

**NTFP Policy and Law Bibliography:**

A Resource Linked to the book *Wild Product Governance: Finding Policies that Work for Non-Timber Forest Products*. Edited by SA Laird, RJ McLain, and RP Wynberg, Earthscan, London, 2010.

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**Introduction**

The following bibliography is intended for students, researchers and policymakers interested in laws and policies that impact NTFP management, harvest and trade. It was compiled through three main sources: 1) academic search engines (e.g., Agricola, Web of Science, Ohio Link, J-Store) were used to find published books, journal articles and dissertations; 2) the internet's Google search engine was used to locate white papers, and conference proceedings as well as organizations and websites relevant to NTFP law and policy; 3) NTFP researchers were asked to submit citations of what they considered to be the most important NTFP policy articles.

Reliance upon peer recommendations was essential because of the highly specialized nature of NTFP research. Some individuals spend entire careers dedicated to analysis of trade, medicinal plants, common property resources, certification or other niche subjects. Each niche subject has its own specialized outlets for publication and dissemination, therefore reliance upon experts is essential for locating some of this rather esoteric literature. Although most articles in the bibliography are from published sources, the gray literature is represented for two important reasons. One, the gray literature demonstrates the breadth of organizations working on issues relating to NTFPs. Second, many gray literature documents on NTFP laws and policies are important compendiums that represent prodigious amounts of research into primary sources such as laws, legislative proceedings and departmental memoranda. Such papers are rarely published in peer-reviewed journals because they are generally descriptive in nature and lack theoretical analysis, but they are invaluable to NTFP policy researchers and are thus included.

When viewing the NTFP policy literature broadly, I felt that eight macro themes could be readily distinguished: access, equity, NTFP policies, other policies that impact NTFPs, development and conservation/livelihoods, certification, safety standards and trade. The categories are admittedly porous. An article about NTFPs and CITES, for example, could logically fit under section two (treaties that impact NTFPs) or section four (trade), while an article that appears under the heading “management and conservation policies for NTFPs” might also include an engaging discussion about resource access or benefit sharing.

The bibliography is organized into four broad headings with eight sub-themes. Within each category, citations are given along with keywords, an abstract (if available), and, when appropriate, an additional comment highlighting the significance of the work. Each section also includes additional relevant resources, such as pertinent documents or organizations, which can be accessed through internet links.

Section one lists previously published NTFP bibliographies and literature reviews as well as contacts for organizations well known for their research into NTFPs. Section two covers articles relating to the socio-cultural aspects of NTFP management, harvest and trade, specifically policies relating to tenure, resource access, research ethics, equity, benefit-sharing, traditional knowledge and intellectual property rights. Papers listed in the access sub-section provide a window into the clash between local governance (e.g., customary law) and state policies as well as experiments with devolution and policies aimed at increasing community involvement in resource management. Papers in the sub-section on equity, on the other hand, mostly address tensions surrounding interpretation and implementation of the CBD with regard to traditional knowledge, benefit sharing and intellectual property.

The third section of the bibliography relates to governmental policies for NTFPs. This section includes a sub-section for articles specifically addressing NTFPs management and NTFP policy, mostly at the national level. The second sub-section covers forest policies, international treaties and other governmental commitments that, while not specifically addressing NTFPs, have a broad impact on NTFP management and NTFP policy. This includes international agreements such as the Convention on Biological Diversity, CITES, ITTO and the Montreal Process, as well as papers discussing regional and national forest policies. The final section of the bibliography addresses the intersection of economic policies and NTFPs. The first sub-section deals with documents that address the ongoing debate over the merits of highlighting NTFPs in conservation and rural development strategies. Within this section are some papers that examine the relationship between NTFPs and poverty, specifically whether NTFPs provide a safety net function or pose a poverty trap. The second sub-section is dedicated to organic, fair trade and ecological certification, all independent-sector-promoted soft policy tools (although ecological certification attempts to bolster environmental sustainability, it is nonetheless an economic policy tool). Sub-section three covers government and industry policies for safety and efficacy (for medicinal plants) of NTFPs. The final sub-section addresses trade policies.

This bibliography is by no means a comprehensive collection of the NTFP policy literature. Literature searches were limited to modern era NTFP papers (those published since the late 1980s). Due to funding limitations and a lack of linguistic expertise, there is an admitted bias toward English language documents. Although an attempt was made to include literature from all areas of the globe, certain regions (e.g., North America) are better represented than others (e.g., Australia, Oceania). By limiting the literature search to the eight major sub-topics related above, other policies and laws that impact NTFP management, harvest and trade have been overlooked. For example, some NTFPs are harvested by migrant workers whose ability to work is highly dependent on labor and immigration policies. Likewise, tax policies at the local and regional level may support or undermine NTFP operations, yet few papers cover such matters in detail. Despite these limitations, it is hoped that the bibliography provides an introduction to the complexities of the governance issues surrounding NTFP management, harvest and trade, ranging from international accords to national laws to customary laws.

**Outline of sections:**

- 1. *NTFP bibliographies and online databases relevant to NTFPs*** (p.5)
- 2. *Socio-cultural issues*** (p.7)
  - 2.1 Access, resource rights and land tenure (p. 7)
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- 3. *Resource management and conservation*** (p. 32)
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- 4. *Economic policies, marketing and trade*** (p. 54)
  - 4.1 Economic development initiatives (p. 54)
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  - 4.3 Standards relating to product quality and safety (p. 82)
  - 4.4 Trade (p. 86)

## 1. NTFP BIBLIOGRAPHIES AND ONLINE DATABASES RELEVANT TO NTFPS

In the late 1980s, conservationists and policy makers began promoting NTFP management and harvest as a tool to achieve the dual aims of forest conservation and rural development. Almost twenty years later, a rich and diverse literature on the topic has been amassed. The following section lists a few of the NTFP bibliographies and literature reviews published to date (some are regional in focus, others topical). Websites containing general information on NTFPs and searchable databases are given at the end of the section.

Kafle, Anuradha. 2004. Non-timber forest products conservation and management: a brief bibliographical survey. SANDEE (South Asian Network for Development and Environmental Economics), No. 5 -04. Available online at:

[http://sandeonline.org/publications/bibliographies/pdf/ntfp\\_bibliography.pdf](http://sandeonline.org/publications/bibliographies/pdf/ntfp_bibliography.pdf)

**Comment:** Divided into sections covering economic contribution; marketing and trade; resource valuation methods; environmental issues; general and websites.

Maille, Peter. 2001. *A non-timber forest product bibliography emphasizing Central Africa*. CARPE, Washington, DC. Available online at:

[http://www.fs.fed.us/global/globe/africa/reports/nftp\\_bibliography.pdf](http://www.fs.fed.us/global/globe/africa/reports/nftp_bibliography.pdf)

**Comment:** This bibliography provides a comprehensive look at the Central African NTFP literature, including abstracts, notes and additional contacts. Includes a slice of the African NTFP literature that has been published in French.

Neumann, Roderick and Eric Hirsch. 2000. *Commercialisation of non-timber forest products: review and analysis of research*. CIFOR, Bogor, Indonesia.

**Comment:** More a narrative literature review than a bibliography, this is an essential NTFP reference. The book reviews the global NTFP literature and divides it into four areas of analysis: socio-political, economic, management and ecological aspects of NTFP harvest and trade. The final chapter, "directions for research," identifies gaps in the literature and problems in research methodologies. This is a valuable resource for anyone interested in NTFPs, NTFP policy, or forest policy.

Van der Linde, Harry and Esther van Adrichem. 1997. *Non-timber forest products from the tropical forests of Africa: a bibliography*. IUCN, Amsterdam.

**Comment:** This resource is divided into three sections: Africa/Africa by region; Africa by country; and general NTFP papers. Although a decade old, this is a good resource for

African NTFP literature, especially the French literature featured under many of the West African country sections.

Von Hagen, Bettina, Weigand, James, McLain, Rebecca, Fight, Roger and Harriet Christensen. 1996. *Conservation and development of nontimber forest products in the Pacific Northwest: an annotated bibliography*. US Forest Service, PNW-GTR-375. Portland, OR.

**Comment:** The publication's introduction contains a concise overview of NTFP policy issues. While much of the discussion is couched in terms of relevance to the US Pacific Northwest, the bibliography draws from a wide array of international sources. Articles reviewed cover not only NTFPs in the context of conservation and development but also addresses legal and regulatory aspects of NTFP harvest. French and Italian articles on mushroom harvest regulations are especially important for NTFP policy makers.

Online databases for NTFP literature:

FAO's Non-Wood Forest Products homepage, including publications, web links and a bibliography  
[www.fao.org/forestry/site/6367/en](http://www.fao.org/forestry/site/6367/en).

Institute for Culture and Ecology's NTFP Bibliography Database:  
<http://www.ifcae.org/cgi-bin/ntfp/db/dbsql/db.cgi?db=bib&uid=default>

International Network for Bamboo and Rattan (INBAR), bamboo and rattan bibliography database (for affiliates only):  
[www.inbar.int/Bibliography/biblmain.asp](http://www.inbar.int/Bibliography/biblmain.asp)

NTFP Exchange Programme for South and Southeast Asia:  
[www.ntfp.org](http://www.ntfp.org)

NTFPs in Scotland (interesting website that also includes a searchable NTFP bibliography):  
<http://www.forestharvest.org.uk/>

Royal Roads University's Centre for Non-Timber Resources Bibliography:  
<http://www.royalroads.net/ntfp/bibliography/>

University of Minnesota's Social Sciences in Forestry Database:  
<http://forestry.lib.umn.edu/bib/SSiF.phtml>

## 2. SOCIO-CULTURAL ISSUES

The social context of NTFP gathering is complex, particularly with regard to resource access, tenure and equity issues. Section 2.1 includes citations relating to problems of resource access and tenure, as well as papers describing recent experiences with forest devolution. These papers reveal the tensions between customary law and state law and portray many of the challenges faced in recent forest devolution efforts. Section 2.2 covers broader themes of equity, including research ethics and benefit-sharing.

### 2.1. *Access, Resource Rights & Land Tenure*

Anonymous. 2005. *Rattan utilization in ancestral domain areas*. Not by timber alone, special issue. Philippine Non-Timber Forest Products – Task Force, Quezon City, Philippines.

**Keywords:** Philippines, rattan, tenure, ancestral domains, indigenous people, resource access, forest permits

**Comment:** A summary of two research projects examining rattan harvest and trade within ancestral domain areas in the Philippines. Of interest to NTFP policy makers are the sections on tenure/resource access and the final recommendations discussing the burdens of current forest policies, including burdensome permits, expensive forest charges and other bureaucratic requirements that hinder rattan harvest and trade.

Arquiza, Yasmin. 2006. *Policy options for indigenous communities searching for resource access to almaciga resin in Palawan, Philippines*. Philippine Non-Timber Forest Products -Task Force, Quezon City, Philippines.

**Keywords:** Philippines, almaciga resin, indigenous communities, resource access

Baird, Ian G. & Philip Dearden. 2003. Biodiversity conservation and resource tenure regimes: a case study from northeastern Cambodia. *Environmental Management*, 32(5): 541-550.

**Keywords:** Cambodia, protected areas, tenure, NTFPs, traditional management practices

**Abstract:** The management of tropical protected areas is a contentious issue in resource management and often leads to an unproductive polarization of viewpoints supporting either "protectionist" or "sustainable development" paradigms. This paper argues for a context-driven approach whereby effective management requires inputs from both paradigms in different situations. A key element of context is understanding long-

practiced resource tenures and their ability to meet future conservation and livelihood goals. Different types of tenure arrangements are often required for different resources. This approach is illustrated by analysis of Virachey National Park in NE Cambodia. This park encompasses part of the ancestral territory of ethnic Brao people, who rely upon swidden agriculture, fish, terrestrial wildlife, and various nontimber forest products (NTFPs) for their livelihoods. These people have developed a mix of resource tenure regimes to promote sustainable use and to maximize local benefits. In the face of contemporary pressures, some of these traditional approaches are effective, while others are not. The paper suggests avenues for building on long-established management practices of the Brao to achieve park management goals while enhancing the welfare of the Brao people. A mix of private ownership, common property management, and central government involvement may be required to maximize benefits to local people and ensure long-term protection of biodiversity.

**Comment:** A look into the potential conflicts between indigenous people and protected area management, with specific reference to NTFPs and traditional management systems.

Bilger, Burkhard. 2002. Wild sang: rangers, poachers, and roots that cost a thousand dollars a pound. *The New Yorker*, July 15, 2002: 38-45.

**Keywords:** Ginseng, North Carolina, Great Smoky Mountains National Park, resource access, US National Parks, US Forest Lands, ginseng poaching, resource conflict

**Comment:** This article is not a scholarly piece and suffers from some narrative embellishments. However, the depiction of conflicts between gatherers and federal officials from the US Park Service as well as newly established private landowners rings true. The article discusses how the US Park Service has turned to using implanted microchips, fluorescent dyes and seismic monitors to enforce no-harvest policies on federal lands. Bilger's article is an engaging portrait of how private and federal restrictions on resource access are endangering rural gathering traditions.

Brown, Katrina and Sandrine Lapuyade. 2001. A livelihood from the forest: gendered visions of social, economic and environmental change in southern Cameroon. *Journal of International Development*, 13: 1131-1149.

**Keywords:** Cameroon, West Africa, non-timber forest products, gender dynamics, forest access, economic policies

**Abstract:** This paper explores divergent perceptions and experiences of social, economic and environmental change of villagers in Southern Cameroon arguing that the economic crisis has impacted very differently on men and women within the same community and within households. The analysis highlights shifts in cropping patterns towards increased food crops, especially cassava and plantain, for cash. Sources of livelihood for men have diversified in the face of economic crisis, whereas women have reduced room to maneuver. This results in women becoming increasingly dependent on utilizing non-timber forest products for cash in order to meet their livelihood needs.

However pressures on forests are increasing for a number of reasons and access to land and trees is becoming constrained, so future benefits from forest products will be contingent on clear, well defined and enforced community property rights.

**Comment:** A look at the complex socio-economic ripple effects caused by Cameroon's entrance into a Structural Adjustment Program (SAP) in the late 1980s, particularly the impacts of the SAP on livelihood strategies at the village level. This study found that SAP policies had dramatically different impacts on males and females, forcing many females to become more reliant on non-timber forest products. The authors contend that SAP policies fostered greater commercialization of natural resources, resulting in resource scarcity and limitations on forest access.

