

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

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Doug MacCleery¹

(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.² 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.

¹ Senior Policy Analyst, Forest Management Staff, USDA, Forest Service, Washington, DC. Phone: 202-205-1745; fax: 202-205-1045; email: dmaccleery@fs.fed.us

² 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.³ 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).

³ 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.⁴ 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.⁵

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).

⁴ In 1907 the forest reserves were renamed "national forests".

⁵ 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.⁶
- 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).

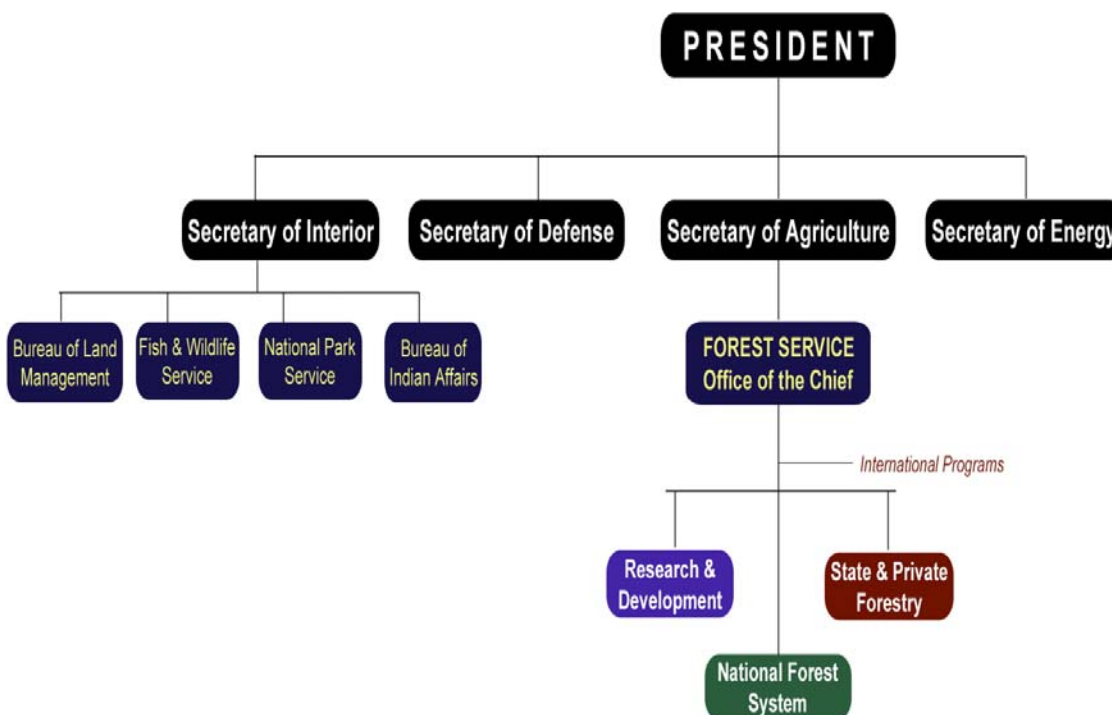


Figure 1. Organizational relationship of federal land management agencies

⁶ 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.⁷
- 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.⁸ Within the Forest Service, the State and Private Forestry Division was responsible for this coordination.

⁷ Over the last several decades many adjacent national forests have combined administrative offices.

⁸ 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.

