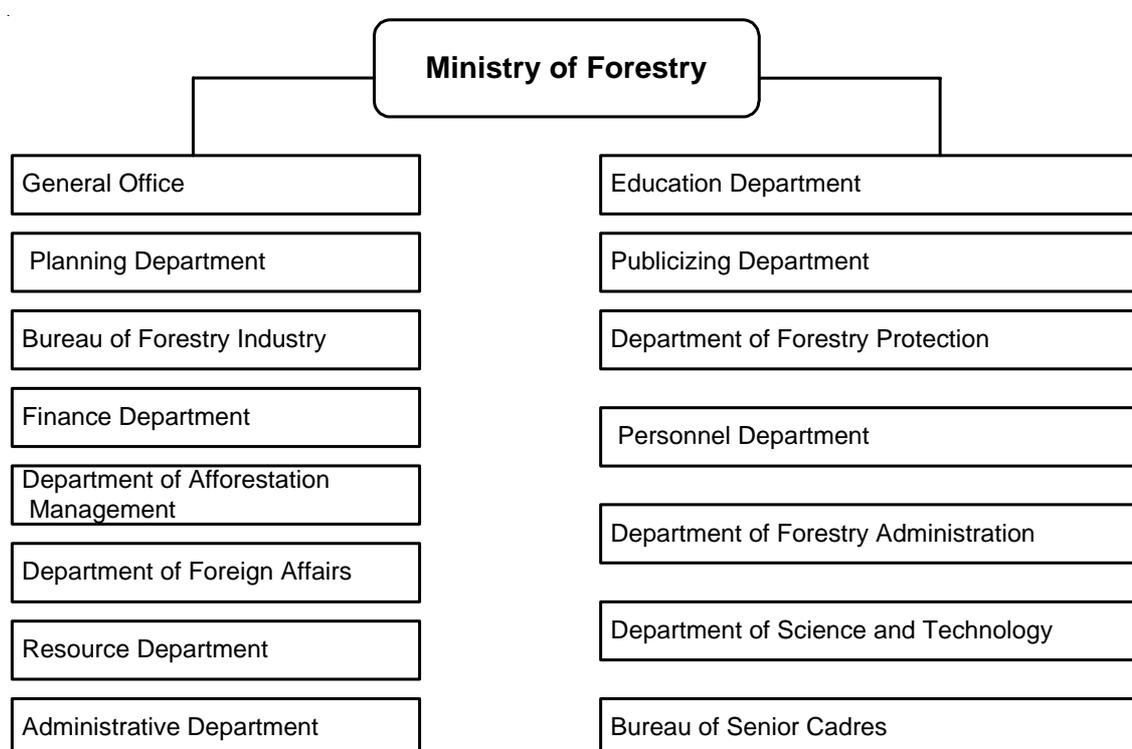
Economic reform and a process of “opening doors to the outside world” were implemented in China in 1978. In rural areas households were given forestry-related responsibilities under contract according to defined outputs. In the south, the “Three Determinations” policy was initially started in collectively owned forest areas and authorization was given for land tenure in mountain and forest areas. Between 1981 and 1983, peasant households operated 71 percent of the collective forest land under contract. Timber markets in Northern China and the Central Plains were then liberalized and, at first, planned timber production was greatly reduced. There was, therefore, a good degree of flexibility in the system and the market economy was thus gradually introduced. Ultimately, however, the government structure, designed to operate as a planned economy, could not adapt to the demands of rapid economic development.

### ***The reform course***

The Ministry of Forestry (MoF) continued to improve and fine tune its structure and functions after its revival in 1979. During the first organizational reform in 1982, the MoF, as the administrative body for national forestry under the State Council, was given independent status. Its main work was to enact and enforce forestry principles, policies and acts of the Party and the state. It aimed to mobilize afforestation efforts for “greening the motherland”, to encourage protection and rational utilization of forest resources and finally to direct and guide forestry activities in provinces,

municipalities and autonomous regions.

The forestry reform in 1982 involved three main thrusts: (1) Comprehensive responsibilities, such as the implementation of principles, policies and acts, as well as the management of planning and finance components; (2) vocational and professional functions, including administration of afforestation, production of forest products, forest protection and fire prevention, management of forest pests and diseases and the conservation of forest resources; (3) societal issues, including forestry science and technology, education, foreign affairs, awareness raising, cadre organization and the administration of enterprises and institutions directly subordinate to the ministry. The ministry had more functions after 1982 than during the nascent period of New China. The additional social functions meant that forestry administrative management was not only more complicated but also less manoeuvrable.



**Figure 1. Forestry administrative structure in 1982**

## Organizational reform in 1988

### *Reform of the state administrative system*

In 1988, the State Council decided to conduct organizational reform within the government to check the overexpansion that occurred after the 1982 reform. The main reasons for reform remained, however, the intensively focused economic reform plan and the fact that many governmental functions had not been transferred. The reform plan for the State Council administrative system was developed in early 1988 and on 9 April of that year, it was passed by the first session of the 7<sup>th</sup> National People's Congress. For the first time the reform necessitated re-organization of government functions to increase macroregulatory power and to regulate trade, while the roles of distributing capital and materials and direct intervention in enterprise management were addressed by specialized economic entities.