Colchester, Marcus, et al. 2006. *Justice in the forest: rural livelihoods and forest law enforcement*. CIFOR, Bogor, Indonesia.

**Keywords:** Bolivia, Indonesia, Canada, Cameroon, Honduras, Nicaragua, forest policy, forestry laws, rural livelihoods, illegal forest use, forest access

**Comment:** This book draws upon reports, case studies and interviews to analyze Forest Law Enforcement and Governance (FLEG) in a number of developing countries and Canada. It finds that forest laws rarely benefit forest-dependent people, often favor industry and well-connected elites, and are contradictory in adoption and implementation. While FLEG is embraced by developing countries and international donors as a means of achieving forest conservation and fostering economic development, the authors warn that forest-dependent people rarely see benefits from such initiatives. In many cases, the authors contend, inequitable enforcement of forest policies and laws often penalize forest-dependent communities or create barriers to forest access for local communities.

Colfer, C.J.P., Dahal, G.R. and D. Capistrano. 2008. *Lessons from forest decentralization: money, justice and the quest for good governance in Asia-Pacific*. Earthscan, London, UK.

**Keywords:** Forest decentralization, forest communities, equity, governance

Dorji, Lam, Edward L. Webb and Ganesh P. Shivakoti. 2006. Forest property rights under nationalized forest management in Bhutan. *Environmental Conservation*, 33(2): 141-147.

**Keywords:** Bhutan, forest access rights, forest policy, forest management, leaf litter/sokshing

**Abstract:** Forest nationalization policies in Asia have often resulted in decreased local property rights over forests and users' short-term exploitative behaviour, leading to degradation of forests. Bhutan's centralized forest management structure was initiated with the Forest Act of 1969. This paper evaluates how nationalization of forests in Bhutan changed forest property rights and associated incentives and disincentives and

management outcomes for leaf-litter forests (*sokshing*) and non-sokshing forests. Using the International Forestry Resources and Institutions (IRFI) research protocols, 12 sites across Bhutan's broadleaf zones were surveyed. Changes in forest property rights were analysed using Ostrom and Schlager's 'bundles of rights' framework. The forest nationalization policy changed the array of *de jure* rights that local people had over both traditionally community-used forests (the majority of forests) and small blocks of sokshings that were usually owned by a household and managed to produce valuable leaf litter for their agriculture livelihoods. There was more compliance with regulations in sokshing than in non-sokshing forests. Non-compliance of local people with forest conservation occurred in areas where the chance of being caught for rule breaking was perceived to be low or the costs of compliance were high. This was almost exclusively the case in non-sokshing forest in the form of widespread but low-intensity illegal tree cutting. The continuing significance of sokshing for agricultural livelihoods serves as a strong incentive for conservation of sokshings by rural people, even though the sokshings are under ultimate state control. The successful management of forests requires minimal difference between *de jure* policies and *de facto* practices for which rules that allocate property rights and the way those rules are enforced are important elements. Conservation and management rights of non-sokshing for communities would not only promote local stewardship, but also put the limited capacity of the Department of Forest to best use. Increased deforestation around villages may result, because modern development alternatives may make leaf litter insignificant for agriculture.

Dowie, Mark. 2005. Conservation refugees: when protecting nature means kicking people out. *Orion*, 24(6), 16-27.

**Keywords:** Protected areas, indigenous people, NGOs, parks, conservation policies, forest peoples, tenure, land rights

**Comment:** A critical look at the work of large conservation organizations which contends that protected area policies present one of the greatest threats to the rights of indigenous peoples. Dowie also takes aim at NTFP projects, dismissing them as slick publicity stunts that bolster the prestige of conservation groups while forcing indigenous people into the poorest, most dependent realms of market economy.

Emery, Marla, Suzanne Martin and Alison Dyke. 2006. Wild harvests from Scottish woodlands: social, cultural and economic values of contemporary non-timber forest products. Forestry Commission, Edinburgh.

**Keywords:** Scotland, forest access, gatherers, livelihoods, regulations, common law

**Comment:** This report gives a view of contemporary NTFP harvesting in Scotland through interviews with gatherers. There is a short section on implications and recommendations for policy and practice, divided into sections reflecting recommendations to policy makers from the authors as well as from the gatherers. The report also contains a brief summary of Scottish regulations (some of which the authors

note are “at best in disagreement and at worst contradictory”) and common law concerning access to lands and the harvesting of NTFPs (appendix 5).

Hobley, Mary. 2007. Where in the world is there pro-poor forest policy and tenure reform? Rights and Resources Initiative, Washington, D.C.

**Keywords:** Tenure, resource access, local communities, forest laws, forest policies, forest devolution

**Preface** (first paragraph): Many countries are now recognizing community ownership and devolving forest responsibilities to local jurisdiction. This transition in ownership is both a response to rights-based movements to increase local ownership and access to forest resources and a strategic policy shift responding to the widespread failure of governments to avoid deforestation, control illegal activities or generate the desired equity of benefits under systems of state forest ownership and control. This transition varies from one country to another based on the biophysical, economic, social or historical reality. Yet there is much that one country and citizenry can learn from the experience of others regarding policy choices and the pace or strategy of reform.

**Comment:** The author finds that tenure reform has not resulted in pro-poor benefits for a host of reasons including lack of complementary policies and reforms to support sectoral change, capture by local elites, incomplete handing over of power by governments, and lack of capacity-building initiatives for the poor.

Gatmaytan, Augusto B. 2004. Case studies in Rattan utilization in ancestral domain areas. Philippine Non-Timber Forest Products – Task Force, Quezon City, Philippines.

**Keywords:** Philippines, rattan, indigenous people, ancestral domain areas, resource access, tenure

Jaireth, Hanna and Dermot Smyth (eds.). 2003. Innovative governance: indigenous peoples, local communities and protected areas. Ane Books, New Delhi.

**Keywords:** Indigenous people, local communities, protected areas, forest legislation, natural resource policies, resource access, co-management, governance

**Comment:** This volume includes case studies from around the globe. The contributions focus on protected areas, indigenous rights, and natural resource laws, with only peripheral attention given to the issue of NTFP harvest and use. Nevertheless, the legal implications of protected areas legislation have a direct bearing on NTFP use and local communities, thus making this volume an important contribution to the NTFP law and policy literature.

Larrère, Raphael and Martin de la Soudière. 1984. *Cueillir la montagne: plantes, fleurs, champignons en Gévaudan, Auvergne et Limousin*. L’Homme et la Nature. La Manufacture, Lyon, France.

**Keywords:** France, lichens, chanterelles, narcissus, ethnography, wild harvesting, resource access, resource conflict, harvest practices

**Comment:** This ethnography is a detailed study of gathering in post-industrial France. The monograph provides a nuanced portrait of modern gatherers and discusses markets for gathered products. According to the authors, conflicts between local gatherers and extra-locals are increasingly common and efforts to promote and professionalize NTFP markets are limiting access to resources and destabilizing local livelihoods. French regulations governing the collection of mushrooms and other wild products are also discussed.

Larson, Anne M., Pablo Pacheco, Fabiano Toni and Mario Vallejo. 2007. The effects of forestry decentralization on access to livelihood assets. *Journal of Environment & Development*, 16(3): 251-268.

**Keywords:** Governance, decentralization, livelihoods, forest management, Latina America, access to resources, forest dependent groups

**Abstract:** Despite its argued theoretical benefits, forestry decentralization in practice can have detrimental effects on forest-dependent peoples, but little is understood about the specific paths by which decentralization affects livelihoods. This article, based on data from research in 2005 in Bolivia, Brazil, Guatemala, Honduras, and Nicaragua, presents a working conceptual model for analyzing these interactions. The research found that vulnerability increased when decentralization was not combined with policies addressing structural inequities—that is, increased municipal government control over land and forests must be accompanied by policies increasing poor local people's access rights and security. At the same time, increased municipal government authority over forest management and monitoring can facilitate access to these and other assets needed for forest livelihoods, but this new responsibility must also be accompanied by improved controls over local authorities. The needed changes rarely come about without specific organized demands of local actors' associations and movements.

Lebbie, Aiah R. and Raymond P. Guries. 2002. The palm wine trade in Freetown, Sierra Leone: production, income, and social construction. *Economic Botany*, 56(3): 246-254.

**Keywords:** Sierra Leone, palm wine, ethnicity, NTFP, household income, social networks, gender issues, resource access

**Abstract:** Palm wine tapped from *Elaeis guineensis* provides high incomes to certain groups such as Limba tribe members and women while creating social networks among tappers, traders, and retail vendors. Income levels from palm-wine tapping were several-fold higher than the minimum daily wage in Sierra Leone during 1998. Gender differences were particularly important in the marketing of palm wine, with women dominating the retail sector whereas men serve as producers and middlemen. An estimated 90% of palm wine middlemen are males, whereas kiosk vendors are mostly

females. A formalized gift-giving culture has developed to ensure the continuous flow of palm wine from tapper to consumer.

**Comment:** This article covers resource access norms to palm trees in Sierra Leone. It also describes the complex social networks that exist within the palm wine trade. Any formal policies developed for palm wine harvest and trade would likely cause major disruptions to local customs.

Lee, Molly. 2002. The cooler ring: urban Alaska native women and the subsistence debate. *Arctic Anthropology*, 39 (1/2): 3-9.

**Keywords:** Alaska, subsistence, resource rights, resource access, Alaskan Natives, Alaska Native Claims Settlement Act (ANCSA), Alaska National Interest Land Conservation Act (ANILCA), resource conflict

**Abstract:** This article examines the putative effects on urban Alaska Native women of the proposed rural-residence option to the long simmering legal and political debate over Alaska Native subsistence rights, interweaving high points of the debate with vignettes from the life of Flora Mark (a pseudonym), a Yup'ik Eskimo artisan living in Anchorage. Beginning with the Alaska Native Land Claims Settlement Act of 1971 and continuing up to the present, the stalemate has pitted state against federal law, Natives against non-Natives, and commercial against family-based interests. One major – and often overlooked – stumbling block is the contradictory definitions of subsistence held by Natives, for whom subsistence is a collective right based on sharing, and non-Natives, who consider subsistence to be the satisfaction of minimal dietary needs.

**Comment:** Federal and state policies have generally supported subsistence use of natural resources (game and NTFPs such as berries) in Alaska, but conflicts between Alaska Natives and non-Natives, as well as urban versus rural residents, are ongoing. This paper examines the centrality of subsistence to Native Alaskans and champions the subsistence rights of urban Native Alaskans in the increasingly confusing and polarizing debate over subsistence policies in Alaska.

Lynch, Kathryn A. and Rebecca J. McLain. 2003. Access, labor, and wild floral greens management in Western Washington's forests. USDA Forest Service, General Technical Report 585. Pacific Northwest Research Station, Portland, OR. Available online at: <http://www.fs.fed.us/pnw/pubs/gtr585.pdf>

**Keywords:** NTFPs, floral greens, resource access, forest policy, labor policy, resource tenure, sustainability, salal, Olympic Peninsula

**Summary:** The study has several key implications for forest managers, including the need for managers and policymakers to recognize the heterogeneity of the harvester and buyer populations and to consider the possibility that interventions in domains seemingly unrelated to forest management, such as labor policy, might constitute key elements of a

sustainable forest management strategy. The report ends with a list of steps managers and researchers can take to support sustainable floral greens management.

**Comment:** This report covers laws and treaty rights pertaining to NTFPs in Washington State, discusses access issues for NTFP harvesters, and includes a trenchant analysis of labor issues and their impact on NTFP harvest.

Mahanty, Sango, Jefferson Fox, Michael Nurse, Peter Stephen and Leslie McLees (eds.). 2006. *Hanging in the balance: equity in community-based natural resource management in Asia*. RECOFTC, Bangkok and East-West Center, Honolulu.

**Keywords:** Asia, community-based natural resource management, resource access, benefit sharing, forest devolution, rural livelihoods

**Abstract:** The Millennium Development Goals remind us of the fundamental relationship between poverty reduction and equitable and sustainable development. Community based approaches to natural resource management aim to work on these processes concurrently. However, there are diverse views on the effectiveness of Community Based Natural Resource Management (CBNRM) in supporting benefit sharing and increasing the voice of marginalized groups. This book brings together a set of papers that particularly examine the potential of CBNRM initiatives to contribute to equity in Cambodia, China, India, Indonesia, Laos, Nepal, the Philippines, Thailand, and Vietnam.

**Comment:** This is a collection of conference proceedings, some of which touch on NTFPs.

Pandit, Bishnu Hari and Gopal B. Thapa. 2003. A tragedy of non-timber forest resources in the mountain commons of Nepal. *Environmental Conservation*, 30(3): 283-292.

**Keywords:** Nepal, common property resource, forest management, NTFPs

**Abstract:** There is increasing degradation of non-timber forest products (NTFPs) in the mountains of Nepal. It has been proposed that different components of a common property resource (CPR) do not undergo degradation at the same rate, as they are not managed in the same way under different types of property rights regimes. To examine this, information was collected through a survey of 324 households, community resource assessment ranking and group discussion in a small mountain watershed of Nepal. The study analysed NTFP collection and management practices under government and community forest management systems, and impact of these practices on the status of forest and NTFPs. The analysis based on people's perception revealed that NTFPs were being depleted more rapidly than timber components in both types of forest. The pace of depletion was, however, considerably lower in community forests, as these forests were accessible only to the relevant forest user group members. Depletion of NTFPs was due primarily to the lack of proper institutional arrangements, including the lack of a

comprehensive government policy framework, for sustainable use and management of NTFPs.

Peluso, Nancy Lee. 1992. *Rich forests, poor people: resource control and resistance in Java*. University of California Press, Berkeley, CA.

**Keywords:** Indonesia, resource access, forest policy, community resistance

**Comment:** An influential and often-cited reference detailing the history of Indonesian state control over access to forest resources and the resulting local resistance to state forest policies. Voted one of the most influential works on tropical forest policy by a CIFOR poll.

Poffenberger, Mark (ed.). 1990. *Keepers of the forest: land management alternatives in South East Asia*. Kumarian Press, West Hartford, CT.