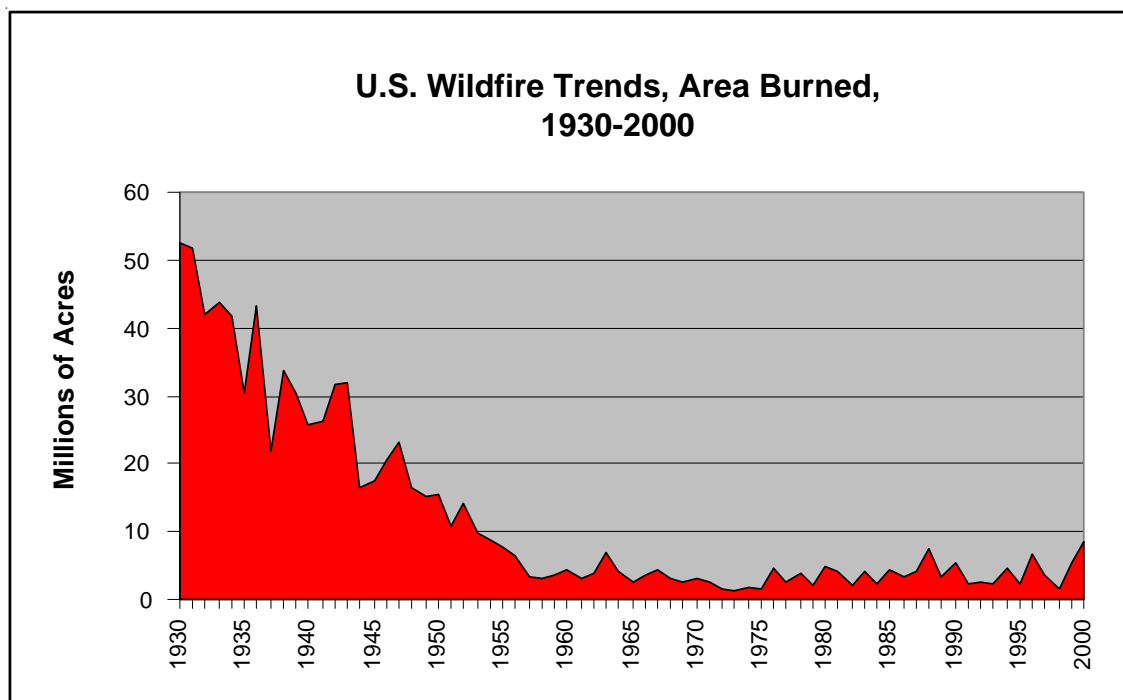


Figure 2. Area burned by wildfire (1930–2000)

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 m³ in the late 1940s to 45 to 50 million m³ 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.

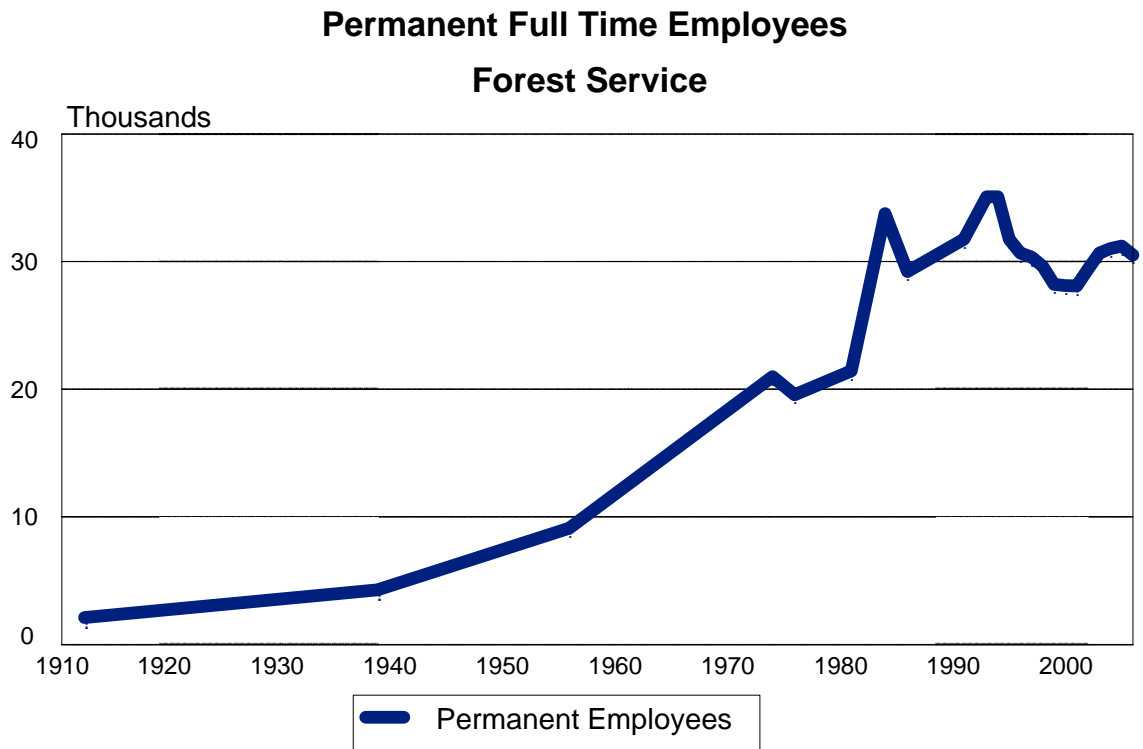


Figure 3. Changes in permanent full-time Forest Service employees

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.⁹

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”.¹⁰

⁹ 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.

¹⁰ *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.¹¹ 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.¹²

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.

¹¹ 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

¹² 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.¹³ 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.

¹³ 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).¹⁴

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.¹⁵ 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

¹⁴ 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.

¹⁵ 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.¹⁶ 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.¹⁷

¹⁶ 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).¹⁸

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).¹⁹

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).²⁰ 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.

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

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

¹⁹ The ISC report can be viewed at: http://pnwin.nbii.gov/nwfp/ConservationStrategyOwl/part_1.pdf

²⁰ 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.²¹

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 m³ of timber annually between 1977 and 1989, dropped to an average of just 1.5 million m³ annually between 1999 and 2004 — a 93 percent reduction.²²

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

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

²² 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.²³ 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

²³ 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 m³ annually to between 9 million and 13.5 million m³ annually²⁴ (Figure 4).