Reforms aimed to rationally allocate functions, scientifically divide responsibilities and adjust organizational structure to strengthen macromanagement and weaken micromanagement. As such, direct management by the economic administrative bodies was to be exchanged for indirect management. In addition, roles would be altered and the working styles improved to raise administrative efficiency and enhance operational mechanisms. Lastly, legislation for governmental administration would be accelerated. The most important issue was reform of economic administrative bodies to maintain pace with reform of the economic system.

During the reform, the number of ministries and commissions under the State Council was reduced from 45 to 41; departments directly subordinate to the State Council were reduced from 22 to 19; non-standing organizations decreased from 75 to 44; 20 percent of departments and bureaus within the ministries and commissions were cut. Among the 66 ministries, commissions and bureaus of the State Council, over 15 000 staff in 32 agencies were redeployed. But in another 30 agencies, there was an increase of 5 300 staff members. Thus 9 700 staff were redeployed after structural reform.

### ***Forestry situation before reform***

The reform of the State Council system coincided with moves being made towards a market economy in China. During this period, the core state forestry policies focused on increasing timber production to satisfy the growing demand for forest products. Fast-growing and high-yielding plantations of the empress tree (*Paulownia tomentosa*) were established in Northern China and the Central Plains to meet the rapidly increasing requirements associated with residential house construction in the countryside. Reform in forest tenure in the south resulted in overharvesting of forestry resources in collectively owned forest areas and the associated ecological damage drew attention from the state government. Control measures to mitigate threats from soil and water erosion, desertification and wind in Northwest, North and Northeast China were initiated and the Three North Shelterbelt programme was initiated. Moreover the state began to re-enforce forest resources' administration and in 1984, the first *Forest Law* was issued and enacted by the PRC. A policy on forest resource harvesting quotas became effective in the following year.

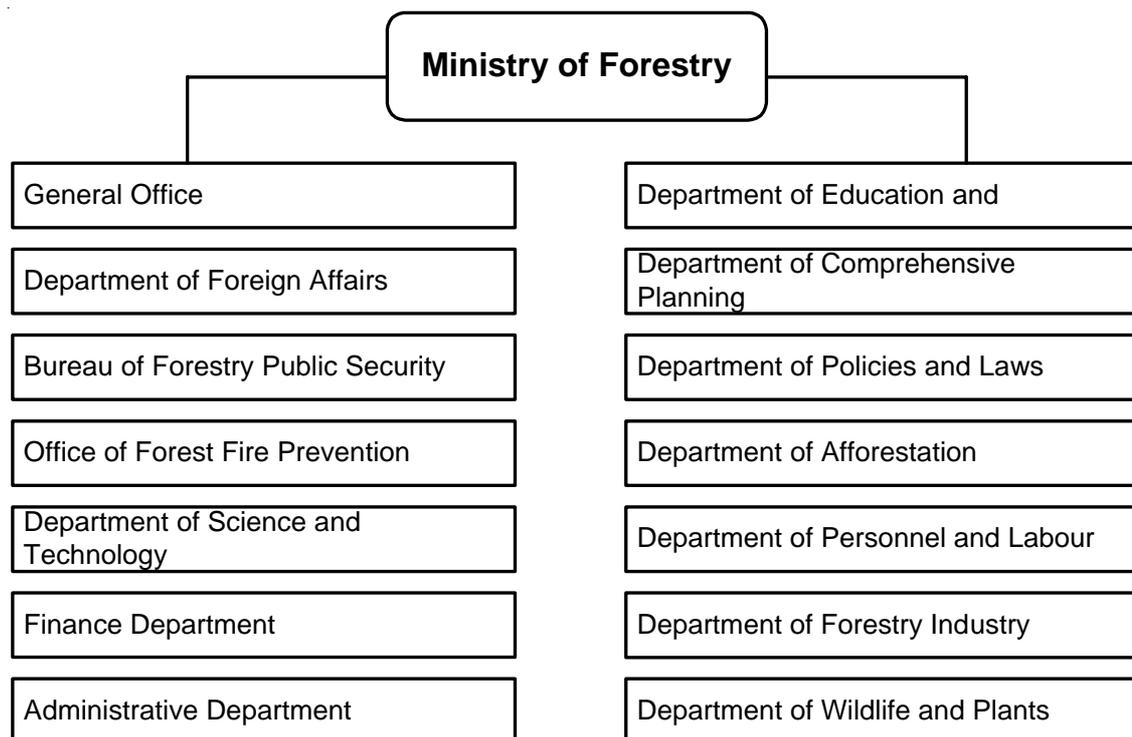
### ***Forestry reform course***

The highlight of the 1988 governmental re-organization was the reshaping of governmental duties, which subsequently became more precise and explicit. Based on the requirements stipulated by the State Council, the MoF reshuffled its departments and expanded their mandates to:

- Enhance and supplement comprehensive responsibilities by exploring research needs and supervising forest economic reform.
- Adjust vocational and professional components.
- Revise administration of the forest industry, e.g. in relation to timber production.
- Protect forest resources with the help of a special police force.
- Establish forest parks.
- Manage woody plant resources.
- Monitor the import and export of endangered species.
- Conserve national water and soil resources.
- Address rural energy needs.

The societal functions of the ministry remained generally unchanged.

During the 1988 organizational reform, the MoF was an independent ministry under the State Council. The reform process followed a top-down sequence: first the central government then local governments in a step-by-step procedure. However local organizational reform did not transpire for legislative reasons. As a result, local forestry departments or bureaus retained their status as of 1983.