**Keywords:** South Asia, land tenure, forest policy, forest management, resource access, participatory forest management

**Comment:** Filled with case studies from Southeast Asia, this book examines the historical decline of local control over forest resources and the problems associated with the modern model of state-controlled forests. The book concludes with examples of new forest management pilot projects in the region that incorporate local communities into forest management decisions and activities.

Ribot, Jesse C. 1995. From exclusion to participation: turning Senegal's forestry policy around? *World Development*, 23(9): 1587-1599.

**Keywords:** Senegal, charcoal, forest policy, participation, forest access, representation, distribution of benefits

**Summary:** A century of centralized forestry policies has excluded Senegal's forest villagers from charcoal production and marketing. Policies have given access to marketing and labor opportunities to urban-based merchants who hire Guinean migrant laborers. While forest villagers neither produce nor consume charcoal, commercial production is cutting forests on which villagers rely. In 1993, progressive forestry agents ushered in a new "participatory" forestry code. But, this new policy may not be equitable nor beneficial, and it risks adding control over village labor (for forest management) to the long list of Forest Service controls. Locally accountable representation, local decision-making powers and simple local-management enabling policies could diminish these risks.

Saastamoinen, Olli. 1999. Forest policies, access rights and non-wood forest products in northern Europe. *Unasylva*, 50(198): 20-26.

**Keywords:** Scandinavia, Russian Federation, Baltic States, Finland, access rights, berries, mushrooms, forest policy, tax incentives, common property resources

**Summary:** In northern European countries where most NTFPs are underutilized, maintaining free access to forests may be the best resource management policy.

**Comment:** Discusses access rights and forest policies in Denmark, Norway, Sweden, the Russian Federation, the Baltic States and Finland. Berries and mushrooms are generally open-access resources in these countries, regardless of ownership. The author analyzes whether privatization would increase utilization of NTFPs, but concludes that the social costs of preventing traditional open access would be untenable. Policy recommendations include: giving greater recognition to NTFPs in national forest policies, implementing market studies, tax reform and rural development programs, supporting greater organization among gatherers, and increasing extension and training.

Tedder, Sinclair and Darcy Mitchell. 2000. Seeing the forest beneath the trees: the social and economic potential of non-timber forest products and services in the Queen Charlotte Islands/Haida Gwaii. South Moresby Forest Replacement Account. British Columbia Ministry of Forests. Available online at:  
[http://www.for.gov.bc.ca/ftp/Het/external/!publish/web/non\\_timber\\_forest\\_products/qcis\\_mf~1.pdf](http://www.for.gov.bc.ca/ftp/Het/external/!publish/web/non_timber_forest_products/qcis_mf~1.pdf)

**Keywords:** British Columbia, Queen Charlotte Islands, Haida Gwaii, mushrooms, NTFPs, subsistence, resource access, commercialization of NTFPs, NTFP permits, Native land claims

**Comment:** This assessment report portrays many of challenges to establishing a commercial trade in NTFPs on the Queen Charlotte Islands/Haida Gwaii, particularly with respect to potential conflict between Natives and off-islanders.

Tedder, Sinclair, Mitchell, Darcy and Ann Hillyer. 2002. Property rights in the sustainable management of non-timber forest products. British Columbia Ministry of Forests/Forest Renewal BC. Available online at:  
[http://www.for.gov.bc.ca/ftp/Het/external/!publish/web/non\\_timber\\_forest\\_products/NTFP%20Property%20Rights%20FRBC%20PAR\\_02001-30.pdf](http://www.for.gov.bc.ca/ftp/Het/external/!publish/web/non_timber_forest_products/NTFP%20Property%20Rights%20FRBC%20PAR_02001-30.pdf)

**Keywords:** British Columbia, non-timber forest products, forest resources, property rights, sustainable resource management, natural resource management

**Abstract:** Non-timber forest products (NTFPs) is a term used to describe over 200 species of forest resources, other than timber, harvested for commercial, personal or traditional purposes in British Columbia. NTFPs are characterized as common pool resources and as such are inherently difficult to manage from a typical state-based regulatory approach. This project sought to examine the literature regarding the management of common pool resources and the role property rights play in the stewardship of forest resources. Combined with a legal review of the foundations and

existing structure of property rights and resource management institutions in British Columbia, this paper concludes that given the complex ecological, social and economic characteristics which define NTFPs, that a single management approach will not provide an effective, efficient and equitable management regime for NTFPs. Management institutions or models range from state-based to common property to individual and private-based. After examining the various management models, each with its advantages and disadvantages, the paper concludes that in principle, government agencies should maintain its prescriptive role, but minimize any operational role. The report recommends that a mix of management systems be used, drawing from the strengths of each in appropriate circumstances. Given that there are no active models specifically for NTFPs in British Columbia, it is recommended that a pilot project be initiated to test and monitor the various approaches. The paper provides the institutional context to move the discussion of managing NTFPs to the development stage.

**Comment:** A white paper outlining options for the creation of an umbrella NTFP policy in British Columbia. The report recommends buyer licensing and reporting systems and testing of various management/tenure systems in the field using adaptive management as a guiding principle.

Online resources pertaining to NTFP access, tenure, etc.:

Countryside and Rights of Way Act 2000 (land access law in England and Wales):  
<http://www.opsi.gov.uk/Acts/acts2000/20000037.htm>

Everyman's Right (customary law guaranteeing the right of public access onto public and private lands in the Nordic countries for recreational purposes, including the harvest of mushrooms and berries – known as Allemansrätten in Sweden, Allemannsretten in Norway and jokamiehenoikeudet in Finland). The link below provides an English language summary of the law in Sweden:

[www.allemansratten.se/templates/firstPage.asp?id=2058](http://www.allemansratten.se/templates/firstPage.asp?id=2058)

Finnish Ministry of the Environment. 2006. Everyman's right:

<http://www.ymparisto.fi/default.asp?contentid=49256&lan=EN>.

Forest Governance Learning Group (a learning network that aims to address ownership, access rights, policy and management frameworks to improve local control, poverty reduction, decentralization programs, forestry enterprise initiatives, and other forest-related policies in Africa and Asia):

<http://www.iied.org/NR/forestry/projects/forest.html>

Gathering NTFPs in Scotland – Legal Issues (this website provides links to relevant laws, including the Scottish Outdoor Access Code):

<http://www.forestharvest.org.uk/legal.htm>

Land Reform (Scotland) Act 2003 (land access law in Scotland):

<http://www.opsi.gov.uk/legislation/scotland/acts2003/20030002.htm>

Philippines – Department of Environment and Natural Resources – Special Provisions for the Processing of Rattan Applications within Areas Reserved/Occupied by Cultural Communities, DENR Administrative Order No. 04-1:

<http://www.denr.gov.ph/policy/1989/DAO1989-04-1.pdf>

Philippines – National Commission on Indigenous People – Policies (including process to establish a Certificate of Ancestral Domain Title):

<http://www.ncip.gov.ph/mandate/policies.php>

## 2.2. Benefit Sharing, ethics, equity, traditional knowledge and cultural heritage

Balick, Michael J., Elaine Elisabetsky & Sarah A. Laird (eds.). 1996. *Medicinal resources of the tropical forest: biodiversity and its importance to human health*. Columbia University Press, New York.

**Keywords:** Tropical forests, medicinal plants, biodiversity prospecting, research partnerships.

**Comment:** One of the earliest volumes to address medicinal plants and their growing importance to global health care. Contains chapters on the Merck/InBio agreement, biodiversity prospecting, property rights and genetic resources and various descriptions of country programs relating to medicinal plant management and use.

Barratt, C.B., and Lybbert, T.J. 2000. Is bioprospecting a viable strategy for conserving tropical ecosystems? *Ecological Economics* 34: 293-300.

**Keywords:** Bioprospecting, conservation, local communities

**Comment:** This very good article looks at the economics of bioprospecting and concludes that bioprospecting is an unpromising base on which to rest the economic rationale for conservation. Alternative approaches should focus on helping communities better understand and value their dependence on ecosystem services; emphasizing the need for wealthy communities to pay for conservation; and providing productive opportunities outside of biodiversity important areas.

Bellmann, C., Dutfield, G. and Melendez-Ortiz, R (eds). 2003. *Trading in knowledge. development perspectives on TRIPs, trade and sustainability*. Earthscan, London, UK.

**Keywords:** Intellectual Property Rights (IPRS), TRIPS

**Comment:** Explains the issues at stake in IPR negotiations and treaties and offers perspectives on IPRs and trade from a diverse range of developing country groups including civil society organizations, farmers, researchers and government officials.

Brown, Michael F. 2005. Heritage trouble: recent work on the protection of intangible cultural property. *International Journal of Cultural Property*, 12: 40-61.

**Keywords:** Intangible cultural property, information society, heritage inventories, policy, intellectual property rights

**Abstract:** A major factor driving contemporary concerns about the fate of intangible cultural property is the rise of the Information Society, which has proven adept at stripping information from the cultural contexts that give it meaning. Efforts to preserve intangible heritage have tended to follow Information Society models by proposing that

heritage be inventoried, then removed from the public domain and returned to the exclusive control of its putative creators. This essay reviews recent scholarly work and policy initiatives related to intangible cultural property, with an eye toward identifying their merits and flaws. It argues for a more ecological perspective, one that takes account of the unpredictable quality of information flows as well as the costs of attempting to manage them. Also explored are some of the difficult, unanswered questions about whether all intangible cultural heritage is equally worthy of protection.

Cunningham, Anthony B. 1993. *Ethics, ethnobiological research and biodiversity*. WWF-International, Gland, Switzerland.

**Keywords:** Ethnobotanic research, research ethics, intellectual property rights, informed consent, equity

Dutfield, Graham. 2000. *Intellectual property rights, trade and biodiversity*. Earthscan, London.

**Keywords:** CBD, TRIPS, WTO, UPOV, intellectual property rights (IPR), genetic resources, traditional knowledge

**Comment:** A good introductory primer for those interested in the international agreements pertaining to genetic resources and associated issues such as intellectual property rights. Details the relevant global treaties and agreements that impact use of genetic resources and discusses creation of equitable IPR regimes.

Dutfield, Graham. 2003. Protecting traditional knowledge and folklore: a review of progress in diplomacy and policy formulation. IPRs and Sustainable Development Issue Paper No. 1. UNCTAD-ICTSD, Geneva.

Available online at:

[http://www.ictsd.org/pubs/ictsd\\_series/iprs/CS\\_dutfield.pdf](http://www.ictsd.org/pubs/ictsd_series/iprs/CS_dutfield.pdf)

**Keywords:** Traditional knowledge, intellectual property, CBD, WIPO, WTO, patents, policy

**Summary:** Traditional knowledge (and to a certain but lesser extent folklore) and its relationship to the formal IPR system has emerged as a mainstream issue in international negotiations on the conservation of biological diversity, international trade, and intellectual property rights including the TRIPS Agreement. In the past few years, high-level discussions on the subject have been taking place at the WTO, the Conference of the Parties to the Convention on Biological Diversity (CBD), and at the World Intellectual Property Organization (WIPO) which has established an Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC). Several developing country governments in these forums have adopted the view that TK and folklore need to be protected legally, and have criticised the formal IPR system for legitimising their misappropriation. The question that many seek answers to is what should be done?

Solutions to the protection of traditional knowledge in IPR law may be sought in terms of ‘positive protection’ and ‘defensive protection’. Positive protection refers to the acquisition by the TK holders themselves of an IPR such as a patent or an alternative right provided in a sui generis system. Defensive protection refers to provisions adopted in the law or by the regulatory authorities to prevent IPR claims to knowledge, a cultural expression or a product being granted to unauthorised persons or organisations. Positive protection measures may also serve to provide defensive protection and vice versa. The distinction between the two, then, is not always clear-cut.

To many countries and NGOs, defensive protection is necessary because the intellectual property system, and especially patents, is considered defective in certain ways and allows companies to unfairly exploit TK. It may also be true that defensive protection may be more achievable than positive protection. This is because some of the most commonly-discussed defensive protection measures are basically enhancements to or modifications of existing IPRs. Effective positive protection is likely to require a completely new system whose development will require the very active and committed participation of many governments.

Dutfield, Graham. 2004. Intellectual property, biogenetic resources and traditional knowledge. Earthscan, London.

**Keywords:** Biogenetic resources, intellectual property rights (IPRs), Convention on Biological Diversity (CBD), traditional knowledge, benefit-sharing, technology transfer, equity

**Comment:** Includes chapters on international forums, initiatives and processes to address genetic resources and traditional knowledge as well as case studies from India and Kenya. The book also looks into IPR conflicts and discusses new models for protecting traditional knowledge.

Finger, Michael J. and Philip Schuler (eds.). 2004. *Poor people's knowledge: promoting intellectual property in developing countries*. Oxford University Press, Oxford.

**Keywords:** Intellectual property rights, traditional knowledge, indigenous people, WTO, TRIPS, ethnobotanical knowledge

**Comment:** Includes chapters that discuss bioprospecting, intellectual property laws, commercialization of ethnobotanical knowledge, the WTO and TRIPS.

Garforth, Kathryn, et al. 2005. *Overview of the national and regional implementation of access to genetic resources and benefit-sharing measures* (third edition). Centre for International Sustainable Development Law, Montreal.

Available online at:

[http://www.cisd.org/pdf/ABS\\_ImpStudy\\_sm.pdf](http://www.cisd.org/pdf/ABS_ImpStudy_sm.pdf)

**Keywords:** Genetic resources, access and benefit-sharing, national ABS frameworks, CBD

**Summary:** Since agreement to the Convention on Biological Diversity in 1992, numerous countries and regions around the world have begun to implement its provisions on access to genetic resources and benefit-sharing (ABS). As of October 20, 2005, forty-four countries had notified the Secretariat to the Convention of their national focal points or competent national authorities (or both) on ABS. This study reviews the ABS measures of 35 countries from Latin America and the Caribbean, Asia, the South Pacific, Africa, Europe and North America as well as the regional measures of the Andean Community, ASEAN, the African Union plus discussions in the European Community and the Nordic countries. These reviews examine the relevant laws and policies and their provisions on scope, prior informed consent, mutually agreed terms on benefit-sharing, compliance, and monitoring and enforcement as well as any access agreements that have been granted. The study also examines some recent workshops and capacity-building projects related to the implementation of ABS. Overall, the analysis suggests some trends in the implementation of ABS such as common use of certain basic elements, a need to clarify some fundamental legal concepts, increasing importance of conservation and sustainable use in ABS measures, new ABS systems accommodating the provisions of the International Treaty on Plant Genetic Resources for Food and Agriculture, a continued lack of user measures, increased awareness of and activity on ABS, and capacity-building focus on ABS analysis in megadiverse countries through bilateral and multilateral donor support. Finally, three appendices summarize the national and regional ABS measures as well as some ABS workshops and capacity-building projects.