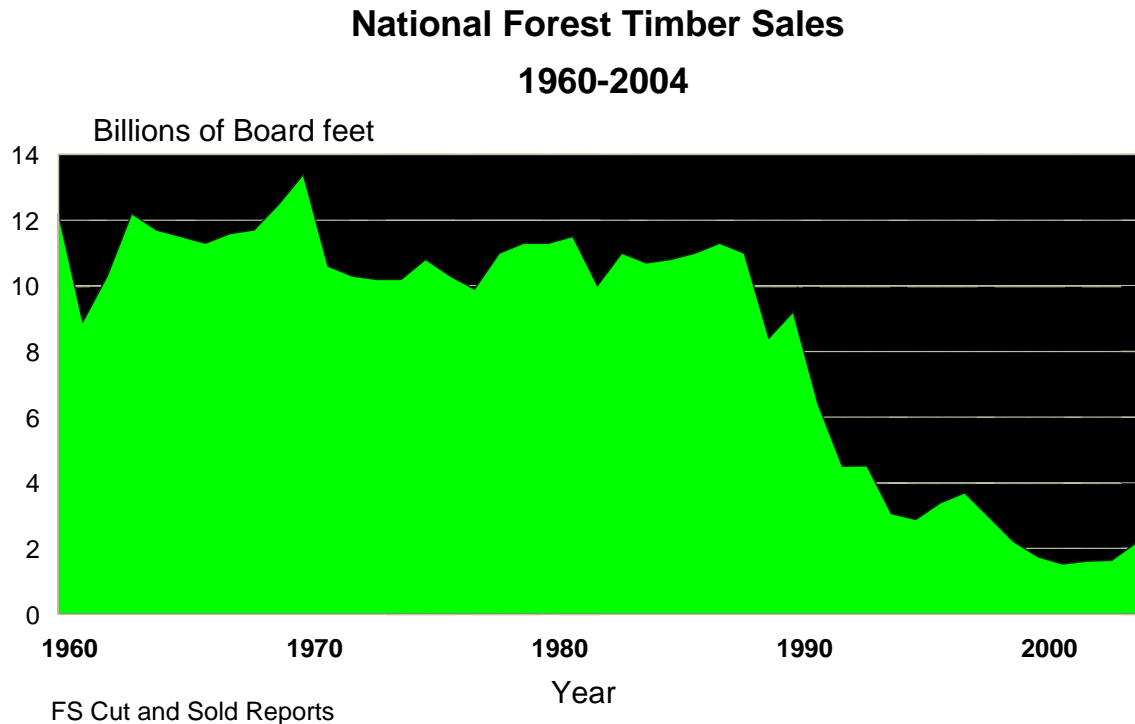


Figure 4. National forest timber sales (1960–2004)

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).²⁵

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.²⁶

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

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

²⁵ 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.²⁷ 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.²⁸

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.²⁹ This led to an increase in the number of staff in forest supervisors' offices, regional offices

²⁶ 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>

²⁷ 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.

²⁸ 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."³⁰

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.³¹ 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

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

³⁰ 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 (9th Cir. 2001).

³¹ 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).³²

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

³² This essay, “The Paradox of Excellence”, is online at: 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).

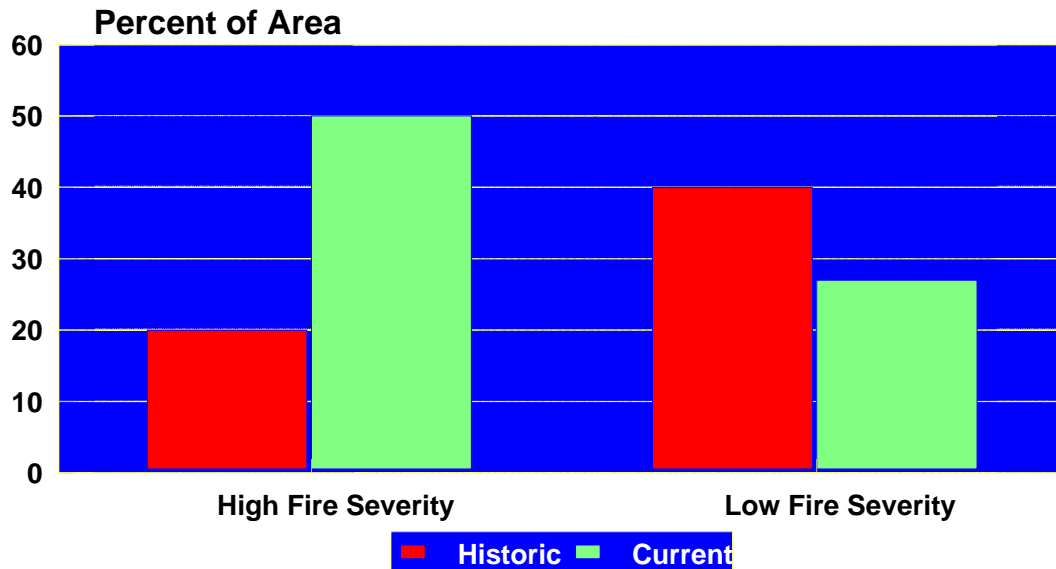
The increased incidence of severe fires is entirely coincidental to the recent mission shifts within the Forest Service, but it has created a strong sense of new direction and urgency for the agency as a replacement for its previous focus.