**Figure 2. Forestry administrative structure in 1988**

## **Organizational reform in 1998**

### ***The reform of state organizations***

A new large-scale reform was initiated after *The Decision on the Plan of Reform of the State Council Organisations* had been debated by the First Session of the 9<sup>th</sup> National People's Congress on 10 March 1998. The State Council's vision for the new reform was a highly efficient, coherent governmental administrative system. In addition, the state civilian system was supposed to emulate the reform and a team of highly qualified and skilled administrators was put together to develop a governmental administrative system, adaptable to the socialist market economy system, but displaying inherently Chinese characteristics.

The principles of the reform included: (1) separating government agencies from enterprises in order to redirect governmental tasks, based on the requirements of the socialist market economy; (2) to establish less complex organizations by simplifying government organizational structure; (3) to re-adjust responsibilities and rights among governmental agencies and to fine tune administrative mechanisms by dividing defined duties between departments; (4) to consolidate legal institutions in the administrative system.

As a result of the reform, the number of the organizations in and under the State Council was reduced from 40 to 29, besides the General Office of the State Council. There were 12 new agencies for government administration, four for macrocontrol, eight for specialized economic administration and five for education, science and technology, culture, social security and natural resource management.

In addition, 200 offices were shifted from departments of the State Council to new venues. One-fourth of the departments and bureaus were eliminated within ministries and there was a 47.5

percent reduction in staff. After the reform, the proportion of middle-aged and young staff in the new State Council agencies increased from 53 to 59 percent. As part of these reforms, the MoF was renamed the State Forestry Administration at the beginning of the year.

### ***Forestry situation before the reform***

In 1998, severe natural disasters — floods and sandstorms — occurred in China. Financial input from the state reached unprecedented levels, with an annual investment of 40 billion yuan<sup>2</sup> — equal to the sum total of investments over the previous 50 years. The Natural Forestry Protection Program, the Program for Conversion of Cropland into Forests and the Sandification Control Program for the Vicinity of Beijing and Tianjin were initiated. There were, at the same time, major reductions in staff levels in state-owned forestry enterprises and inputs for the protection of forests, wild animals and plants were increased. Households growing grain crops on land with slopes exceeding 25° were provided with grain and cash subsidies by the government to plant trees rather than crops. In seriously degraded areas, open grazing was prohibited and fence construction and rotational grazing were encouraged. Furthermore, marginalized people living in conditions in which survival was difficult received financial assistance from the government to move elsewhere. There was also tremendous expansion of nature reserves.

### ***Process of forestry reform***

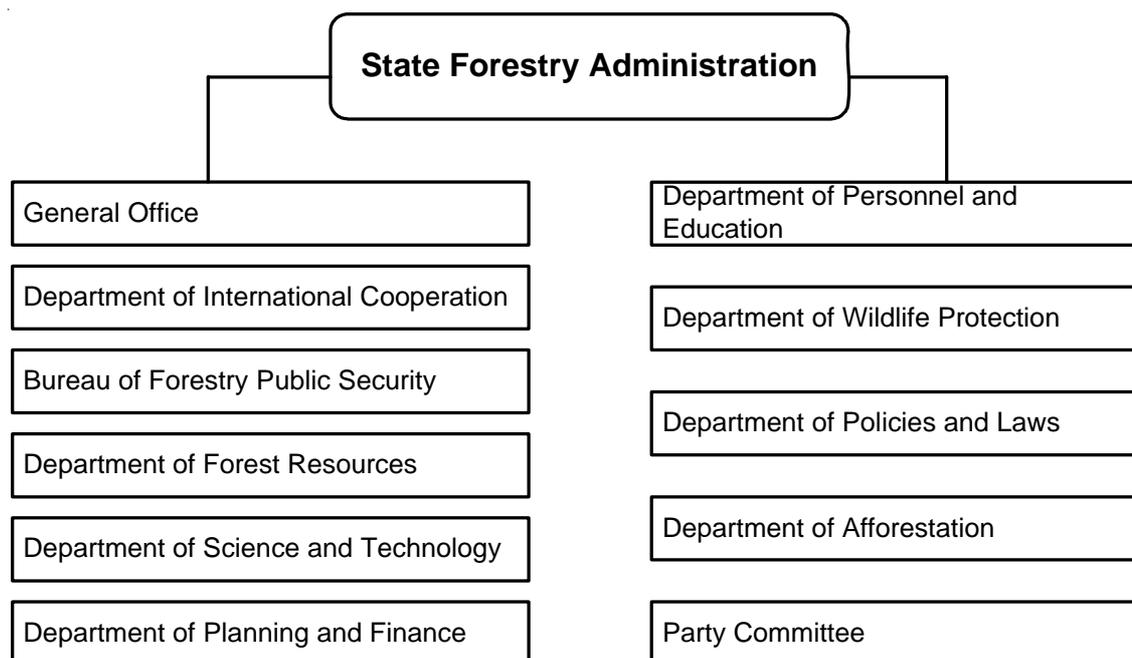
In 1998 the MoF was re-organized as the State Forestry Administration (SFA) and was thus considered a body for specialized economic administration. The SFA was guided by *The Plan of Reform of the State Council Organisations* issued by the First Session of the 9<sup>th</sup> National People's Congress in the same year. The document stipulated three governmental functions: macrocontrol, social administration and public service.