**Comment:** A useful report on ABS initiatives around the globe; the summary table on national ABS measures in the report's appendix provides a great "quick and dirty" overview for those with limited time to read the report in full.

Greene, Shane. 2004. Indigenous people incorporated? Culture as politics, culture as property in pharmaceutical bioprospecting. *Current Anthropology*, 45(2): 211-237.

**Keywords:** Indigenous peoples, bioprospecting, intellectual property rights, cultural property, Peru, Agauruna people

**Abstract:** The ongoing debate over indigenous claims to intellectual and cultural property reveals a series of indigenous strategies of mobilization that both appropriate from and work against the logic of the market. Of particular significance in this regard are the various indigenous strategies used in contemporary pharmaceutical bioprospecting activities to address claims to traditional medicinal knowledge as culture property. This article presents field data on a controversial ethnopharmaceutical project among the Aguaruna of Peru's high forest and offers a comparative analysis of the outcomes with attention to several other cases in and beyond South America. In particular, question are raised about the forms of legitimating authority in the burgeoning international indigenous movement, the role of NGOs, researchers, bureaucracies, and

corporations in this process, and the dilemmas that emerge from the politicization and privatization of indigenous culture and identity.

**Comment:** This anthropological paper focuses on the Aguarana case in Peru and examines the dilemmas that emerge from the politicisation and privatisation of indigenous culture and identity. It explores the question of ‘what is indigenous’ as well as the role of persons acting as mediators and the role of NGOs in bioprospecting initiatives. Useful observations are made about the dangers of raising unrealistic expectations about the benefits of bioprospecting.

Guendling, L., F. Joubert, R. Wynberg and M. Burgener. 2003. *Developing access and benefit sharing legislation in South Africa – a review of international and national experiences*. IUCN, South Africa.

**Keywords:** Access, benefit sharing, South Africa, legislation

International Indigenous Forum on Biodiversity. 2006. *Indigenous Peoples’ Contributions to COP-8 of the Convention on Biological Diversity*. International Alliance of Indigenous and Tribal Peoples of the Tropical Forests.

**Keywords:** Convention on Biological Diversity (CBD), indigenous people, conservation, Conference of Parties (COP)

**Comment:** Includes a variety of case studies written by indigenous peoples that synthesize their experiences and the complexities they face in ensuring the conservation and sustainable use of biodiversity.

Kamau, E.C. and G. Winter. 2009. *Genetic resources, traditional knowledge and the law: Solutions for access and benefit sharing*. Earthscan, London, UK.

**Keywords:** Traditional knowledge (TK), genetic resources, access, benefit sharing

**Comment:** Describes the challenges of regulating bioprospecting and traditional knowledge through case study analysis.

ten Kate, Kerry & Sarah A. Laird. 1999. *The commercial use of biodiversity: access to genetic resources and benefit-sharing*. Earthscan, London.

**Keywords:** Convention on Biological Diversity (CBD), access, benefit-sharing, trade, policy, medicinal plants, biotechnology, horticulture, pharmaceutical industry, company policies

**Comment:** This volume addresses a number of policy issues, ranging from equity and benefit-sharing to commercial trade. The principle focus of the book is on the CBD and its implementation, and for those looking for an introduction to that topic, this is the best place to begin.

Kursar, Thomas A. et al. 2006. Securing economic benefits and promoting conservation through bioprospecting. *BioScience*, 56(12): 1005-1012.

**Keywords:** Biodiversity conservation, benefit sharing, Convention on Biological Diversity, ecological economics

**Abstract:** Bioprospecting has frequently been cited as a sustainable use of biodiversity. Nevertheless, the level of bioprospecting in biodiversity-rich tropical regions falls below its potential, with the result that bioprospecting has produced only limited economic benefits. We present a bioprospecting program that, in addition to promoting drug discovery, provides economic benefits to and promotes conservation in Panama through the sustainable use of biodiversity. The program was initiated using insights from 20 years of nonapplied ecological research to enhance the likelihood of finding treatments for human disease. Samples are not sent abroad: rather, most of the research is carried out in Panamanian laboratories. Panama has received immediate benefits from the use of its biodiversity in the form of research funding derived from sources outside Panama, training for young Panamanian scientists, and enhanced laboratory infrastructure. Over the long term, discoveries derived from bioprospecting may help to establish research-based industries in Panama.

Laird, Sarah A. (ed.). 2002. *Biodiversity and traditional knowledge: equitable partnerships in practice*. Earthscan, London.

**Keywords:** Biodiversity, equity, traditional knowledge, prior informed consent, intellectual property rights, codes of ethics, research standards, bioprospecting, benefit-sharing, community relations

**Comment:** This book provides practical guidance on the nature of equitable research and commercial partnerships associated with biodiversity and traditional knowledge. Topics covered include professional society standards for research (codes of ethics and research guidelines), institutional policies for biodiversity research, building relationships with local communities and indigenous people, biodiversity prospecting and benefit sharing. The book is particularly relevant to researchers interested in policy issues associated with the trade and use of medicinal plants.

Laird, Sarah and Rachel Wynberg. 2008. *Access and benefit sharing in practice: trends in partnerships across sectors*, Volumes I, II and III. CBD Technical Series 38, Secretariat of the Convention on Biological Diversity, Montreal. [www.biodiv.int](http://www.biodiv.int)

**Keywords:** CBD, access, benefit sharing, stakeholders

**Comment:** This study explores access and benefit-sharing agreements and practices in different sectors of industry and includes an overview of key trends within sectors and the application of the CBD policies, principles and initiatives to these sectors. A set of seven case studies accompanies the study, drawn from bioprospecting and biotrade cases in

Australia, Kenya, Ethiopia, South Africa and Brazil. A detailed overview is also included of market and research trends, trends in benefit-sharing and demand for access to genetic resources, and industry and researcher perspectives on the CBD.

Laird, Sarah, Catherine Monagle and Sam Johnston. 2008. *Queensland Biodiscovery Collaboration: The Griffith University AstraZeneca Partnership for Natural Product Discovery: An Access and Benefit Sharing Case Study*. This study can be found at: [http://www.ias.unu.edu/sub\\_page.aspx?catID=7&ddlID=681](http://www.ias.unu.edu/sub_page.aspx?catID=7&ddlID=681), or <http://www.environment.gov.au/biodiversity/publications/access/qld-biodiscovery.html>.

**Keywords:** Australia, Queensland, CBD, access, benefit sharing, bioprospecting, traditional knowledge

**Comment:** Commissioned by the Australian Government Department of Environment, Water, Heritage, and the Arts, this study examines a fourteen year partnership based on the collection of more than 45,000 marine and terrestrial samples primarily from Queensland, but also China, India, Papua New Guinea, and Tasmania. The partnership involved a 100 AUD investment by AstraZeneca, and resulted in a state of the art natural product discovery facility in Queensland. Many issues currently under discussion in the ABS policy process associated with equity and benefit-sharing, the role of bioprospecting in biodiversity conservation, and the role of traditional knowledge, are addressed in this case study.

Lewis, Walter H. 2003. Pharmaceutical discoveries based on ethnomedicinal plants: 1985 to 2000 and beyond. *Economic Botany* 57(1): 126-134.

**Keywords:** Medicinal plants, ethnobotany, pharmaceutical developments

**Comment:** This paper provides a useful review of the past 25 years of trends in pharmacological and ethnobotanical development and gives projections for future trends.

McManis, Charles (ed.). 2007. *Biodiversity and the law: intellectual property, biotechnology and traditional knowledge*. Earthscan, London.

**Keywords:** CBD, biodiversity, intellectual property rights, traditional knowledge, bioprospecting

Mugabe, John, Charles Barber, Gudrun Henne, Lyle Glowka & Antonio La Viña (eds.). 1997. *Access to genetic resources: strategies for sharing benefits*. IUCN Environmental Law Centre, Bonn, Germany.

**Keywords:** CBD, access and benefit-sharing, intellectual property rights, national laws

**Comment:** This multi-author edited volume brings together some of the leading thinkers on implementation of the CBD with regard to genetic resources and benefit-sharing.

Posey, Darrell A. and Graham Dutfield. 1996. *Beyond intellectual property: toward traditional resource rights for indigenous peoples and local communities*. IDRC, Ottawa.

**Keywords:** Indigenous peoples, indigenous rights, intellectual property rights, resource rights

**Comment:** A ground-breaking work that questioned the wisdom of IPR approaches and called for viewing indigenous social systems in a more holistic manner.

Rosa, H., S. Kandel & L. Dimas. 2004. Compensation for environmental services and rural communities: lessons from the Americas. *International Forestry Review*, 6(2):187-194.

**Keywords:** Environmental services, compensation, indigenous communities, paying for environmental services (PES), compensating for environmental services (CES), Millennium Ecosystem Assessment

**Summary:** Compensation schemes for ecosystems or environmental services focused on poor rural communities can strengthen their livelihoods and improve ecosystem management. Various initiatives in the Americas provide lessons in this regard. Peasant and indigenous communities manage ecosystems to meet subsistence needs, earn income in markets and pursue new alternatives linked to the provision of environmental services. Compensation schemes should support the integration of these various levels and overcoming hurdles in each one. This requires a broad approach to compensation that avoids fixation with direct payments. A landscape perspective becomes important since environmental services are generated through a variety of land uses. Social capital is crucial for effective collective action in heterogeneous landscapes, to foster internal cohesion and positive external linkages. Expanding and defending communities' rights to the resource base is a prerequisite, otherwise compensation schemes can sidestep or disenfranchise communities. Donors and intermediary organizations should respect community's perspectives and priorities. The State should guarantee the defense and expansion of communities' rights, policies that revalue rural spaces, and rules for compensation schemes that favor communities.

**Comment:** This article explores access to, control over and compensation for resource conservation in rural areas in the Americas by comparing and contrasting national laws and policies in Costa Rica, Mexico, Brazil, El Salvador and the US. Lessons from each region are explored and a set of general recommendations for increasing compensation for provision of environmental services is given. NTFPs play a minor role in the paper, but the general recommendations for improving forest policies would have major repercussions for NTFPs.

Rosendal, G. Kristin. 2006. Balancing access and benefit sharing and legal protection of innovations from bioprospecting. *The Journal of Environment and Development*, 15(4): 428-447.

**Keywords:** Biodiversity, CBD, genetic resources, intellectual property rights, access and benefit sharing, international negotiations

**Abstract:** Biodiversity conservation, access and benefit sharing (ABS), and protection of intellectual property rights (IPR) linked to biotechnologies are all internationally agreed – but not necessarily compatible – objectives. The Convention on Biological Diversity aims for a balance between the needs and interests of owners of genetic resources and technology owners. Can current proposals for handling existing IPR legislation, such as disclosure of origin and certificates of legal provenance, contribute to finding a balance between the interests? Will the growing concern for legitimacy in international transactions with genetic resources be helpful to countries providing genetic resources for technological innovation or are the benefits too few? The article concludes that the success of establishing a multilateral system for access and benefit sharing still depends on compatible legislation in user and provider countries to counterbalance strengthened patent protection systems worldwide. Moreover, it is necessary to overcome the old schism between wildlife conservation and access issues in agricultural biodiversity to boost overall implementation efforts.

**Comment:** This article is a good overview of the CBD as well as ABS and IPR issues. The author opines that the economic potential inherent in ABS and IPR issues has overshadowed conservation among most CBD stakeholders.

Shadlen, K. 2007. The politics of patents and drugs in Brazil and Mexico: the industrial bases of health activism. Global Development and Environment Institute working paper No. 07-05. Tufts University, Medford, MA. Available online at: <http://www.ase.tufts.edu/gdae/Pubs/wp/07-05PoliticsOfPatents.pdf>

**Keywords:** Intellectual property, Mexico, Brazil, pharmaceutical companies, pharmaceutical patents, health care systems

**Abstract:** To comply with their international obligations, both Brazil and Mexico introduced regimes for pharmaceutical patents in the 1990s. While both countries initially implemented intellectual property (IP) systems that favored the interests of the transnational, innovation-based pharmaceutical sector, the two countries paths have diverged in dramatic fashion in recent years. In Brazil, the government responded to the high price of drugs and societal demands to reform the IP system by making it more difficult to obtain private ownership over knowledge and by increasing the rights of third parties to access and use knowledge. In Mexico, the response to similar demands has been to raise impediments to third parties' rights of access and use and effectively to extend the periods of protection granted to patent-owners.

GDAE Research Fellow Ken Shadlen explores these differences from a political economy perspective. In Brazil, the combination of a strong, interested, and active Ministry of Health and a more autonomous local pharmaceutical sector created a propitious environment for initiatives to reform the IP system. In Mexico, the

subordination of the Secretariat of Health and fundamental transformations of the local industrial sector meant that calls to reform the IP system were not well-received. Instead, the reform project in Mexico became commandeered by IP owners and ultimately had the perverse effect of reinforcing and strengthening the system that was being challenged.

The paper concludes by underscoring the importance of pharmaceutical industries for development. The findings suggest that the existence of independent pharmaceutical sectors may not just be beneficial for industrial development, but also for promoting public health and pursuing humanitarian goals. The key factor for explaining efforts to reform patent systems to increase access to drugs is the presence of an autonomous national pharmaceutical industry that is available as an alliance partner for those pushing for such reforms. Thus, the key to IP-for-humanitarianism is maintenance of some degree of IP-for-industrialization.

Swiderska, Krystyna. 2006. *Banishing the biopirates: a new approach to protecting traditional knowledge*. Gatekeeper Series no. 129. IIED, London.