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.³³

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.

³³ 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

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.

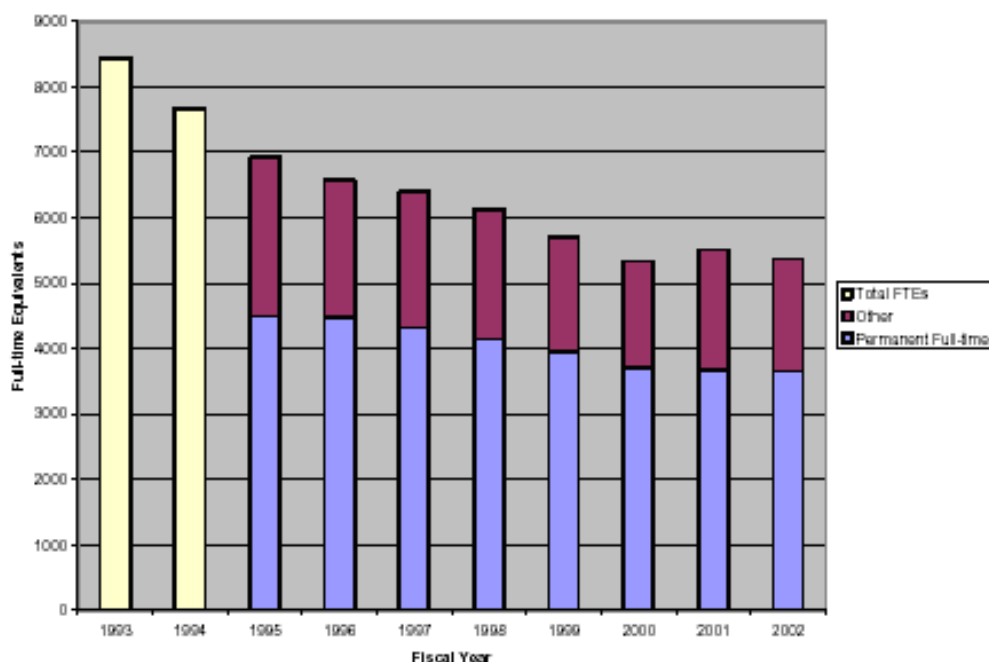


Figure 6. Changes in FTEs in California and the Pacific Northwest (1992–2002)

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.³⁴ With a Republican-controlled Congress, the government-wide re-inventing programme became politicized and no proposals that required Congressional concurrence were implemented.