Environmental degradation was, however, still an issue in 1998 and forest management was badly needed for natural ecological and environmental recovery. Therefore, the mandate for forestry administrative management was further strengthened. For example, analysis and policy planning duties for “greening” activities were assigned to expand the scope of the national forestry sector. The terms of reference for the administrative management of forestry were explicitly defined, i.e. the prevention of water and soil erosion, control of sandification through biological measures such as afforestation and grass planting, organizing and directing the management of forest land and tenure and analysis of forest land expropriation. The organizational structure of the SFA is shown in Figure 3.

Despite the status of the SFA having been lowered, its workload increased. In the 1999 local organizational reform, 14 forestry departments — or *Ting* in Chinese — at the provincial level were re-assigned as forestry bureaus while keeping the full rank of *Ting*. At the same time, some provincial forestry administrative agencies were promoted to *Ting* status.

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<sup>2</sup>US\$1.00 = CNY7.89 (October 2006).



**Figure 3. Forestry administrative structure in 1998**

## THE IMPACTS OF INSTITUTIONAL EVOLUTION ON FORESTRY DEVELOPMENT

### 1949–1982

The Ministry of Forestry Reclamation, one of the primary group of 19 agencies of the Government Administration Council, had authoritative departments and straightforward mandates such that forestry development proceeded at a rapid pace. As early as 1954, the achievements of New China's forestry initiative were acclaimed at the 4<sup>th</sup> World Forestry Conference. Between 1966 and 1978, however, the forestry sector was paralyzed by the Cultural Revolution during which there was considerable interference in forestry including heavy and persistent exploitation of forest resources. From 1970 to 1978, forestry organizations, at both central and local levels, were merged into agricultural and forestry units which greatly diminished their authority. Afforestation and greening stagnated and forest resources deteriorated grievously through lack of management. Consequently, forest cover decreased from 12.7 to 12 percent in less than ten years. Nevertheless, in February 1979 the Ministry of Forestry was established and the *Forestry Law of the People's Republic of China (for Trial)* was issued. After this the state began to put more emphasis on forestry development.

### 1982–1987

Between 1982 and 1987 focus was directed towards timber price adjustment and forest policy analysis. Work also involved stabilizing tenure in mountain and forest lands, determining ownership in hilly lands and defining forest production responsibilities. From 1 January 1982, standards for withdrawing funds for forest cultivation and for state-owned and collectively owned forest areas were established. From 1985, the state's monopoly over purchase of timber from collectively owned areas was abolished and timber markets were preliminarily opened to allow forest dwellers to negotiate sales and purchases. In addition, a nationwide afforestation campaign was initiated and the National Afforestation Committee was set up. The *Forestry Law of the People's Republic of China* was enacted on 1 January 1985 and by 1988, the 3<sup>rd</sup> Nationwide Forest Resource Investigation revealed that forest cover had increased to 12.98 percent. Standing timber stock was, at the same time, estimated to equal 105 720 000 m<sup>3</sup>, forest stock, 9 141 000 000 m<sup>3</sup> and forest area, 124 652 800 hectares (State Forestry Administration Net).

## 1988–1992

During this period forest administrative units were strengthened at all levels and a forestry administrative system was gradually developed. The enormous task of afforestation and greening, and protecting and managing forests and wildlife resources resulted in a renaissance for forestry in China. In the early 1980s, significant achievements were made by the Three North Shelterbelt programme, including afforestation of 9 200 000 hectares and preservation of 7 333 300 hectares of forest (Forest Information Net). In May 1989, the MoF issued the *Announcement on Strengthening the Administration of Forest Harvesting Licenses*. As a result a coordinated nationwide licensing system for forest harvesting was enforced while in the Northeast and Inner Mongolia, timber felling quotas were issued to industrial forestry enterprises. Wildlife protection was also enforced and criminal activities such as poaching, smuggling and illegal wildlife trade were firmly checked and sternly punished. Together, these measures resulted in balance being achieved between forest growth and forest resource consumption in 1992.

## 1993–1997

During this period, central government was fully aware of the need for afforestation, greening and forestry development in relation to the new open door policy and economic development. Environmental rehabilitation was therefore a major goal and, in relation, illegal activities were severely punished and regulations for forest fire prevention rigorously enforced. Efficient and modern fire-fighting techniques were also adopted which resulted in better forest fire management and reduced tree loss. Otherwise the National Center for Combating Desertification was created and the state became a party to the United Nations Convention to Combat Desertification.

After 1993, forest stocks had grown to exceed national consumption needs and the deficit in forest resources was eliminated. In the same year, the national forest estate reached 133 333 000 hectares, total standing timber stock 117 850 000 m<sup>3</sup>, forest stock 10 137 000 000 m<sup>3</sup> and forest cover reached 13.92 percent. By 1998, forest cover had increased to 16.55 percent.

## 1998 — present

Public awareness of the status and functions of forestry underwent a radical change after the extraordinarily serious flooding in 1998. The public, Party committees and government departments at different levels realized the value of the services provided by forests. After the MoF was re-organized into the SFA in 1998, forestry development enjoyed its most productive years in history. For example, six major forestry programmes were initiated, investments by state and local governments increased considerably and a sense of optimism prevailed. To some extent, however, weakening of authority in some forestry departments had a negative influence.

## CONSTRAINTS

### Administrative overlaps within government

***Overlaps with environmental protection:*** Environmental protection measures were emphasized by the forestry administration since reforms began and the open door policy was introduced. The Environment Protection Committee of the State Council was established in 1984 with the subordinate State Environment Protection Administration as its administrative body. It was elevated to full ministry status in 1998.