**Keywords:** Biodiversity, CBD, policy, indigenous peoples, traditional knowledge, benefit-sharing, bio-cultural heritage

**Abstract:** The livelihoods of indigenous peoples and the conservation of biodiversity worldwide depend on conserving and protecting traditional knowledge of the use and functioning of biological and natural resources. This traditional knowledge (TK) has helped develop the millions of farmers' food crop varieties in use today, as well as a wealth of traditional medicines and techniques for sustainable agriculture and resource use. Yet this knowledge is rapidly disappearing. It is under increasing threat from both intellectual property regimes and economic globalization processes which undermine traditional rural livelihoods. This loss is occurring despite the fact that the Convention on Biological Diversity (CBD) requires member countries to respect, preserve and maintain traditional knowledge, innovations and practices and encourage the fair and equitable sharing of benefits from their use. International and national policies have so far proved inadequate to protect traditional knowledge. The dominant paradigms of access and benefit-sharing and intellectual property rights fail to adequately protect TK because they reflect western norms and laws, and focus narrowly on protecting intellectual rights. This paper describes how indigenous and farmers' organizations are calling for more holistic approaches to protecting their rights to TK, bio-genetic resources, territories, culture and customary laws. These components of indigenous knowledge systems and heritage cannot be separated. A new framework for protecting TK, known as collective bio-cultural heritage, addresses biodiversity and culture together, rather than separating them; recognizes collective as opposed to individual rights; and places them in the framework of 'heritage' as opposed to 'property'.

Tobin, Brendan and Krystyna Swiderska. 2001. *Speaking in tongues: indigenous participation in the development of a sui generis regime to protect traditional knowledge in Peru*. IIED, London.

**Keywords:** Peru, sui generis, traditional knowledge, indigenous people, participation, access and benefit sharing, policy

**Abstract:** Peru was the first country to develop a sui generis regime to protect the traditional knowledge of its indigenous people. This report examines the process of indigenous participation in the development of the law (1996-2000), which culminated in the training of indigenous facilitators and preparation of information materials for consultation at regional level. Peru's experience highlights the critical need for broad and active indigenous participation in order to ensure that their rights as traditional knowledge holders are fully and effectively protected, and to avoid the risk of designing measures that could accelerate the loss of traditional knowledge. The report also identifies recommendations for securing indigenous participation in policy making, including key principles and steps.

WHO. 2001. Report on the inter-regional workshop on intellectual property rights in the context of traditional medicine. Bangkok, Thailand, 6-8 December 2000. World Health Organization, Geneva.

**Keywords:** Intellectual property rights, traditional medicine, TRIPS, patent laws, benefit sharing, traditional knowledge

**Summary:** Currently there is an increasing awareness of the value of traditional knowledge and biodiversity resources as economic and tradable commodities. This, coupled with the impact of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) on pharmaceuticals, including traditional medicine, necessitates this meeting of minds to address the complex issue of intellectual property rights so as to achieve better understanding and wider consensus on these issues.

**Comment:** This document presents summaries of presented papers which vary widely in quality. In general, it is an interesting introduction to IPR as it relates to traditional medicines. Of particular interest is the variety of policy approaches proposed by different countries to the IPR issue (various patent systems, *sui generis* systems, traditional knowledge digital libraries, etc.).

WIPO. 2004. Technical study on disclosure requirements in patent systems related to genetic resources and traditional knowledge. Study No. 3. World Intellectual Property Organization, Geneva.

**Keywords:** Traditional knowledge, intellectual property systems, genetic resources, disclosure requirements, CBD

**Summary:** The World Intellectual Property Organization (WIPO) was invited by the sixth Conference of Parties (COP) of the CBD to prepare a technical study on methods within the patent system for requiring disclosure relevant to traditional knowledge and genetic resources. This publication includes the full text of the final study, which WIPO transmitted to the CBD for consideration by the seventh COP in February 2004.

**Comment:** A useful document for those interested in disclosure requirements and patent systems policy issues that relate to genetic resources and traditional knowledge (e.g., medicinal plants).

Wynberg, Rachel and Krystyna Swiderska. 2001. *South Africa's experience in developing a policy in biodiversity and access to genetic resources*. IIED, London.

**Keywords:** Biodiversity, CBD, genetic resources, access and benefit sharing, policy, participation

**Abstract:** South Africa's 1997 biodiversity policy was developed through a well-managed and fairly comprehensive participatory process, at a time when the new democratic government was handing over control of policy to the people. This report examines the strengths and weaknesses of the process, drawing on the views of a range of stakeholders, and with a particular reference to policy on access to genetic resources and benefit-sharing. It also identifies lessons that have broad implications for policy making in South Africa and in countries that share similar circumstances.

Wynberg, Rachel P. and Sarah A. Laird. 2007. Bioprospecting: Tracking the policy debate. *Environment*, 49 (10) (December 2007): 20-32.

**Keywords:** Access and benefit sharing (ABS), Convention on Biological Diversity (CBD), bioprospecting, policy

**Comment:** This article provides an overview of the bioprospecting policy debate and the key issues that are stimulating the development of an international access and benefit-sharing regime.

Wynberg, R., Chennells, R., and D. Schroeder, D. (eds.). Forthcoming (2009). *Indigenous peoples, consent and benefit-sharing. Learning from the San-Hoodia Case*. Springer, Berlin.

**Keywords:** Hoodia, San, South Africa, indigenous people, benefit sharing, bioprospecting

**Comment:** Provides a comprehensive analysis of the famous San-Hoodia case that is made to appeal to a wider audience by including general material, which helps set the context, and comparative material from cases in Australia, the Philippines, Mexico, India and Canada bring in an analytical dimension. Policy aspects of regulating bioprospecting and biotrade are considered in a focused chapter and at different points throughout the book.

Zerner, Charles (ed.). 2000. *People, plants and justice: the politics of nature conservation*. Columbia University Press, New York.

**Keywords:** Access and benefit-sharing (ABS), indigenous people, customary laws, national forest laws, intellectual property, traditional knowledge, bioprospecting

**Comment:** This collection of papers is a good introduction to some of the complex social issues involving NTFP laws and policies. Of particular interest to policy makers are Hvalkof's chapter on indigenous peoples of the Amazon and their struggles to demarcate and gain title to their lands in the face of commercial encroachment; Ribot's paper on the charcoal trade in Senegal which outlines how permit systems and trade structure determine distribution of benefits and analyzes the challenges of representation and access; Michon et al.'s chapter on damar agroforestry in Indonesia and the conflict between national laws and customary laws; Cox's cautionary tale of conflict between NGO-backed projects and policies and local communities in Samoa; Laird et al.'s chapter on the difficulties in fitting an international policy, the access and benefit-sharing (ABS) concept as articulated in the Convention on Biological Diversity, to the local socio-political, economic and cultural context of Cameroon; and Parry's exploration of the ethics of plant collections.

Online resources relating to ethics, equity, IPR and benefit-sharing:

Access and benefit sharing (ABS) in Africa: cases of bioprospecting and ABS legislation in Eastern and Southern Africa (sponsored by the German and Dutch governments and includes a brief on the Dutch-German ABS capacity-building initiative for Africa):  
<http://www2.gtz.de/dokumente/bib/06-0526.pdf>

American Anthropological Association's Code of Ethics:  
[www.ameranthassn.org/committees/ethics/ethcode.htm](http://www.ameranthassn.org/committees/ethics/ethcode.htm)

American Sociological Association's Code of Ethics:  
[www.asanet.org/ecoderev.htm](http://www.asanet.org/ecoderev.htm)

Convention on Biological Diversity:  
[www.biodiv.org](http://www.biodiv.org)

Foundation for the Revitalisation of Local Health Traditions (FRLHT):  
[www.frlht.org.in](http://www.frlht.org.in)

IPDEV – An EU collaborative research project led by the Queen Mary Intellectual Property Research Institute looking into the impact of intellectual property rights rules on economic growth, environmental protection and social goals:  
<http://www.ip4development.org/index.html>

Science and Development Network (contains policy briefs on IPR, TK, etc.):  
<http://www.scidev.net/>

World Intellectual Property Organization (WIPO):  
[www.wipo.int](http://www.wipo.int)

### 3. RESOURCE MANAGEMENT AND CONSERVATION

This section contains citations relating to international and national policies for forests and more specifically, NTFP policies. Section 3.1 includes papers that address NTFP policies, mostly at the national level, either as a group of products, or more commonly, on a species-by-species basis. Section 3.2 includes papers discussing forest policies and international treaties (e.g., the CBD, CITES, the ITTO, Montreal Process, etc.) that, while not specifically targeting NTFPs, may have a broad impact on NTFP management, harvest and trade. Websites given at the end of section 3.1 provide information about specific national NTFP laws while online resources given in section 3.2 point readers to further information about international treaties and commitments relating to forests and forest products.

#### *3.1. Management and conservation policies for NTFPs*

Alexander, Susan J., David Pilz, Nancy S. Weber, Ed Brown and Victoria A Rockwell. 2000. Mushrooms, trees, and money: value estimates of commercial mushrooms and timber in the Pacific Northwest. *Environmental Management*, 30(1): 129-141.

**Keywords:** Pacific Northwest, NTFPs, resource values, mushrooms, joint production

**Abstract:** Wild edible mushrooms are harvested in the forests of the Pacific Northwest, where both trees and mushrooms grow in the same landscape. Although there has been some discussion about the value of trees and mushrooms individually, little information exists about the joint production of, and value for, these two forest products. Through four case studies, the information needed to determine production and value for tree wild mushroom species in different forests of the Pacific Northwest is described, and present values for several different forest management scenarios are presented. The values for timber and for mushrooms are site- and species-specific. On the Olympic Peninsula in Washington, timber is highly valued and chanterelles are a low-value product by weight; timber has a soil expectation value (SEV) 12 to 200 times higher than chanterelles. In south-central Oregon, timber and American matsutake mushrooms have the potential to have about the same SEV. In eastern Oregon, timber is worth 20 to 110 times as much as the morels that grow in the forest. Production economics is concerned with choices about how much and what to produce with what resources. The choices are influenced by changes in technical and economic circumstances. Through our description and analysis of the necessary definitions and assumptions to assess value in joint production of timber and wild mushrooms, we found that values are sensitive to assumptions about changes in forest management, yields for mushrooms and trees, and costs.

**Comment:** This paper not only discusses joint production of timber and NTFPs (mushrooms in this case), it also covers NTFP access policies. “Forest managers who consider access restrictions or bid policies must consider both the benefits to the resource and the benefits and costs to the harvesters affected by such policies, and understand that efficiency analyses alone do not address equity or distributional issues.”

Anderson, Janet A., Dale J. Blahna and Deborah J. Chavez. 2000. Fern gathering on the San Bernardino National Forest: cultural versus commercial values among Korean and Japanese participants. *Society and Natural Resources*, 13: 747-762.

**Keywords:** Bracken ferns, Japanese, Koreans, multicultural resource use, resource values

**Abstract:** Most attention to special forest products (SFPs), both in the literature and in management practice, has focused on economic aspects of gathering activities. The majority of bracken fern gatherers on the Arrowhead Ranger District are of Japanese and Korean backgrounds, and they pick ferns not for commercial purposes, but as a recreational, social and outdoor activity. These findings indicate that economically and commercially based assumptions are sometimes inappropriate for managing SFP gathering activities.

**Comment:** This paper demonstrates that the US Forest Service's commercially-oriented NTFP policies have the potential to alienate gatherers who collect wild plants primarily for social and cultural reasons. The authors conclude that "a knowledge of participants and their motivations is essential to designing appropriate management strategies for special forest products."

Antypas, Alexios, Rebecca McLain, Jennifer Gilden and Greg Dyson. 2002. Federal nontimber forest products policy and management. Pages 347-374 in Eric Jones, Rebecca McLain and James Weigand (eds.), *Nontimber forest products in the United States*. University of Kansas Press, Lawrence, Kansas.

**Keywords:** NTFPs, federal policies, forest management, forest policies, United States, US Forest Service, US Bureau of Land Management (BLM), Endangered Species Act, Lacey Act, National Environmental Policy Act (NEPA)

**Comment:** The best overview of NTFP policy on US federal lands published to date.

Chamberlain, James L., Robert J. Bush, A.L. Hammett & Philip A. Araman. 2002. Eastern national forests: managing for nontimber products. *Journal of Forestry*, 100(1): 8-14.

**Keywords:** United States, forest products, industry, national forests, policy

**Abstract:** Many products are harvested from the forests of the eastern United States that are not timber-based but originate from plant materials. Over the past decade, concern has grown about the sustainability of the forest resources from which these products originate, and an associated interest in managing for these products has materialized. A content analysis of the management plans of 32 eastern national forests revealed that seven of the plans addressed nontimber forest products (NTFP). We used interviews with USDA Forest Service district- and forest-level managers to convey their ideas about NTFP management and to identify critical issues that affect efforts to manage for these products.

**Comment:** Provides a brief overview of key laws pertaining to the management of US national forests, discusses the small number of eastern national forests that actively manage for NTFPs and notes some of the real and perceived impediments to greater inclusion of NTFPs in the management plans of eastern national forests.

Chandrasekharan, Cherukat, Frisk, Torsten and Jorge Campos Roasio. 1996. Desarrollo de productos forestales no madereros en América Latina y el Caribe. FAO, Rome, Italy. Available online at: <http://www.fao.org/docrep/T2360S/t2360s00.HTM>

**Keywords:** PFNM/NTFP, Latin America, Caribbean, natural forest management, plantation forestry, NTFP markets

**Comment:** This volume addresses some of the policy obstacles to development and trade of NTFPs in Latin America and the Caribbean.

Jones, Eric T. and Kathryn A. Lynch. 2007. Nontimber forest products and biodiversity management in the Pacific Northwest. *Forest Ecology and Management*, 246: 29-37.

**Keywords:** Non-timber forest products (NTFPs), biodiversity management, forest management, Pacific Northwest, NTFP harvesters, commercial harvesting, forest policy

**Abstract:** Nontimber forest product harvesting in the Pacific Northwest is neither a new activity nor a disappearing relic of the pre-industrial era. Though the emphasis may have shifted from subsistence to commercial and recreational pursuits, harvesting and harvesters of wild species are still widespread throughout the region. Hundreds of businesses and thousands of harvesters earn part or all of their income from the harvests. Every year thousands of pounds and hundreds of nontimber forest products valued in the hundreds of millions of dollars are harvested from regional public and private forests. This harvesting of a large diversity of species represents a considerable subset of the overall terrestrial biodiversity in Pacific Northwest forests. Despite widespread extraction, little investment in research, planning, or basic inventorying and monitoring has been done on nontimber forest products. Without better information, land managers will be increasingly unable to make informed decisions on how to manage nontimber forest product biodiversity sustainably as demand for products increases.