³⁴ 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

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).³⁵

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).³⁶

³⁵ 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

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

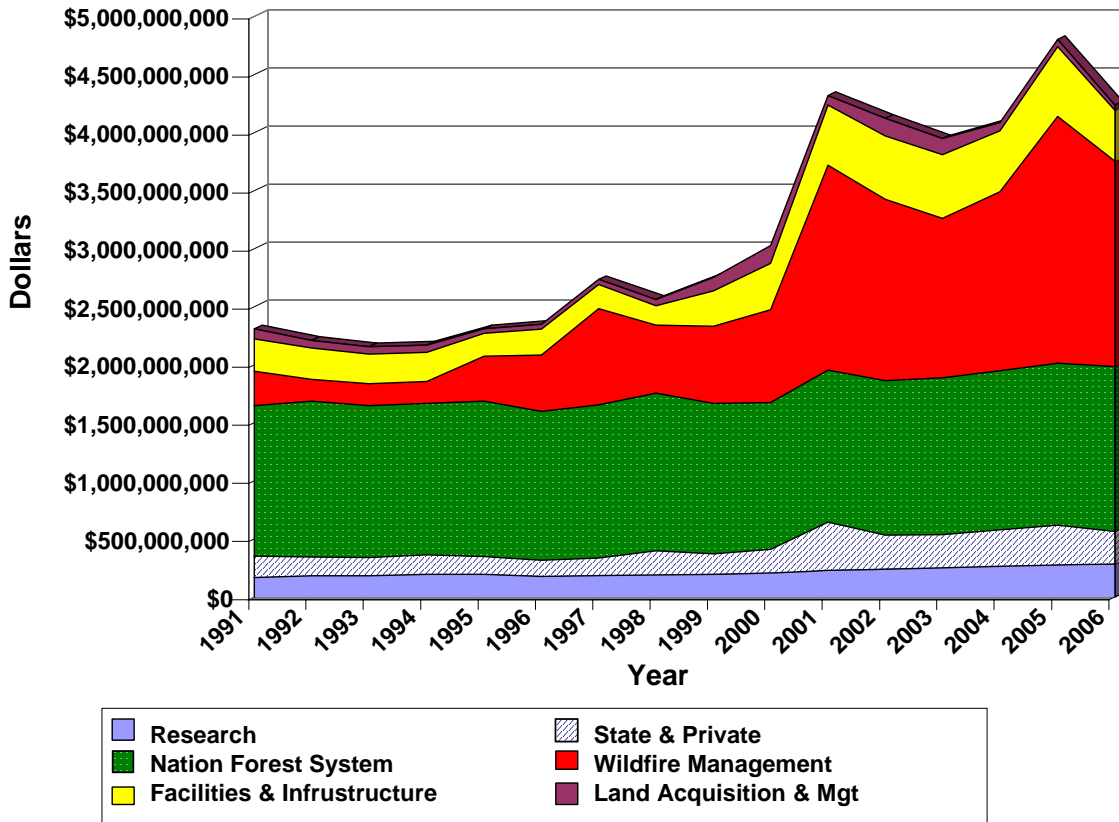


Figure 7. Changes in Forest Service discretionary budget by activity

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).

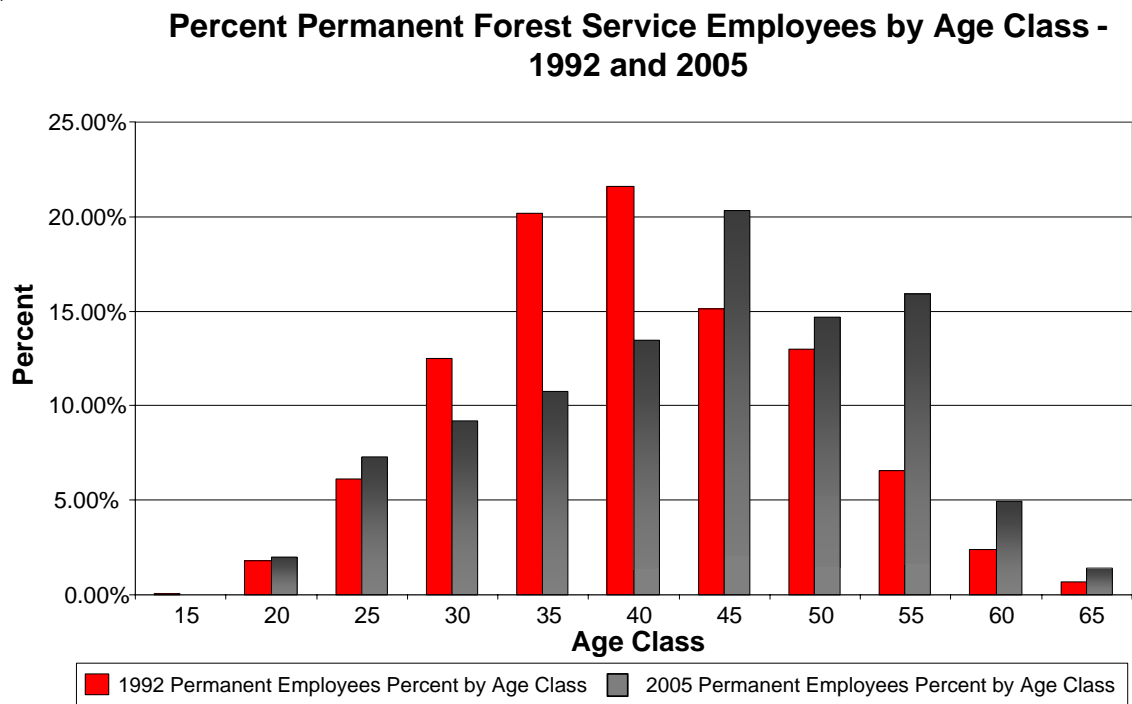


Figure 8. Percent of permanent full-time employees by age class
 Source: HRM (2006).