There are a number of administrative overlaps between forestry and environmental protection organizations. For example, forest resources are also included in the purview of environmental protection agencies because of the definition of the environment included in the *Basic Law of Environmental Protection*: “the ensemble of various natural elements produced in nature or reformed artificially that exerts influence on human survival and development. It consists of atmosphere, water, oceans, land, minerals, forests, grassland, wildlife, natural remains, human relics, natural preserves, scenic and historical sites, cities and villages, etc.”.

In 1994 the State Environment Protection Administration increased its responsibilities to include human welfare and ecosystem protection and enhancement. Its mandate was thus expanded into areas associated with forestry. Subsequently it was also made responsible for nationwide planning, establishing and monitoring protected areas, and design and supervision of natural preserves. In addition, the State Environment Protection Administration is responsible for monitoring biodiversity, control of natural resource exploitation activities that may have a negative impact on ecosystems and protection of rare and endangered species, including control of related trade. It also has the authority to investigate and penalize violations related to severe ecosystem damage.

Following the 1998 reform, state environmental agencies were authorized to address village ecosystem protection and to supervise the development of model ecosystem areas and ecofriendly agriculture. They were also authorized to direct and monitor wetland protection and desertification prevention, and to inspect and examine the protection of various types of natural preserves including scenic places, forestry parks and state natural reserves.

**Overlaps with agriculture:** Overlaps with agriculture are primarily in relation to tea, mulberry and fruit tree management. In the early days after the establishment of the PRC, forest agencies were responsible for afforestation and before 1979 there were no significant areas of overlap between forestry and agriculture administration. In relation, the provisional Forest Law of the PRC clearly stipulates (sic) “Economic Forest: the forest trees which are mainly aimed at producing fruits and nuts, eatable oil, industrial raw materials and medical herbs” and “the State Council sets up the Ministry of Forestry, which administers the forestry development in the country”.

In 1979, however, when the Ministry of Agriculture and Forestry was divided into two ministries, the new MoF paid insufficient attention to the development of economic forests and ceded management of tea, mulberry and fruit trees to agricultural organizations. In 1987 the State Council resolved that on sloping lands the management of tea, mulberry and fruit trees should be conducted by the forestry organizations and elsewhere by agriculture organizations. Disputes over the administrative management of these trees, however, remain to this day.

**Overlaps with water conservation:** Since liberation, forests and forest agencies have played an important role in conserving water and soil through afforestation, buffer zone maintenance and other more general areas of forest management. Water conservation organizations, however, increasingly assumed this role after the reform and open door policy, particularly in relation to reclamation of small river basins.

In 1988, the Ministry of the Water Conservancy had a specific mandate for the management of water and soil conservation. In particular the Department of Irrigation and Water and Soil Conservation was responsible for water resources and water and soil conservation in rural areas nationwide. The 1991 *Law of Water and Soil Conservation* underscores activities to be carried out by water conservancy organizations. The law stipulates (sic) “The organisation of the State Council in Charge of Water is responsible for nationwide water and soil conservation”. Thus, water conservancy organizations have now become major law enforcement agencies with resulting overlap with areas of forestry administration.

During the 1994 and 1998 reforms, the Ministry of Water Conservancy held on to its mandate for administering and organizing water and soil conservation nationwide, as did the Department of Irrigation and Water and Soil Conservation. Although the 1998 reform clearly indicated that afforestation should be transferred to the SFA, this has not transpired in relation to either practical work or investment.

***Overlaps in city landscaping and greening:*** Before 1992, the greening of towns, villages and minor city suburbs at the county level was conducted by forestry organizations. Landscaping and greening in larger cities was carried out by either forestry agencies or urban construction and landscaping organizations. In 1992, important changes took place upon issuance of the *Measures of Implementation for City Greening Regulations*. According to the regulations, forestry organizations can only administer rural areas while urban construction and landscaping organizations address city forestry.

***Overlaps in administration of scenic and historic places and forest parks:*** Launch in 1985 of the *Provisional Regulations of the Administration of Scenic and Historic Places* had a significant impact on forest parks and state-owned forestry plantations administered by forestry organizations. The regulations stipulate that (sic) “All the places with appreciable, cultural or scientific value, with comparatively concentrated natural and human scenery, with certain scale and beautiful environment, and with the capacity for people to visit, relax or conduct scientific or cultural activities, should be defined as scenic and historic places”. The regulations also stipulate “The Ministry of Urban and Rural Construction and Environment Protection manage the work of nationwide scenic and historic places. While the urban and rural construction organisations of governments at various levels administer their local scenic and historic places respectively”. In addition, the regulations state that scenic damage, environmental destruction (including pollution) and poaching should be addressed by the organization concerned and that destructive activities should be stopped and the economic losses re-imbursed. According to the seriousness of the case, penalties should also be imposed.

Once an area is identified as a place of scenic or historical interest it is, therefore, automatically under either government jurisdiction or the jurisdiction of the relevant administrative organization. In forest parks and state-owned forest plantations designated as sites of scenic or historic interest, timber harvesting and utilization of forest resources are restrained. The forest park is, however, responsible for fire prevention, disease and pest control and forest resource protection. In some locations, the forest park is awarded a share of the profits from admission fees but generally only the administrative organizations for the scenic or historic place benefit from entrance fees. Forest parks therefore hold responsibility for protection and providing ecological services but have no right to the capital generated in relation to their duties.