**Comment:** This paper addresses the challenges of managing forests for NTFPs and provides trenchant observations on current and past national forest policies.

Larsen, Helle Overgaard, Carsten Smith Olsen and Tove Enggrob Boon. 2000. The non-timber forest policy process in Nepal: actors, objectives and power. *Forest Policy and Economics*, 1(3-4): 267-281.

**Keywords:** Non-timber forest products, forest legislation, policy formation processes, rural development, patronage politics, social justice, Himalaya, medicinal plants

**Abstract:** The importance of commercial non-timber forest products (NTFPs) to the livelihood strategies of rural collectors in Nepal is increasingly recognized. This paper provides suggestions for improving rural collectors' possibilities for income generation. The formation and implementation of NTFP policies in Nepal is examined by investigating the area of interactions between policy formation, choice and implementation of forest policy tools within the "new political economy" approach, and suggestions are subsequently evaluated within the found practical political context. The study is based on approximately 400 interviews carried out with some 1000 stakeholders in the period 1992-1998. Following a qualitative research strategy hypotheses are formulated on the basis of patterns emerging from the data collected. The main stakeholders in NTFP collection and trade are identified to be: rural collectors and traders; local level politicians; lower level government staff; high level politicians; conservation-oriented institutions; and development-oriented institutions. The objectives and influence of these stakeholders on the non-timber sector are identified and proposals for change are discussed in the light of distribution of objectives and power. It is hypothesized that NTFP policy formation, implementation and the field reality are weakly connected; implemented policy tools do not correspond to the aims of formulated policies, and field reality is not regulated in the envisioned direction by policy tools. This situation is explained by the fact that stakeholders at different levels of the policy hierarchy can influence their own level only. It is further hypothesized that a number of changes in forest legislation and regulations can have immediate and powerful effects on rural livelihoods of collectors. Taking into account the present political situation such changes may not be introduced from within the decision making process and, therefore, the view is put forward that pressure from outside the forestry sector is needed to bring about significant changes in favor of rural collectors.

Larsen, Helle O., Patrick D. Smith and Carsten S. Olsen. 2005. Nepal's conservation policy options for commercial medicinal plant harvesting: stakeholder views. *Oryx*, 39(4): 435-441.

**Keywords:** Community forestry, forest policy, Himalaya, Nepal, NTFPs, participation

**Abstract:** There is a huge annual trade in Himalayan medicinal plants but only limited information on their sustainable use and conservation. The aim of this paper is to investigate if sustainable commercial medicinal plant management is promoted by forest policy formation and implementation in Nepal. Data was obtained through 175 semi-structured interviews with person from five stakeholder groups involved in commercial alpine medicinal plant exploitation and conservation in Nepal: harvesters, traders, District Forest Office staff, staff at departments and ministerial level of the Ministry of Forests and Soil Conservation, and international and local NGOs and donors. The emphasis was on recording respondents' views on the official mechanisms regulating harvest of alpine commercial medicinal plants. It was found that current approaches to non-timber forest policy formation and implementation need to be revised if objectives of conservation and sustainable management are to be achieved. Identified problems include exclusion of harvesters from the policy formation process and widespread agreement among

respondents that current collection permits and bans do not strongly affect resource utilization.

**Comment:** This study is notable for its consultation with gatherers concerning their views on NTFP policies. The authors recommend broader involvement of communities in the management and monitoring of NTFPs.

Larsen, H.O. and C.S. Olsen. 2007. Unsustainable collection and unfair trade? Uncovering and assessing assumptions regarding Central Himalayan medicinal plant conservation. *Biodiversity Conservation*, 16(6): 1679-1697.

Lund, H. Gyde, Brita Pajari and Minna Korhonen (eds.). 1998. Sustainable development of non-wood goods and benefits from boreal and cold temperate forests. EFI Proceedings No. 23. European Forest Institute, Joensuu, Finland.

**Keywords:** National forest laws, NTFP policies, forest access, NTFP trade, property regimes

**Comment:** While the papers in this compendium are short and generally lack analytical depth, they provide one of the few English-language introductions to NTFP issues from boreal and eastern European countries. Included are summaries of forest laws and access issues in the Czech Republic (Sisal), Poland (Kalinowski), Lithuania (Rutkauskas) and other countries, as well as papers on NTFP trade restrictions (Alhojärvi), property rights regimes and their impact on NTFP use (Rekola), and the difficulties of including harvester participation in forest policy formulation (McLain and Jones).

McLain, Rebecca J. 2000. *Controlling the forest understory: wild mushroom politics in central Oregon*. Ph.D. dissertation. College of Forest Resources, University of Washington, Seattle, WA.

**Keywords:** US Pacific Northwest, US Forest Service, national forests, mushrooms, harvest permits, forest policy, northwest forest plan, Foucault

**Abstract:** In this dissertation, I illustrate how disciplinary power techniques are being used today to extend and solidify state control over forest understory products located on national forest lands in the Pacific Northwest. The spring wild mushroom harvest on the Sisters Ranger District in central Oregon serves as a case study for exploring this topic. I used a political ecology framework to analyze wild mushroom politics at Sisters. I relied upon ethnographic methods, including participant observation, semi-structured interviews, and archival analysis, to gather data (first paragraph only).

**Comment:** An in-depth analysis of the US Forest Service's permitting system for the gathering and sale of wild mushrooms in Oregon that draws upon Foucault to provide a theoretical framework to discuss how the state maintains control over gatherers and gathered resources through disciplinary power.

McLain, Rebecca J., Harriet H. Christensen & Margaret A. Shannon. 1998. When amateurs are the experts: amateur mycologists and wild mushroom politics in the Pacific Northwest, USA. *Society & Natural Resources*, 11:615-626.

**Keywords:** Amateur science, conservation politics, mushrooms, Pacific Northwest, nontimber forest products, forest policy, national forests, research partnerships

**Abstract:** In the 19<sup>th</sup> century, amateur scientists and amateur science societies played important roles in producing scientific knowledge and generating popular support for scientific endeavors. As state and federal natural resource management agencies in the Pacific Northwest region of the United States begin to implement ecosystem and landscape management mandates, amateur scientists are emerging as important players in the special forest products policy arena. Yet amateur science remains a largely invisible social phenomenon in the environmental policy literature. This policy overview addresses that gap by examining attempts by Pacific Northwest amateur mycological societies to protect wild mushroom patches on public lands from encroachment by commercial harvesters. These groups have relied on two major strategies – organized political advocacy in state legislative processes, and formation of research partnerships with resource management agencies wishing to develop scientifically based harvesting guidelines. This account reveals some of the internal tensions that have arisen within these groups as they engage in overt political action and in the construction of policy knowledge. It also underlines the problematic nature of emerging knowledge production alliances between public land management agencies and key stakeholders.

**Comment:** One of the few papers that examines harvester attempts to influence federal forest policies regarding harvest of NTFPs. The paper provides a revealing look at the differing perspectives of recreational and commercial gatherers of NTFPs (in this case, mushrooms) and examines the power dynamics between gatherers and federal employees charged with creating and implementing NTFP harvest regulations.

McLain, Rebecca J. & Eric T. Jones. 2005. *Nontimber forest products management on national forests in the United States*. GTR-655 05-208. Pacific USDA FS PNW Research Station, Portland, OR.

**Keywords:** United States, national forests, forest policy, forest management, nontimber forest products, NTFP inventory, monitoring, law enforcement

**Abstract:** This study provides an overview of nontimber forest products (NTFP) programs on national forests in the United States. We conducted an email survey in 2003 to obtain data on NTFP management activities on national forests across the country. Program characteristics examined in the study included important NTFPs managed on national forests, presence of NTFP coordinators and law enforcement programs on ranger districts, incorporation of NTFPs into forest planning documents, presence of NTFP inventory and monitoring programs, managers' views on barriers to and opportunities for including NTFP harvesters in NTFP inventory and monitoring efforts, and managers' perceptions of barriers to expanding commercial NTFP harvesting. The data indicate that

the agency is constructing a foundation for scientific NTFP management. The study identifies lack of funding and internal administrative capacity as key barriers to adequate incorporation of NTFPs in Forest Service planning, inventory, and monitoring.

**Comment:** The opening section of this report contains a detailed list of laws and policies relevant to the management of NTFPs on US national forests. The rest of the report focuses on how districts of the US Forest Service implement said laws and policies into concrete practices on the ground and suggests ways to improve the current system.

Michon, Geneviève. 2006. NTFP development and poverty alleviation: is the policy context favourable? Pages 20-26 in Jean-Laurent Pfund and Patrick Robinson (eds.), *Non-timber forest products: between poverty alleviation and market forces*. SECO, Zurich, Switzerland.

Available online at:

<http://www.tropicalforests.ch/publications2.php?id=20>

**Keywords:** NTFPs, customary rights, resource management, NTFP management, forestry, agriculture

**Comment:** A short but incisive article on NTFPs policies and conflicts between local, national/regional and international policies relating to NTFPs.

Nepstad, Daniel C. & Stephen Schwartzman (eds.). 1992. Non-timber products from tropical forests: evaluation of a conservation and development strategy. *Advances in Economic Botany, Volume 9*. New York Botanical Garden, Bronx, NY.

**Keywords:** Extractive reserves, Amazon, Brazil, tropical forests, land tenure, economic analysis, land use policies

**Comment:** An early NTFP work, but one with many articles that continue to resonate today. Most contributions in this volume focus on Brazil (save for two case studies from Asia and Africa) and the pros and cons of the extractive reserve policy model. This volume underscores many of the economic and policy challenges faced by countries endowed with large areas of tropical forest as they attempted to promote economic growth within the context of the new global economy. Of particular interest to NTFP policy researchers are Homma's economic analysis of NTFPs, Browder's critique of the social and economic weaknesses of the extractive reserve model and Gillis's article, "Economic policies and tropical deforestation."

Non-Timber Forest Products-Task Force. (2006). *Draft joint DENR-NCIP administrative order: rules and regulations for the extraction and marketing of non-timber forest products in ancestral domain areas*. Quezon City, Philippines.

**Keywords:** Philippines, NTFPs, ancestral domain areas, NTFP regulations

Peck, JeriLynn E. and John A. Christy. 2006. Putting the stewardship concept into practice: commercial moss harvest in Northwestern Oregon, USA. *Forest Ecology and Management*, 225: 225-233.

**Keywords:** NTFP management, Pacific Northwest, moss, bryophyte, epiphyte, Oregon, stewardship contracts, harvester participation, resource access

**Abstract:** Increased demand for non-timber forest products has spurred increased regulation of these resources as well as recognition of the need to include harvesters in monitoring efforts. The moss harvest monitoring program on the Siuslaw National Forest in the Pacific Northwest included a pilot stewardship program involving two 5-year leases of 890 ha parcels of mixed conifer-*Alnus* forest to a local commercial moss harvester under the condition that the harvester adhere to specific harvest guidelines and provide data on how much moss was removed. Across both lease areas, nearly 66,000 kg of tree-moss was harvested over a 48 month period, mostly during the dry summer season. The program provided for direct harvester participation, made the product available on a year-round basis, and improved patrol of illegal harvest in the lease area. In addition, three experiments were conducted to contrast moss abundance, species richness, and species composition using four levels of harvest intensity (Control in which harvest was prohibited, Low Intensity harvest approximating current standards and guidelines = ca. 34 kg/ha, High Intensity harvest approximating unregulated harvest levels = ca. 112 kg/ha, and “No Rules” harvest with no restrictions of any kind). Subsampling data indicated that cover on vine maple shrubs immediately following harvest was reduced by 5% and 16-20% for Low Intensity and High Intensity harvest treatments, respectively. These treatment differences remained for two years in riparian areas but were non-significant after one year in upland mixed forest. Species richness did not vary among harvest intensities and impacts to species composition, which were generally restricted to stems actually harvested, dissipated after one or two years. Because impacts restricted to harvested stems averaged out at the plot-level, plot-level surveys were less sensitive to harvest impacts than host-level subsampling. Due to the slow rate of recovery of this resource, future Stewardship Areas for moss harvest may be impractical, but this approach may be a viable option for non-timber forest products with shorter rotations.

**Comment:** The policy of granting guaranteed access to resources on public forest lands through the granting of stewardship contracts to individuals is examined in this paper. Although the steward had positive interactions with forest management staff regarding NTFP management, monitoring and policing (to keep out/report illegal moss poachers), the long term recovery rates of moss call into question the feasibility of such contracts unless extended to greater than five years. It is speculated that stewardship contracts for species with quicker recovery rate may be practical, however issues of public access and fairness in distribution of contracts are only cursorily touched upon.

Peña V., Gustavo de la and Catarina Illsley A. n.d. Productos forestales no maderables y legislación ambiental: sobre-regulación y vacíos jurídicos. Available online at: <http://www.raises.org/documentacion/documentos/manejocampesino/ANorpfm.pdf>

**Keywords:** PFNM/NTFP, legislation, Mexico, environmental regulations

**Comment:** An overview of Mexican legislation that impacts NTFPs with recommendations for improving the sustainable use of NTFPs.

Richards, Rebecca T. and Susan J. Alexander. 2006. A social history of wild huckleberry harvesting in the Pacific Northwest. USDA Forest Service, PNW-GTR-657, Pacific Northwest Research Station, Portland, OR.

**Keywords:** Huckleberries, Pacific Northwest, Montana, NTFP commercialization, NTFP management, forest management policies

**Abstract:** Once gathered only for subsistence and cultural purposes, wild huckleberries are now also harvested commercially. Drawing on archival research as well as harvester and producer interview and survey data, an inventory of North American wild huckleberry plant genera is presented, and the wild huckleberry harvesting patterns of early Native Americans and nonindigenous settlers are described. The social, technological, and environmental changes that gave rise to the commercial industry in the Pacific Northwest by the 1920s and the industry's demise after World War II are explained. The resurgence of the commercial wild huckleberry industry in the mid-1980s and national forest management issues related to the industry are presented as are possible strategies that land managers could develop to ensure wild huckleberry, wildlife, and cultural sustainability.

**Comment:** Of particular interest to those interested in NTFP policy is the evolution of huckleberry harvesting from subsistence use/recreation to commercialized product and the attendant changes in policies and management strategies to cope with this metamorphosis. The chapter analyzing policies that impact huckleberry management and harvest includes the perspectives of gatherers, a rarity in many NTFP policy articles and papers.