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

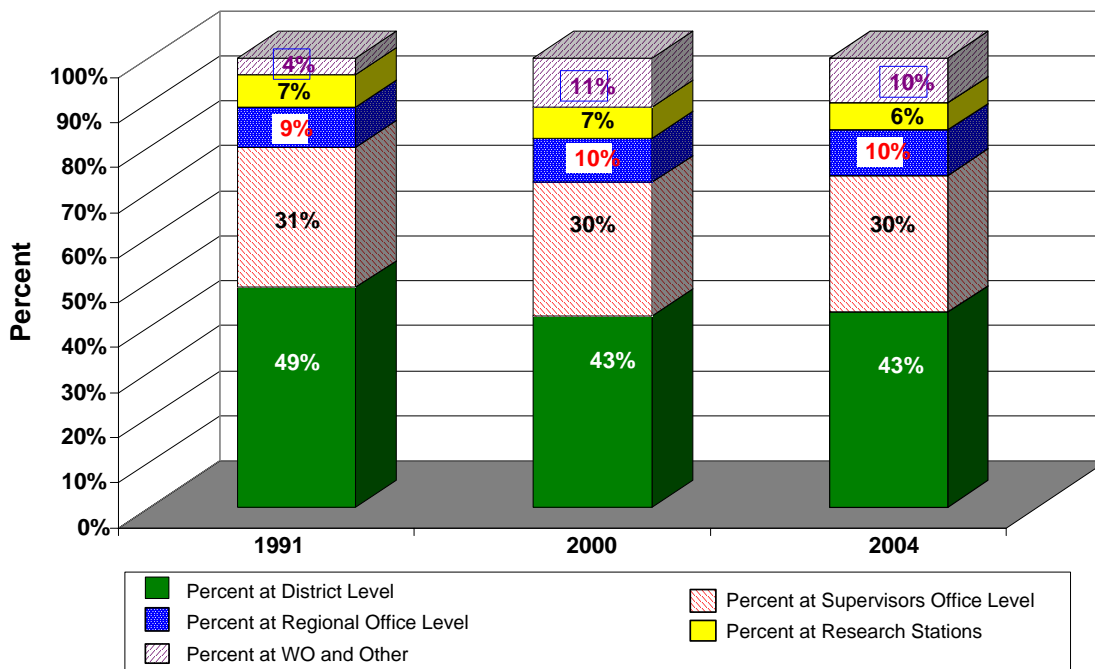


Figure 9. Forest Service employees by administrative level

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.³⁷ 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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³⁷ 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

3

Renato A. de Rueda¹

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.

¹ Renato A. de Rueda is a professional forester and was formerly the Under-secretary for Field Operations of the DENR.

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 EDSA² 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

¹ 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.

