Chapter 15

Nontimber Forest Products in the Rural Household Economy

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Among the multiple outputs of forests, the category labeled nontimber forest products, or NTFPs, has drawn increased policy and research attention during the past 20 years. NTFPs have become recognized for their importance in the livelihoods of the many relatively poor households who live in or near forests, especially in the tropics. Policy concern about NTFPs takes two forms. On the one hand, collection of relatively high-volume, low-value NTFPs, such as fuelwood, fodder, and mulch, has raised concerns about degradation of the forest resource, potentially resulting in hardships for households and negative environmental externalities. On the other hand, collection of relatively high-value, low-volume NTFPs, such as specialty food products, inputs to cosmetics and crafts, and medicinal plants, has drawn interest as an activity that could raise standards of living while being compatible with forest conservation. Addressing these policy concerns requires an improved “understanding of how households interact with natural resources and how one can affect household behavior in desired ways” (Ferraro and Kramer 1997: 207).

In this chapter, we show how both types of NTFPs and related concerns can be understood and evaluated in the household production framework. We illustrate this with two case studies, from the distinct cultural and historical contexts of the Western Ghats of India and the Brazilian Amazon. Our approach is first to clarify objectives, constraints, and conditioning factors using household production theory, and then to estimate econometric
models consistent with that theory and feasible given available data. This raises modeling issues such as the implications of missing or incomplete markets, the relation of other household activities to NTFP collection, and the representation of heterogeneity across households. Appropriately specified models can provide insight into the role of NTFPs in the rural household economy (Pattanayak and Sills 2001), identify policy levers (Lele 1993), and serve as the building blocks for valuation of local forest access (Pattanayak et al. [forthcoming]) and policy simulations (Bluffstone 1995).

1. NTFP LITERATURE

NTFPs include a wide range of subsistence and commercial products (Neumann and Hirsch 2000, Pérez and Arnold 1995). Although much of the literature focuses on products collected from natural forests in developing countries, NTFPs are also produced in plantations and agroforestry systems (see chapter 16) and in developed countries (Jones et al. 2002). Fuelwood is probably the NTFP collected in greatest volume. In fact, fuelwood and charcoal are often placed in a category of their own, with other NTFPs relabeled as nonwood forest products (NWFPs). These include rattans and bamboos; edible fruits, nuts, and other foods; medicinal plants; resins and latex; wildlife and derivative products; and cultural, religious, and aesthetic commodities (Thandani 2001). The Food and Agriculture Organization of the United Nations estimates that approximately 150 of these NWFPs are “significant in terms of international trade” (FAO 2002), some as traditional commodities (e.g., rattan) and some as “green” products marketed as environmentally friendly (e.g., Brazil nuts). While products that enter formal international markets are easiest to quantify, NTFPs are also known to play a critical role in household subsistence and local and regional markets. For example, FAO (2002) asserts that “80% of the population of the developing world use NWFPs for health and nutritional needs.” Byron and Arnold (1999) emphasize that the exact nature and degree of forest dependence varies widely across regions and households. Here, we review three prominent strands of the literature on forest dependence.

1.1 Local Value of NTFPs

Many researchers have sought to quantify the value of NTFPs. Tewari (2000) reviews the motivations and policy implications of these valuation efforts, and Wollenberg (2000) reviews the methodological challenges of obtaining accurate data on quantities and prices. NTFP value can be calculated per hectare of forest (returns to land) or per household (returns to