Ros-Tonen, Mirjam, Wim Dijkman and Erik Lammerts van Bueren. 1995. Commercial and sustainable extraction of non-timber forest products: towards a policy and management oriented strategy. Tropenbos Foundation, Wageningen, The Netherlands.

**Keywords:** NTFPs, NTFP management, NTFP policy, social justice, governance

**Comment:** This publication neatly summarizes many of the challenges in promoting NTFP use as a conservation and development strategy. The "dead ends and pitfalls" section provides concise advice for policy makers. However, many NTFP researchers will find the appendix, with specific policy-related hypotheses posited about successful NTFP extraction, the most useful and relevant section of the document.

Saxena, N.C. 2003. From monopoly to de-regulation of NTFPs: policy shifts in Orissa (India). *International Forestry Review*, 5(2):168-176.

**Keywords:** India, forest policy, political representation, livelihoods, regulations, pricing policies, subsidies

**Comment:** Before 2000, the state of Orissa controlled the trade of many NTFPs by supporting public and private monopolies and through leasing arrangements. In 2000, the state passed a new law that abolished leasing systems and permitted village councils authority to regulate the purchase and trade of a number of NTFPs. The new law neither resulted in higher prices for NTFPs nor did it substantively improve the livelihoods of many gatherers, as was initially hoped. Problems with the law and its implementation are discussed and suggestions given for ways to improve the livelihoods of NTFP-dependent groups (e.g., improving marketing infrastructure, improving political representation, promoting value-addition to products locally).

de Silva, S. et al. 2001. Regulation of the trade in timber and non-timber forest products in the Lower Mekong Basin Countries. IUCN, Gland, Switzerland.  
(available online at:  
[http://www.iucn.org/places/asia/ecosys\\_livelihoods/assets/Final%20Report%20Timber%20Trade%2008.02.02.pdf](http://www.iucn.org/places/asia/ecosys_livelihoods/assets/Final%20Report%20Timber%20Trade%2008.02.02.pdf))

**Keywords:** Thailand, Cambodia, Lao PDR, Vietnam, timber regulations, NTFP regulations, national forestry legislation, permits, jurisdiction, import & export laws, enforcement

**Comment:** Based on information contained in national legal instruments, published and unpublished reports as well as interviews, this comprehensive report details the relevant national laws governing the harvest and trade of timber and non-timber forest products in the Lower Mekong region. Thematic areas covered include national laws, international obligations, competing jurisdictions (e.g., Ministries of Forestry, Taxation, Fisheries, Agriculture, etc.), implementation, permits, import and export regulations, enforcement issues, and processing and transport of forest products. Although focused primarily upon timber, and with the lion's share of focus on Thailand, and to a lesser extent, Cambodia, this publication provides an easily digestible overview of forestry regulations across four countries. Includes country comparison matrices and listings of relevant legislation on a country-by-country basis in the appendix.

Stein, Bruce A. and Kelly Gravuer. 2008. Hidden in plain sight: the role plants in state wildlife action plans. NatureServe, Arlington, VA. Available online at:  
[http://www.natureserve.org/publications/hidden\\_plain\\_sight.jsp](http://www.natureserve.org/publications/hidden_plain_sight.jsp)

**Keywords:** Wildlife action plans, conservation planning, conservation policy, plant conservation, plant habitats

**Summary (excerpt):** Our study found that only a modest number of wildlife action plans explicitly incorporated plant species of conservation concern into various aspects of their planning process. Just eight of 56 plans (14%) took the most direct approach of including

plants on their list of species of greatest conservation need. Another way of addressing plants was through the process for identifying priority habitats. We did not find strong support for the assumption that the habitat component of these plans would effectively address plant-related conservation needs. Just six plans (11%) considered plant species of concern in their methods for setting habitat priorities.

**Comment:** The authors looked at wildlife conservation plans for all 50 US states as well as 6 US territories. The research found that plants are often given short shrift in conservation planning, particularly in comparison with fauna. A press release for the publication notes one of the reasons behind this slight: “Because the federal guidelines governing development of these (wildlife action) plans specifically excluded plants from the definition of ‘wildlife’ and did not provide funding to study them, few states were able to consider rare or endangered plants in their planning process.”

Tieguhong, J.C. 2003. Review of forest charges mechanisms for non-wood forest products and forest services in Africa. Consultancy Report. FAO, Rome.

**Keywords:** Africa, forest charges, NTFPs, national NTFP policies

Vantomme, Paul. 2003. Compiling statistics on non-wood forest products as policy and decision-making tools at the national level. *International Forestry Review*, 5(2): 156-160.

**Keywords:** NWFP, trade, product classification, decision-making tools, harmonized commodity description and coding system (HS)

**Summary:** Although a considerable amount of information has been gained over the last decades to improve our understanding of the role of non-wood forest products (NWFPs), limited progress has been made in developing statistical data on production and trade of NWFPs at the country level. The paper presents the global NWFP assessment that was carried out recently by FAO, and describes the major constraints. Among the most important findings is the fact that NWFPs are still a major source of food and income in many countries of the world, but few countries monitor their NWFPs systematically. Statistical data on NWFPs are incomplete, scattered or not comparable among countries, and at the national level do not yet provide a solid base for decision-making.

A phased approach is suggested by addressing first those NWFPs that are of national relevance and for which monitoring and evaluation is needed for policy and forest/rural development decision-makers. Exported or widely used products in national markets should be addressed before NWFPs of minor importance or significance that are limited to a selected region. The selection of relevant NWFPs should help a country initially to focus its efforts on improved data collection. Countries can make NWFPs more visible in their existing national production and trade statistics by including specific product codes for major NWFPs into their existing national product classification system, with the aim of including them in international statistical classifications such as the HS, in the future.

**Comment:** This article argues that the lack of cogent NTFP policies at the national level stems from a paucity of data. The author suggests that countries can rectify this problem by focusing first on nationally relevant NTFPs as well as creating specific product codes for commercially important NTFPs entering international trade.

Wynberg, Rachel P. and Sarah A. Laird. 2007. Less is often more: governance of a non-timber forest product, marula (*Sclerocarya birrea* subsp. *caffra*) in Southern Africa. *International Forestry Review*, 9(1): 475-490.

**Keywords:** NTFP policies, customary law, marula, South Africa, Namibia, commercialization

**Abstract:** Non-timber forest products (NTFPs) are often seen as tools to promote rural development and biodiversity conservation but little attention has been given to the different policy approaches adopted for their governance, nor to the role played by customary law. Through the lens of one of the most revered and economically important trees in Africa, marula (*Sclerocarya birrea*), NTFP governance is explored in case studies across South Africa and Namibia. Results are presented from a study that examined the interface between statutory and customary rules and regulations governing marula conservation and use. The major finding is that ‘less’ is often ‘more’ when it comes to government regulation of marula, a result that resonates with other NTFP studies from around the world that indicate the need for state-led interventions to be purposely crafted to reflect local circumstances and needs. Such interventions are also most effective when government and traditional authorities cooperate, authorities have legitimacy and sufficient capacity, and there is acceptance of the rules by user groups. It is suggested that state intervention may be least useful where traditional governance is strong, and with the exception of areas and cases in which customary law and traditional authority fall short and commercial pressures on species are significant, governments might do best by leaving well enough alone.

Websites for further information on NTFP laws and policies:

Anonymous – Legislation de la vente et de la cueillette des champignons en France et en Europe (2001). Legislation for the sale and collection of mushrooms in France and in Europe. Useful power point presentation from University of Lyon on French national and sub-national laws governing mushrooms and comparisons to other mushroom regulations in EU countries:

[http://ispb.univ-lyon1.fr/mycologie/Site\\_labο\\_myco/Enseignement/5/Legislation.ppt](http://ispb.univ-lyon1.fr/mycologie/Site_labο_myco/Enseignement/5/Legislation.ppt)

Belgian regulations for the collection of wild mushrooms:

<http://www.mycοcondroz.be/legislation.htm>

Bolivia – Ley No. 3274 del 09 Diciembre 2005, Ley Trabajo Asalariado del Beneficiado de la Castaña. Labor laws for the Brazil nut workers:

<http://www.derechoteca.com/gacetabolivia/ley-3274-del-09-diciembre-2005.htm>

Chico Mendes Law – State of Acre, Brazil (Lei 1.277), this law is intended to support rubber tappers and extractive reserves in Acre (I was unable to find the text of the law on the State of Acre’s website; however the wording of the law may be found as an appendix in the following thesis):

<http://teses.eps.ufsc.br/defesa/pdf/5167.pdf>

Fundacion Chile – Normativas y regulaciones en la extacción de productos forestales no maderables (PFNM). An overview of Chilean laws for NTFPs with examples of NTFP regulations from other countries around the globe and a short bibliography:

<http://www.pfnm.cl/legislacion.htm#2>

Guidelines on the Conservation of Medicinal Plants (1993, WHO, IUCN, WWF – non-binding recommendations for UN member states; one of the first documents of its kind to specifically highlight medicinal plant conservation):

<http://www.wwf.org.uk/filelibrary/pdf/guidesonmedplants.pdf>

India – Report of the Task Force on Conservation and Sustainable Use of Medicinal Plants:

<http://indianmedicine.nic.in/html/plants/plants.htm>

International Standard for Sustainable Wild Collection of Medicinal and Aromatic Plants (ISSC-MAP - 2007): [www.floraweb.de/proxy/floraweb/map-pro/](http://www.floraweb.de/proxy/floraweb/map-pro/)

Mexico: Secretariat of Environment and Natural Resources (contains links to legislation covering NTFPs including Mexico’s Environmental Law and Mexico’s Forest Law [contains specific references to NTFPs]. Most documents are in Spanish, although there is an English translation of the Environmental Law):

<http://www.semarnat.gob.mx/>

Nested within this same website is another page (entirely in Spanish) dedicated to tropical and sub-tropical NTFPs, including specific laws for the extraction and trade of commercially important species (pine resin, palm fronds, mushrooms, exudates, etc.) and an NTFP bibliography:

<http://www.semarnat.gob.mx/pfnm2/>

Philippines – Department of Environment and Natural Resources: Revised Guidelines Governing the Harvest and Transport of Planted Trees and Non-Timber Products within Social Forest Areas (DENR Administrative Order No. 96-26, Sept. 1996):

[http://www.denr.gov.ph/policy/1996/FOR\\_DAO\\_1996-26.pdf](http://www.denr.gov.ph/policy/1996/FOR_DAO_1996-26.pdf)

RAISES (Red de Aprendizaje e Intercambio para la Sistematización de Experiencias hacia la Sustentabilidad): Mexican NGO network working with rural communities on NTFP and agricultural projects; their website includes papers on NTFPs, some of which specifically address NTFP laws and regulations:

[www.raises.org](http://www.raises.org)

Regional Centre for Development Cooperation (this site includes a great deal of information about NTFPs in India including descriptions of NTFP policies in various Indian states):

[www.banajata.org](http://www.banajata.org)

Scotland's wild mushroom code:

<http://www.snh.org.uk/scottish/species/fungi/fungicode.asp>

State of Montana's (USA) wildcrafting regulations requiring permits for commercial harvest or transport of wild plants: [http://data.opi.state.mt.us/bills/mca\\_toc/76\\_10\\_1.htm](http://data.opi.state.mt.us/bills/mca_toc/76_10_1.htm)

State of Oregon's (USA) Chapter 164 (ORS 164.813) – Offenses against property (requiring permits for harvest and transport of NTFPs).

[www.leg.state.or.us/ors/164.html](http://www.leg.state.or.us/ors/164.html).

State of Pennsylvania's (USA) state forest resource management plan: non-timber forest products. <http://www.dcnr.state.pa.us/forestry/sfrmp/nontimber.htm>.

State of Washington's (USA) Chapter 46.48 RCW: Specialized forest products (requirements for harvest & transport of NTFPs).

<http://apps.leg.wa.gov/RCW/default.aspx?cite=76.48>.

U.S. Forest Service's National Strategy for Special Forest Products:

[www.fs.fed.us/r10/tongass/projects/sfp/national\\_strategy\\_final%20jan2001.pdf](http://www.fs.fed.us/r10/tongass/projects/sfp/national_strategy_final%20jan2001.pdf)

Wild mushroom pickers' code of conduct (United Kingdom, 1998):

[http://www.britmycolsoc.org.uk/files/Pickers\\_code.pdf](http://www.britmycolsoc.org.uk/files/Pickers_code.pdf)

### 3.2. *Natural Resource Management Policies, Treaties and Laws that Impact NTFPs*

Alden Wily, Liz. 2000. Democratising the commonage: the changing legal framework for natural resource management in eastern and southern Africa with particular reference to forests.

**Keywords:** Commons, forest management, governance, land reform, legal frameworks, forest devolution, East Africa, South Africa

**Comment:** This paper provides an in-depth examination of trends in land laws and forestry laws in Eastern and Southern Africa. Alden Wily describes efforts toward land reform in the region, particularly the devolution of forest management responsibilities from state ownership to local communities. The process of devolution and a reconstruction of local rights is a slow process, and unevenly progressing across Eastern and Southern Africa, but many of the new laws herald a change in the recognition of local resource management.

Binswanger, H. P. 1991. Brazilian policies that encourage deforestation in the Amazon. *World Development*, 19(7): 821-830.

**Keywords:** Forest policies, Brazil, deforestation, subsidies, tax policies

**Comment:** One of the earlier critical articles pointing out perverse incentives in government policies (e.g., subsidies, tax credits) that drive deforestation.

Byron, Neil. 2006. Challenges in defining, implementing and renewing forest policies. *Unasylva*, 223.

**Keywords:** Forest policy, policy implementation, social priorities, international donors, conservation and development, NTFPs

**Abstract:** In renewing forest policy the bottom line is to ask, “What would be in the best long-term interest for the whole society, not just for a specific industry or sectoral group?”

**Comment:** This is a short think piece on forest policy that raises more questions than it answers. The author briefly discusses general issues with the creation, implementation and revision of forest policies, provides examples of contextual factors that frame policy creation (e.g., social pressures, international donors), and identifies several factors that support or prevent effective, efficient and equitable forest policies. The author notes that forest policies centered upon NTFPs have largely failed to deliver conservation and development benefits.