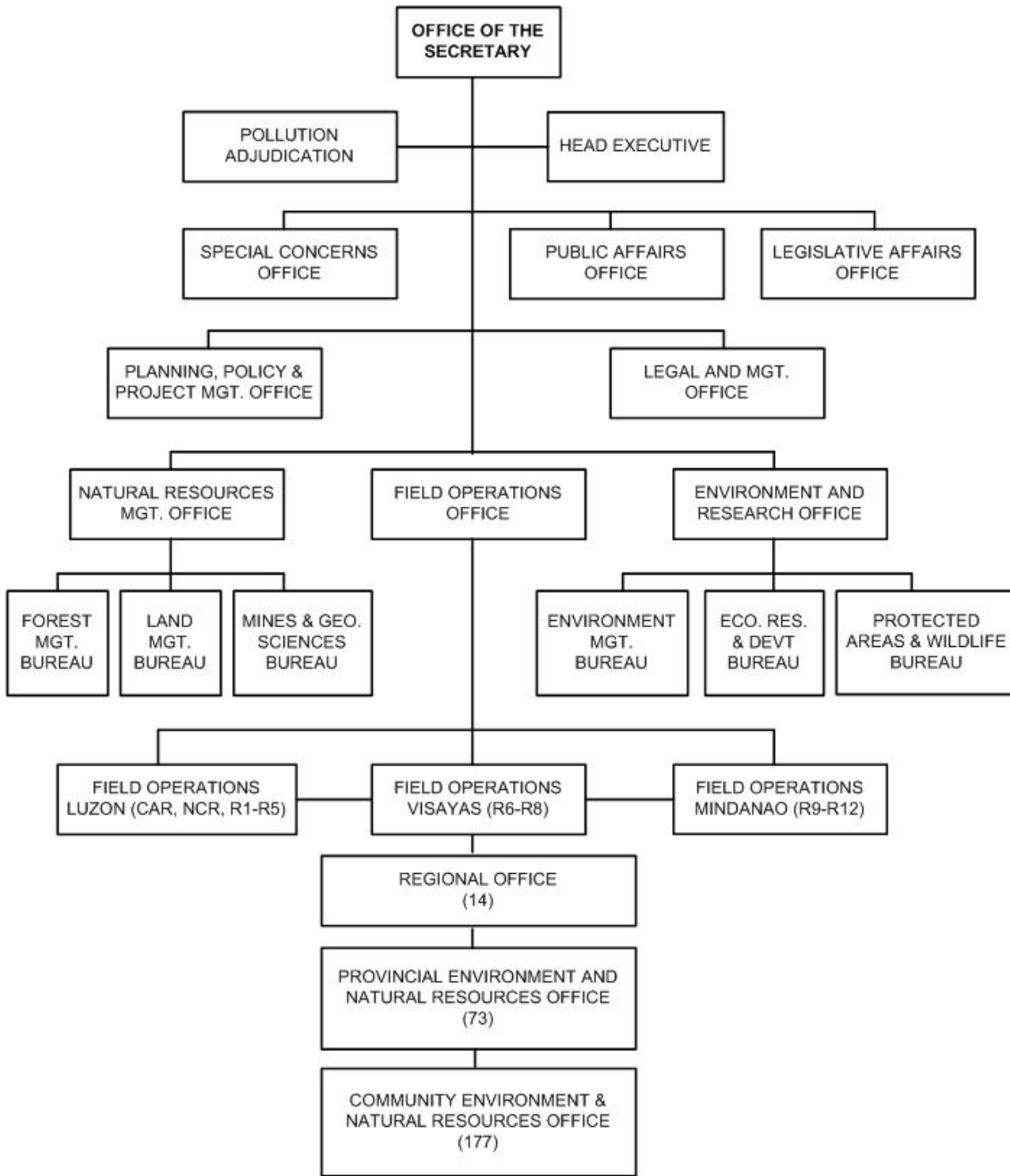


Figure 1. DENR organizational chart (divisions are not shown)

