

## CHAPTER 4

### Ecosystem Services



The collection and processing of Brazil nuts is considered by many to be the quintessential sustainable forest enterprise and is the mainstay of many traditional communities (©Andre Baertschi).

The Amazon Wilderness Area and the Tropical Andes and Cerrado hotspots provide ecosystem services to the world via their biodiversity, their carbon stocks, and their water resources. It is difficult to estimate the economic value of these resources due to their intangible nature and the tendency of traditional economists to discount goods and services that cannot be monetized in a traditional market (Costanza *et al.* 1997). One method of valuating ecosystem services is to estimate their replacement costs; simply put, how much would it cost human society to replace those good and services or, if they are irreplaceable, how much wealth has been lost? (Balmford *et al.* 2002). Regardless of how difficult it is to measure precisely, there is overwhelming agreement that ecosystem services are extremely valuable to society at global and continental scales alike, although market mechanisms and human nature tend to discount or even disregard that value when individual decisions are made at the local scale (Andersen 1997). The growing concern over global climate change and biodiversity extinction has stimulated efforts to estimate the value of ecosystem services and to create mechanisms whereby communities that choose to conserve natural habitats are compensated by other communities that enjoy the benefits of those services (Turner *et al.* 2003).