Chapter 3

# Private Sector Involvement

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## THE ROLE OF THE PRIVATE SECTOR

Historically, perhaps the greatest involvement of U.S. interests in tropical forests has been in the private sector. U. S-based companies have been involved in forestry operations in tropical areas at least since the early 1900's. The value of tropical hardwoods (logs, lumber, plywood, and veneer) imported into the United States totaled $537 million in 1978, By the year 2000, U.S. demand for tropical hardwood sawtimber is expected to increase 75 percent. Because of the longer growing seasons and faster growth rates possible in tropical forests, the U.S. paper industry is expected to begin using wood from the tropics for its processes as well.

Other forest products have drawn an increasing variety of private businesses to opportunities in tropical forests. For example, as many as one-half of all U.S. prescriptions contain ingredients of natural origin, and they are valued at over $3 billion (16).

The extent of the private sector's role in the research, development, and implementation of technologies to sustain tropical forest resources (i.e., the search for ways to keep the forests economically and environmentally stable in future years) is not clear. Involvement has varied from company to company because each firm has its own perceptions of needs and opportunities and of the current and future economic outlook. Only a few U.S. firms specializing in exploitation of primary resources (e. g., timber or minerals) have contributed directly or substantially to developing technologies for the tropics. The more important role such firms play is transferring technologies to local institutions, which then adapt them to tropical situations,

The private sector certainly has skills and knowledge important for forestry activities in tropical countries. The expertise varies according to the type of business, its size, and the corporate philosophy. Generally, the opportunities for information transfer fall into two categories: technical skills and business skills.

U.S.-based multinational forestry corporations traditionally have had the most to offer and the most to gain in ensuring that tropical forest resources are maintained. These companies are a great storehouse of information and experience in forest management or, more specifically, in converting natural forests into managed forests. Although much of that knowledge and experience was acquired in temperate climates, the technical know-how for nursery and seed orchard establishment; the methods to establish tree improvement, pest control, fertilization, and other silviculture programs; and the capability to adapt various harvesting, transportation, and processing equipment to local sites can be transferred. Companies also can contribute by sharing organizational and managerial skills.

Although U.S. forestry companies with overseas concessions have in the past concentrated on manufacturing and marketing tropical forest products, in light of dwindling supplies they have started applying their expertise to managing the forests within their concessions. About 23 U.S.-based forestry firms (see table 4) have

**Table 4.—U.S. Forestry Firms in Tropical Countries** (1981)

| | |
|---|---|
| 1. Balsa Ecuador | 12. John Miles Co. |
| 2. Boise Cascade | 13. Kimberly Clark |
| 3. Champion International | 14. Olinkraft |
| 4. Container Corporation of America | 15. Pascagoula Veneer |
| | 16. Resources International |
| 5. Continental Forest Products | 17. Robinson Lumber |
| | 18. Scott Paper |
| 6. Crown Zellerbach | 19. Sonoco Products |
| 7. Ford International | 20. St. Regis |
| 8. Georgia-Pacific | 21. U.S. Plywood/Champion |
| 9. Gould Paper | 22. West Virginia Paper Co. |
| 10. International Balsa | 23. *Weyerhaeuser* |
| 11. International Paper | |

SOURCE: J. S. Bethel, et al., "The Role of US. Multinational Corporations in Commercial Forestry Operations in the Tropics, " a report submitted to the Department of State, University of Washington, 1982, 306 pp.

operations in the tropics. Some of these firms are pulp and paper facilities that buy pulp and convert it into end products; some use nonforest resources (e.g., bagasse or waste paper) for pulp and paper facilities; some have simply set up offices to explore the feasibility of establishing operations in the host country; some are conducting joint research studies; less than half actually have active forest concessions (3). In the future, it is likely that there will be continued transfer of industrial development projects (e.g., large sawmills, plywood plants), as well as U.S. involvement in the management of large-scale forest plantations and natural forests. Given the size, scope, and orientation of profitmaking companies, the potential contribution that the U.S. forest industry can make to tropical forestry is more relevant to the needs of regional or national development than to the needs of local populations,

Other kinds of private industries could also make important contributions to the research, development, and implementation of technologies to sustain tropical forest resources. For example, pharmaceutical companies might be involved because chemical compounds extracted from tropical forest plants have been used directly as drugs, starting materials for the synthesis of drugs, or models for drug synthesis (2). In fact, approximately 25 percent of all the prescriptions written in the United States contain at least one product from a plant and the market for natural-plant-derived drugs is estimated to be $8.1 billion (1980 estimate) a year in the United States (9). Yet, only about 10 percent of the roughly 250,000 kinds of plants have ever been examined to see if they contain any product of potential commercial value (18).