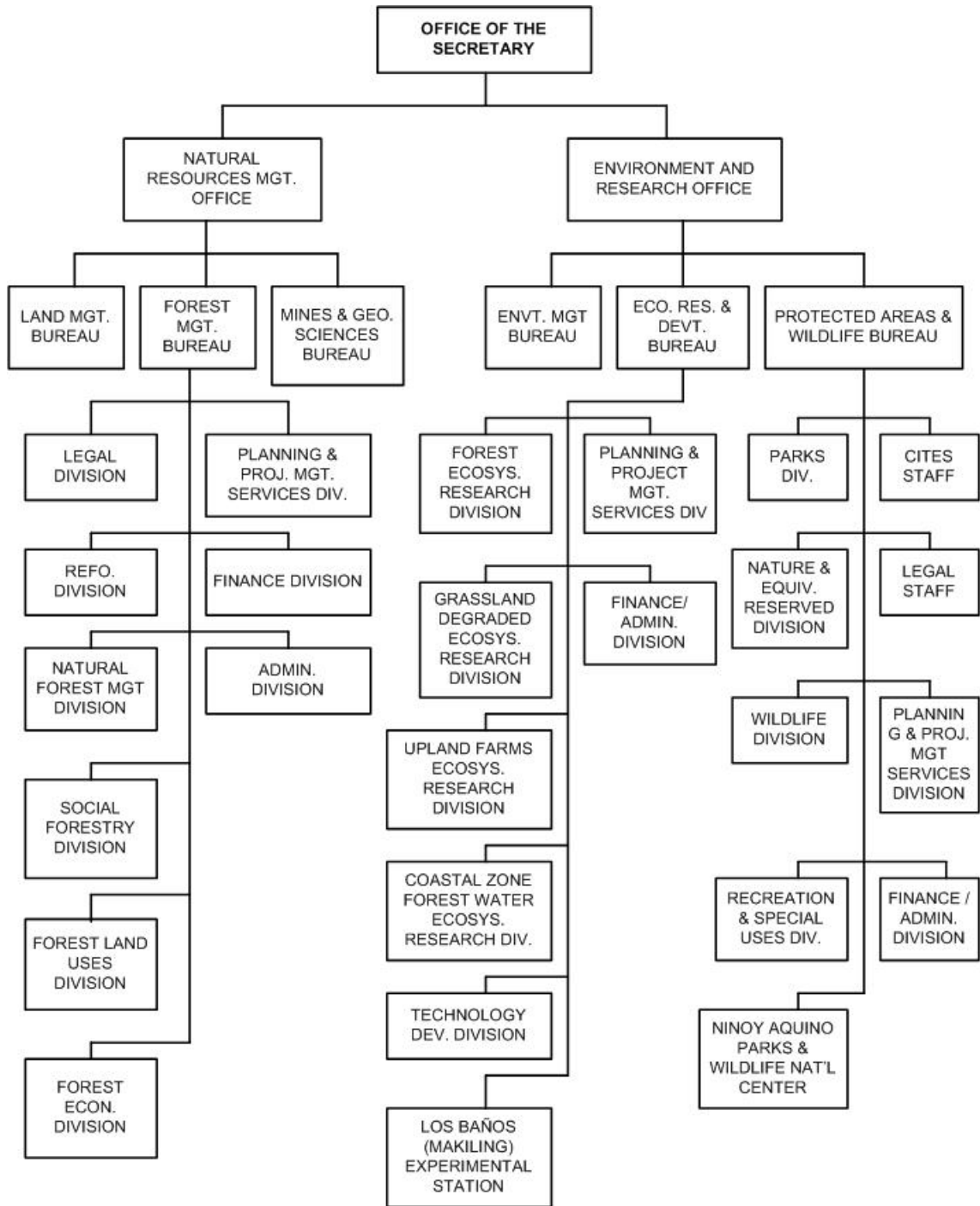


Figure 2. DENR organizational chart showing divisions of the FMB, ERDB, PAWB

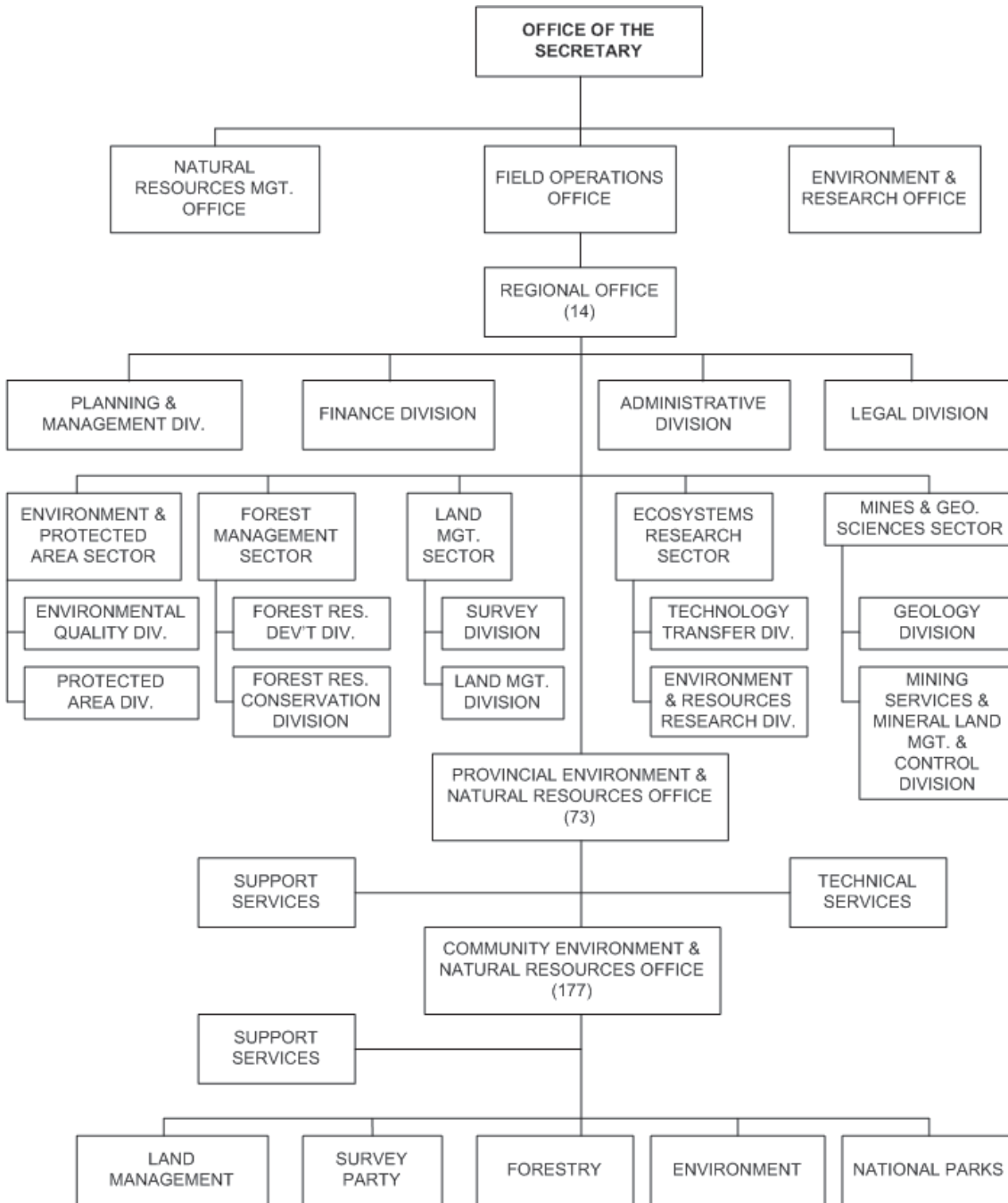


Figure 3. DENR organizational chart showing details of RENRO

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

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
Total	28	1.40

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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