### **Forestry administration and ecosystem management**

Since the establishment of New China, more than 5 billion m<sup>3</sup> of timber have been supplied to the country and state investment has been concentrated on timber production. After UNCED in 1992, environmental issues increased in prominence and demands grew for a more diverse range of services from the forestry sector. Therefore, a new administrative system for implementing adjustments and controlling activities was needed. Despite changes in the orientation of forestry — from natural forest harvesting to plantation production and from forest clearance to reforestation of farmland — a system to manage and coordinate higher and higher societal demands has failed to materialize. This has largely been a result of difficulties in enhancing administrative functions due to the institutional inertia of offices associated with ecodevelopment programmes.

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## **The appropriateness of forestry administrative organizations in relation to current responsibilities**

Powerful forestry administrative organizations are necessary for the revival and development of forestry in China. In the State Council reform of 1998, however, the Ministry of Forestry was downgraded and re-organized as the State Forestry Administration and although the state has constantly increased input into forestry to accelerate the pace of development, the SFA seems to lack authority. In addition, the re-organization and lowering of the forestry authority negatively influenced local forestry organizations. Some local governments abolished or incorporated their forestry organizations into other institutions and this resulted in numerous difficulties in forestry development (Xiong 2004).

### **Forestry administration and social issues**

One of the problems currently facing the forestry administration is a lack of focus on social and human issues. Forestry has relationships with many offices at the central and local government level in the areas of management, finance, agriculture, transportation, food production and banking. For efficient and effective management of the sector, cooperation, joint implementation and comprehensive control are necessary among the different organisations at different levels. Forests are also linked to issues concerning population, natural resources, the environment and sustainable development and, as such forestry development relies heavily on human resources and social inputs.

### **Forestry administration and macrolevel control**

State-owned forests account for 40 percent of the total forest area in China and are thus of considerable national importance. There is, however, no administrative organization to manage these forests and in key state-owned forest areas, there are no administrative or management entities overseeing operations. Therefore, no professional advice or guidance is available. Similarly, tenants in collectively owned forest areas have received no professional instruction in relation to forestry development although they are the main labour force. In the *Law of Contracting Country Land*, it is explicitly stated that law enforcement is the responsibility of both agriculture and forestry administrative organizations. There is, however, no executive agency within the forestry sector to implement and enforce the law.

### **Insufficient governmental focus on forest industry development**

To encourage forest industry development in a market economy, the government should focus on policy development, cultivating markets and macrolevel regulation. A coordinated and open marketing system should be formed to enhance forest industry management. There are, however, insufficient units within the main forestry administrative organizations to address forest industry development owing to the current transition period between the old and new administrative systems. As a result, forest industry development has been limited.

## RECOMMENDATIONS FOR FUTURE REFORM

### Enhancing the unification and integration of forest agencies

There is a need for coordination in the supervision and administration of forest and wildlife resources to streamline government planning and project implementation. Policies administered by different government organizations will otherwise be enforced in the same forest areas resulting in inefficiency, duplication and confusion.

### Enhancing independence of forestry agencies

The forestry sector is extremely diverse in its characteristics and activities — possibly more so than counterpart sectors. Due to the multifunctionality of forests and the difficulty in separating out and commoditizing individual functions and products, the utilization and exploitation of forests cannot be simply divided into individual parts. The unique characteristics and functions of forestry require unique arrangements and policies for their governance. Therefore, the government's forestry administrative authority should maintain comparative independence in supervising and managing forest activities.

### Enhancing the authority of forest agencies

In a market economy, government agencies should address, *inter alia*, organization of production, protection of intellectual property rights, development of market regulation and the creation of a fair and competitive market environment. Forests have considerable value in their role as a primary component in environmental development. Environmental health has become a fundamental and vital issue in ensuring sustainable socio-economic development in China, especially as ecosystems have been extensively degraded. Ecosystem rehabilitation has therefore become a major national goal. The six key forestry programmes undertaken since 1998 are part of the state's reconstruction activities for enhancing social wealth. However, without authoritative government agencies and corresponding administrative regulations, it will be difficult to efficiently utilize the huge state investments and achieve stated programme objectives.

There has always been a trend towards multiple use of forests and wildlife resources in China because of the comparatively small pool of natural resources, the large extent of areas that are economically underdeveloped and the vast population. Conflicts between protection, development and utilization activities have been acute over the past 50 years. In this regard a number of laws for environmental protection and enhancement have been issued including the first economic law made by the state after the reform and open-door policy — the *Forestry Law of the People's Republic of China*. In addition, many governmental and departmental rules and regulations have been instituted to govern the relationship between state interests and individual action. More than 70 provisions and clauses have also been drawn up to stipulate the responsibilities of the forest administrative authorities. Nevertheless, due to conflicts between protection and utilization, approximately one million violations of forestry-related legislation occur every year. Without a competent forest authority, such legislation could not be enforced and, as a result, government objectives would not be met and control would be lost. Furthermore, the state would have difficulty in honouring the international agreements related to forests and biodiversity that are increasingly influential in global politics and economics.