In the past, some pharmaceutical firms had "natural products programs" to conduct systematic studies of exotic flora for compounds of pharmacological interest (12). Other firms viewed this sort of plant screening as unproductive, with results less than proportional to the effort involved. Few companies now conduct research on higher plants as a source of new drugs and the National Cancer Institute recently ended its screening program. There are many reasons for this decline in interest in botanical. First, the research investments often do not pay off because it is difficult to patent a natural compound extracted from a plant (though it is less difficult to patent an extraction process). Further, natural substances have trouble meeting the specifications of the Food and Drug Administration. Because the process for introducing a new drug can take 6 or 7 years, companies are increasingly unwilling to make such investments. Despite these constraints, U.S. pharmaceutical companies do possess the technical knowledge and the financial capital to invest in plant screening programs, either through direct financing or through collaboration with pharmaceutical industries in developing countries.

Agribusiness is another industry that contributes to sustaining tropical forest resources. Its role would be similar to that of the forest product industry: help research and develop sustainable agriculture technology systems, train local people, establish nurseries and orchards for planting materials, produce mycorrhiza, apply tissue culture techniques, etc. The possible effects include: more cash flow, more production per unit of land, and less pressure on forest lands.

U.S.-based agribusinesses also are conducting research that could have indirect applicability in the tropics. For instance, one company is conducting a feasibility study of growing wood for biomass to produce electricity to power its mills. If successful, fast-growing biomass energy plantations could be established elsewhere, especially where fuelwood is in high demand and the cost of oil is prohibitively high.

## THE EFFECTS OF SIZE ON PRIVATE SECTOR INVOLVEMENT IN THE TROPICS

The private sector can be further divided into large and small businesses, each structure having its own strengths and weaknesses. As indicated in the previous section, large businesses have the capital, labor, and skills to devote to the research, development, and implementation of technologies to sustain tropical forest resources. However, their size and complex organizational structure tend to make large businesses cautious, conservative, and inflexible (4). Small businesses, on the other hand, have certain advantages that might be capitalized upon in the quest for improved use of tropical forest resources. Foremost among these is innovation.

Throughout history, independent entrepreneurs and small enterprises in the United States have been frequent purveyors of innovation. Two-thirds of patented major inventions in the last 50 years were discovered by individuals or small businesses (15). This occurs in part because the independent entrepreneur has more freedom to create and pursue new ideas or products. Small enterprises are usually more adaptable to change. Decisionmaking is often confined to one or two persons. They also tend to have closer communication with their customers, thus enabling them to meet special customer needs. For a small business, a single new product can play a significant role and thus can receive a large commitment of energy and funds. That same product might be insignificant in relation to a large corporation's sales or services. Small firms are often product-research-oriented and opportunistic in research and development. They often "fill the gaps" that big companies leave out and consider too risky, not proven, and too future-oriented. These advantages could be important in developing technologies to sustain tropical forest resources.

Biotechnology firms, for example, already are pioneering the use of vegetative propagation and tissue culture techniques for a number of tropical food and tree crops. Because markets are small, it is small businesses that are supplying seeds and seedlings to tropical countries for plantation projects. Further, a great deal of information is transferred by individuals and small firms acting as consultants in a variety of activities: they conduct feasibility studies, build nurseries, establish research facilities, and supply expertise on many topics.

The role of small enterprises is highly individualized. Each company has different personnel, expertise, and goals and thus has different effects. Often, a small firm will reflect the personality of its creator quite strongly. There also are disadvantages in small businesses that must be considered (e.g., such firms may have less investment capital or their staff may lack management skills). Overall, however, it seems that there might be special potential for the involvement of small enterprises in developing and implementing technologies for sustaining tropical forest resources.

## CONCLUSION

The private sector has much to offer to the research, development, and implementation of technologies to sustain tropical forest resources. This sector can help stimulate the less developed countries growth and, in the process, it can benefit from more reliable sources of goods and new investment opportunities. A number of businesses are interested in increasing private sector exchange programs which include: on-the-job instruction in the United States, consuiting, onsite workshops and training programs, support of local scientific and educa-

tional institutions, serving as guest speakers at foreign universities or management institutes, and sponsoring attendance of developing country personnel at international symposia and conferences (13), The private sector's major contributions are investment in research and development of technologies, transfer of existing technologies and their adaptation to local conditions, and training of managers and technicians.