### Enhancing the long-term stability of forestry organizations

As it is very much easier to destroy forests and wildlife than to bring them back, effective governmental monitoring and administration is essential. However, as forest boundaries are frequently

ambiguous and resources are often openly accessible, protection from exploitation is difficult to accomplish. At the same time, China is a developing country with a huge population and a low forest resource endowment per capita where forest resources are nonetheless vital to the national economy and to people's livelihoods. Rising population and rapid economic development are making increasing demands on limited forest resources and therefore, the state has to ensure that forestry policies and regulations remain valid and are properly enforced.

### **Harmonizing rehabilitation, development, protection and utilization of forests and wildlife**

Due to the involvement of many government sectors and sections of society in national forestry-related outcomes, participation and support from across economic sectors and also from people in cities, towns and villages is needed to manage forests effectively — the state cannot manage such tasks alone. Careful coordination and cooperation among governmental departments is, however, necessary. In particular, attention should be paid to analysis and planning for forestry development.

Consideration should also be given to public awareness raising, education, monitoring, international cooperation and communication and implementation of international agreements. The fundamentally important functions of forestry will, however, remain as desertification prevention, erosion control and wetland protection and management.

### **CONCLUSIONS**

Forestry in China has made significant progress during the 20 years of forestry reform: overconsumption of forest resources has been controlled; forest area and stock have increased; the country has the largest area of plantation forest in the world; the six key forestry programmes have diminished ecosystem degradation and forest resources have multiplied.

Forestry has become more adaptable to the demands generated by development in China's national economy and society during 20 years of forestry reform. Government strategy has shifted from a planned economy to a market economy, which has facilitated the development of forest-related public and environmental services. International exchange of information has also expanded and cooperation has increased.

The major problems faced by forestry organizations in China are: fragmentation of forestry functions and associated loss of responsibilities to other fields; insufficient authority and stability among forest agencies; and lack of supervisory capacity for ecological protection, rural forestry and the forest industry.

Forest sector reform should focus on coordination and integration of the administration and monitoring systems for forest and wildlife resources within the forest organizations. The independence and authority of the forestry organizations should also be addressed to strengthen interior departments in the context of ecological protection, industry development and village forestry development.

## APPENDIX 1. CHANGES OF FUNCTIONS IN FOREST AGENCIES

### The functions of the Ministry of Forestry and Land Reclamation in early New China

The main functions of the forestry organizations according to the state's *Instructions on Nationwide Forestry Work* (the Government Administration Council, 16 May 1950) and associated regulations, included:

- 1) Protection of forests as the primary task; all actions related to forest destruction were prohibited.
- 2) Planned afforestation.
- 3) Plans for timber harvesting and administering timber transportation.
- 4) Prevention of forest fires, and prevention and treatment of forest diseases and pests.
- 5) Prevention of forest destruction for land reclamation.
- 6) Development of wind-break forests and sand defense forests.
- 7) Afforestation with *Vernicia fordii*, *Cinnamomum cumphora*, tea, *Toxicodendron verniciflum*, *Sapium sebiferum*, *Juglans regia*, *Castanea mollissima*, pear, apricot, *Zanthoxylum bungeanum*, date species and *Morus alba*.
- 8) Unified administration of wildlife. In 1962 the State Council issued instructions on *The Active Protection and Rational Utilization of Wildlife Resources*.
- 9) Administration of the wood-processing industry.
- 10) Administration of mechanized forest industry.

These ten functions can be classified into three categories: the protection of forest resources, the administration of timber harvesting and utilization and the organization of planting and afforestation.

### The functions of the MoF following the 1982 organizational reform

In 1979 the MoF resumed its identity and its agencies and their functions were gradually improved. After the 1982 organizational reform, the MoF became the administrative authority of the State Council in charge of national forestry. Its main tasks included enforcement of the CPC's and the state's forestry principles, policies and acts; nationwide mobilization of people for tree planting, afforestation and greening of the land; and the protection and rational utilization of forest resources. Its mandate also included professional and vocational supervision and direction of forestry work in the provinces, municipalities and autonomous regions. Specific duties included:

- 1) Developing and analysis of forest policies and principles and supervision and monitoring of their implementation and effectiveness.
- 2) Developing forestry administrative regulations and rules, strengthening legislation, and supervising and monitoring implementation and enforcement of forest laws, acts and regulations.
- 3) Developing and organizing implementation of annual, mid- and long-term forestry plans.
- 4) Guiding afforestation and management of seeds and seedlings for state, collective and individually owned plantations; and conducting relevant work assigned by the central Afforestation Committee.
- 5) Administration of national timber production, forest rehabilitation and the forest product industry.
- 6) The management and administration of forestry enterprises and institutions directly under the ministry.
- 7) The unified management and administration of timber and submanufactured timber; organizing timber orders, allocations, transfer and transportation according to the state plan for timber distribution; mediation of trading channels for privately owned and irregular timber; coordination with relevant departments to manage timber markets.
- 8) Administration of forest capital; developing and enforcing forestry financial and accounting

- rules; analysing and pricing forest products with concerned departments.
- 9) Assessment and administration of national forest resources; mapping of forested areas, planning and designing afforestation and forest management and exploitation; controlling forest resource consumption; and monitoring forest environment.
  - 10) Organizing and managing the production of specialized facilities, introduction of foreign technology, provision and management of materials and energy in the forestry system.
  - 11) Forest protection and fire prevention, forest disease and pest prevention, treatment and quarantine; management of national nature reserves and wildlife.
  - 12) Organizing academic forest research; promotion of technology and technical standards for forestry production; facilitating forestry technology transfer.
  - 13) Overseeing educational curricula in forestry colleges and secondary and primary schools in forest areas; administration of secondary and higher forestry education in schools and colleges directly under the ministry; training forestry leaders and educating ordinary workers.
  - 14) Administration of forestry foreign affairs and activities, international cooperation and forestry import and export business.
  - 15) Raising awareness on relevant forest policies or measures, e.g. via publications.
  - 16) Steering forestry development in provinces, municipalities and autonomous regions together with relevant organizations.

### **The functions of the MoF following the 1988 organizational reform**

In 1988 the forestry organizations adjusted their approaches according to the principle of “changes in functions, transferring powers to lower levels, adjusting and simplifying the administrative structures, and reducing staff”. Therefore, the major functions of the forestry organizations consisted of:

- 1) Analysing, drafting and implementing forestry policies, principles and laws, rules and regulations; and enforcement following approval.
- 2) Development of strategic and operational plans for forestry development, and organizing implementation of plans.
- 3) Research and guidance on reform of the forestry economic system.
- 4) Organizing and guiding national afforestation and greening efforts, development of forestry programmes and afforestation sites for protection forests, timber forests and cash forests.
- 5) Organizing the national forestry administration and monitoring, auditing and supervising forest resources. Examining and supervising implementation of harvesting quotas.
- 6) Directing and supervising state-owned forest plantations, seedling nurseries, forest farms and forestry working stations.
- 7) Organizing, directing and coordinating forest fire prevention, forest disease and pest prevention, treatment and quarantine; administration of the Armed Forestry Police.
- 8) Direction and administration of forests, nature reserves and forest parks; endangered wild animals and woody plant species.
- 9) Directing and monitoring the work of the national forestry police; coordination and supervision of investigations into major cases of forest resource destruction.
- 10) Direction, coordination and administration of timber harvesting and transportation, the forest product industry, wood pulping and paper making, forestry machinery, basic forest construction, diversification in forest areas; designing supply plans for uniform distribution of materials for forestry production and development.
- 11) Organizing planned distribution of timber and other related products; coordination of timber allocation and transport; providing guidance for non-planned timber and other forest product allocation.
- 12) Direction and supervision of forestry financial and accounting systems; organizing and administering forestry funds; coordination with relevant organizations to develop policy for regulation of prices, taxes and credits for forest products.
- 13) Nationwide coordination of water and soil conservation; participation in directing rural

energy resource development (fuelwood forests).

- 14) Organizing and coordinating national technology research and development and promoting new technology; directing reforms in relation to science and technology.
- 15) Overseeing education and training as well as raising public awareness; providing guidance in building a society with high cultural and ideological levels.
- 16) Administration of foreign affairs and economic cooperation and exchange.
- 17) Managing staff in the ministry and the senior leaders in organizations directly subordinate to the ministry according to stipulated regulations; directing labour, wages and salaries and, security in the field.

### **The functions of the SFA following the 1998 organizational reform**

In 1998 the MoF was transformed into the State Forestry Administration. Although the status of the organization changed from government cabinet member to being directly subordinate to the State Council, the workload increased considerably. The SFA's main responsibilities included:

- 1) Analysis and drafting of policies and principles for developing forest ecosystems, protection of forest resources and greening activities; organizing the drafting of relevant laws and regulations and supervising their enforcement.
- 2) Drafting state forestry development strategies and mid- and long-term development plans and organizing their implementation; administering forestry funds at the central level; supervising management and usage of national forestry funds.
- 3) Organizing tree planting and afforestation; organizing and directing tree and grass planting to prevent and control desertification; organizing and coordinating compliance with international agreements on prevention and control of desertification; directing the construction and administration of state-owned forest plantations (nurseries), forest parks and primary-level forestry units.
- 4) Organizing and directing the management of forest resources (including cash forests, fuelwood forests, tropical forest crops, mangrove forests and other special-use forests); administration of state-owned forest resources in key forest areas assigned by the State Council and accreditation of forest resource supervision organizations; organizing inventories, monitoring and collection of statistics for national forest resources; monitoring and supervising forest resource use; authorizing forest harvesting quotas and supervising implementation after approval by the State Council; supervising harvesting and transportation of wood and bamboo with appropriate documentation; organizing and directing the administration of forest land and tenure; preliminary analysis of forest land requisition and occupation, to be approved by the State Council under the law.
- 5) Organizing and directing the protection and rational exploitation of terrestrial wildlife resources; drafting and regulating the protected animal and plants lists and reporting to the State Council for approval; directing the development and management of forests and natural preserves of terrestrial wildlife under the principles for area division and planning of state natural preserves; organizing and coordinating the protection of wetlands; examination and approval of the import and export of endangered species, as well as other wildlife, rare trees and plants, and their products; organizing and coordinating compliance with international conventions.
- 6) Organizing, directing and supervising national fire prevention; directing the national forest police; organizing and directing national activities associated with the prevention and treatment of forest diseases and pests, and with quarantine if undertaking work associated with the armed forest police office.
- 7) Research on analysis in relation to economic regulations for forestry development; supervision of state-owned forestry assets; examination and approval of key forestry development programmes.

- 8) Guidance on the cultivation of various types of commercial forests (including timber forests, cash forests, fuelwood forests, forests for medical use and bamboo groves) and scenic forests.
- 9) Organizing and directing work related to forestry science and technology, education and foreign affairs; overseeing the national development of forestry staff.
- 10) Undertaking other work assigned by the State Council.

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