Emery, Marla R. & Alan R. Pierce. 2005. Interrupting the telos: locating subsistence in contemporary US forests. *Environment and Planning A*, (37): 981-993.

**Keywords:** Subsistence, forest policy, Montreal Process, political ecology, access

**Abstract:** People continue to hunt, fish, trap, and gather for subsistence purposes in the contemporary United States. This fact has implications for forest policy, as suggested by an international convention on temperate and boreal forests, commonly known as the Montréal Process. Three canons of law provide a legal basis for subsistence activities by designated social groups in Alaska and Hawaii and by American Indians with treaty rights in the coterminous forty-eight states. A literature review also presents evidence of such practices by people from a variety of ethnic backgrounds throughout the nation. Teleological notions of development espoused by both neoliberal and Marxist scholars suggest that subsistence activities should not persist in a First World setting except as failures of the officially sanctioned economic system. However, alternative economic perspectives from peasant studies and economic geography offer a conceptual framework for viewing at least some subsistence activities as having a logic and values outside of, if articulated with, market structures. Meeting the Montréal Process goal of providing for subsistence use of forests will require research focused on local practices and terms of access to resources as well as their relationship to state and capital processes. We outline the basics of a research agenda on subsistence for an emerging First World political ecology.

**Comment:** A call for greater recognition of subsistence issues in US forest policies.

Humphreys, David. 2004. Redefining the issues: NGO influence on international forest negotiations. *Global Environmental Politics*, 4(2): 51-74.

**Keywords:** Forest policy, NGOs, participation, international forestry, sustainable forest management, conservation, local communities, International Tropical Timber Organization (ITTO), timber labeling, forest certification, World Commission on Forests and Sustainable Development (WCFSD), United Nations Forum on Forests (UNFF)

**Comment:** Discusses the shifting evolution of NGO forest campaigns over the years to the present day championing of ecological and human rights. The author is guarded about the ultimate impact of NGO input into international forestry accords and notes that NGOs have shifted focus from contesting language in international agreements to ensuring that accepted provisions are implemented on the ground. Data for the article were collected from written and verbal statements as well as interviews and primary documents (e.g., final legal texts).

Humphreys, David. 2006. *Logjam: deforestation and the crisis of global governance*. Earthscan, London.

**Keywords:** Forestry, deforestation, UN Forum on Forests, forest policy, neoliberalism, forest treaties, governance, WTO, forest certification

**Comment:** Humphreys contends that current international forest policy efforts to halt deforestation through the UN are doomed to failure for a variety of reasons: the triumph

of neoliberalism globally; corporate influence; the timidity of governments to stand up to/reform the WTO; and general problems with the UN model for policy making and implementation (unwieldy and ineffective consultation processes followed by lack of reporting and enforcement). Although this is a forest policy book that does not touch upon NTFPs specifically, it is an important reference for understanding current processes in forest policy formulation. The book includes recommendations for reforming current problems with forest policy.

Jones, Eric T., Rebecca J. McLain & James Weigand (eds.). 2002. *Nontimber forest products in the United States*. University of Kansas Press, Lawrence, KS.

**Keywords:** United States, US Forest Service, NTFPs, Native American rights, NTFP policy

**Comment:** The first comprehensive book on NTFPs in the US, this volume includes a useful subsection on policy and resource management issues. The impact of a variety of federal laws and mandates on NTFPs, including the Endangered Species Act, the Lacey Act and the National Environmental Policy Act, are covered in Antypas et al.'s "Federal nontimber forest product policy and management" chapter. McLain's contribution examines the exclusion of mushroom harvesters from policy-making processes while Ringgold's chapter discusses the possibilities of creating stewardship contracting arrangements for NTFP harvest on federal lands. Additional items of interest to NTFP policy researchers include chapters on the relevance of sociocultural variables to policy formulation, NTFP certification, and Native American and customary claims to NTFPs.

Kainer, Karen A., Marianne Schmink, Arthur Cezar Pinheiro Leite & Mário Jorge da Silva Fadell. 2003. Experiments in forest-based development in western Amazonia. *Society and Natural Resources*, 16:869-886.

**Keywords:** Acre, conservation, extractivism, forest policy, rubber tappers, sustainable development, timber, tropical forest, zoning, Chico Mendes Law

**Abstract:** The state government of Acre, Brazil, has integrated ecological, cultural, social, and economic forest values into a comprehensive forest policy to manage Acre's abundance of comparatively pristine forests, while couching specific goals and the processes for achieving them within a broader sustainable development framework. Inspired by the rubber tapper culture and social movement, policy implementation has been advanced with broad support from national and international allies. While these experiments in forest-based development serve as a hopeful alternative to the steady deforestation observed in Amazonia, many long-term ecological, economic, cultural and political challenges remain for sustaining and adapting these policy initiatives.

**Comment:** The government of Acre State in Brazil is attempting to implement forest policies that maintain forest cover while benefiting small and medium-sized extractivists and other forest users. Measures include the Chico Mendes Law, which provides rubber tappers with financial incentives to maintain their way of life; the establishment of the

Executive Secretariat of Forest and Extractivism to support research into the production and marketing of NTFPs from Acre; initiation of an ecological-economic zoning plan for the state; and development of a sustainable timber industry within the state. A short discussion section examines the pros and cons of these nascent strategies.

Kathe, Wolfgang, Susanne Honnef & Andreas Heym. 2003. *Medicinal and aromatic plants in Albania, Bosnia-Herzegovina, Bulgaria, Croatia and Romania*. BfN – Skripten 91. Bundesamt für Naturschutz, Bonn.

**Keywords:** Eastern Europe, medicinal plants, regulations, harvest quotas, trade

**Summary:** Albania, Bosnia-Herzegovina, Bulgaria, Croatia and Romania are remarkably rich in their biological, ecological and landscape diversity and are home to outstanding natural bio-resources such as a large number of herbs, medicinal, cosmetic and aromatic plants (MAPs). However, the wild stock of many MAP species has declined during past decades; some species have become rare or endangered because of habitat loss or modification, overexploitation, soil erosion and other factors (first paragraph only).

**Comment:** The chapter “Legal and financial aspects relevant to MAP collection and trade” outlines how international conventions and EC regulations impact the collection and trade of medicinal plants from Eastern Europe and briefly discusses potential mechanisms to finance MAP conservation (e.g., licenses, taxation, certification, corporate donations). Overviews of national legislation affecting medicinal plants are presented on a country-by-country basis, including short descriptions of how harvest quota systems are implemented (e.g., in Bulgaria).

Lammerts van Bueren, Erik M. & Esther M. Blom. 1997. *Hierarchical framework for the formulation of sustainable forest management standards*. Tropenbos Foundation, Leiden, The Netherlands.

**Keywords:** Forest management, standards, certification, principles, criteria, indicators, sustainability

**Summary:** The purpose of this publication is to give guidance for the formulation of principles, criteria and indicators for sustainable forest management. The presented hierarchical framework may serve as a manual to develop consistent standards for boreal, temperate and tropical forests. A standard is a set of principles, criteria and indicators, or at least a combination of these hierarchical levels that serves as a tool to promote sustainable forest management, as a basis for monitoring and reporting, or as a reference for assessment of actual forest management.

**Comment:** An excellent introduction to forest management standards for newcomers unfamiliar with the concepts of principles, criteria and indicators. Although the primer’s focus is on forest management and timber production, the implications for NTFPs are numerous. The appendices include a variety of forest management standards (market and

non-market oriented), including the African Timber Organization and the Montreal Process.

Larson, Anne M. and Jesse C. Ribot. 2007. The poverty of forestry policy: double standards on an uneven playing field. *Sustainability Science*, 2(2): 189-204. Available online at: [http://pdf.wri.org/sustainability\\_science\\_poverty\\_of\\_forestry\\_policy.pdf](http://pdf.wri.org/sustainability_science_poverty_of_forestry_policy.pdf)

**Keywords:** Community forestry, forest policy, forest access, Honduras, poverty alleviation, Senegal

**Abstract:** Can policies designed to maximize exploitation by elites benefit the people who live in forests? Forestry policy throughout the developing world originates from European “scientific” forestry traditions exported during the colonial period. These policies were implemented by foreign and local elite whose interest was to maximize and extract profit. In spite of reforms since the end of the colonial period, policies on the environment usually remain biased against rural communities. Even when more recent policies are fair, the rural poor face severe biases in implementation. In addition, they must compete on an uneven playing field of ethnic and other social inequalities and economic hurdles. This article examines how forestry policy and implementation maintain double standards on this uneven playing field in a manner that permanently excludes the rural poor from the natural wealth around them – producing poverty in the process. Change that would support poverty alleviation for forest-based communities requires a radical rethinking of forest policy so as to counterbalance widespread regressive policies and structural asymmetries.

**Comment:** This article does not address NTFPs specifically, but is an important contribution to the forest policy literature.

Miller, Michael J. 2006. Biodiversity policy making in Costa Rica. *The Journal of Environment and Development*, 15(4), 359-381.

**Keywords:** Costa Rica, biodiversity, CBD, indigenous rights, bioprospecting, intellectual property, access and benefit sharing

**Abstract:** Costa Rica’s Biodiversity Law of 1998 is perhaps the most comprehensive legislation implementing the Convention on Biological Diversity. It includes provisions to better protect the intellectual property rights of rural communities regarding uses they have developed for natural resources and plants and animals they have bred. This article addresses how groups representing these peoples – the National Indigenous Board and National Peasant Board – obtained these provisions despite opposition from traditionally more powerful scientific and business communities. Data were collected on the formulation of the Biodiversity Law through qualitative techniques, including intensive interviews and archival research. It was found that fortuitous political conditions, or political opportunity structures, were crucial to the success of organizations representing rural communities. These supports included better-resourced allies, favorable international legal obligations and public opinion, and existing law that could be built on.

Indicating broader patterns, it also was found that such political conditions have been salient during indigenous and peasant political activism elsewhere in Latin America and during formulation of similar biodiversity policy in developing countries.

**Comment:** Few papers have attempted to disentangle how particular laws and policies have come into being; this paper is an exception and covers many of the CBD issues that relate to NTFPs.

Richards, Michael. 2000. Can sustainable tropical forestry be made profitable? The potential and limitations of innovative incentive mechanisms. *World Development*, 28(6): 1001-1016.

**Keywords:** Tropical forestry, incentives, externalities, institutional capacity, certification, carbon trading, fair trade, tenure, transfer payments

**Summary:** This paper assesses the potential and limitations of a range of “innovative” incentive mechanisms (IIMs) to make forest management and conservation more profitable for forest users. It classifies IIMs into three approaches: the fiscal or transfer payments approach; market-based solutions involving public good values; and the property rights approach. An essential complement to any IIM is regulation or control; at the international level, regulation creates the necessary demand for IIMs which attempt to capture global externalities, while at the national level, effective regulation is a vital concomitant of fiscal market-based instruments. Efforts to encourage sustainable forestry should also be complemented by policies which make forest-degrading activities less attractive, particularly by tackling extra-sectoral causes of forest degradation and investing in social capital and labor-intensive agriculture.

**Comment:** A useful overview of pressures driving forest degradation and the difficulty of combating such pressures through policy measures.

Silva, Eduardo. 2004. The political economy of forest policy in Mexico and Chile. *Singapore Journal of Tropical Geography*, 25(3): 261-280.

**Keywords:** sustainable development, community forestry, *ejidos*, politics, forest policy, social structure, economic structure

**Abstract:** Widespread agreement exists on the broad outlines of the concept of sustainable development for developing countries. This calls for a development model capable of meeting basic needs without depleting natural resources at a rate that robs future generations of their use. In this regard, citizen participation is also considered key to legitimize such policy choices. However, there is considerable disagreement over the substance and meaning of the major components of the concept and the relationship between them. This paper argues that positions in policy disputes over the sustainable development of the forest cluster in two distinct approaches: market-friendly initiatives and grassroots development. Since market economies prevail almost everywhere, the question that is posed concerns the conditions under which the grassroots development

approach is included as a significant complement to market-friendly initiatives. This is a political question, requiring an examination of actors, interests and power resources. The paper thus applies a political economy framework to a paired comparison of Mexico, where grassroots development approaches (community forestry) had notable successes, and Chile, where market-friendly forest policy crowded out alternatives.

**Comment:** This analysis of forest policies in Mexico and Chile makes no specific mention of NTFPs, but is nonetheless quite relevant to NTFPs. Of particular interest is the analysis of factors that support community-based/grassroots forestry (tenure, organization, political support, etc.) since community forestry operations, such as the chicle producing *ejidos* of Mexico, are areas where traditional NTFP production is often found.

Sunderlin, W.D., S. Dewi and A Puntodewo. 2007. *Poverty and forests: multicountry analysis of spatial association and proposed policy solutions*. CIFOR, Bogor, Indonesia.

Internet resources for treaties, laws and policies that impact NTFPs:

Centre for International Sustainable Development Law (CISDL) (this organization produces interesting publications on law and policy, touching on issues ranging from biosafety to genetic resources to benefit-sharing and the WTO):

[www.cisd.org](http://www.cisd.org)

Convention on Biological Diversity: [www.biodiv.org](http://www.biodiv.org)

Convention on Biological Diversity's Global Strategy for Plant Conservation:

<http://www.biodiv.org/programmes/cross-cutting/plant/default.asp>

Costa Rica's Biodiversity Law #7788 (covering CBD aspects of biodiversity, intellectual property, access and benefit sharing, etc., 1998 [in Spanish]):

[http://www.grain.org/brl\\_files/costarica-leybiodiversidad-1998-sp.pdf](http://www.grain.org/brl_files/costarica-leybiodiversidad-1998-sp.pdf)

ECOLEX: A gateway to environmental law (FAO, IUCN & UNEP sponsored site with subsections on treaties, national legislation, court decisions and literature):

[www.ecolex.org](http://www.ecolex.org)

EU Forest Action Plan (general forest strategies for EU member states; includes a key action #3 to "exchange and assess experiences on the valuation and marketing of non-wood forest goods and services"):

[http://ec.europa.eu/agriculture/fore/action\\_plan/com\\_en.pdf](http://ec.europa.eu/agriculture/fore/action_plan/com_en.pdf)

FAO's Asia-Pacific Forestry Commission page (includes some forest policy briefs and publications as well as links to individual country profiles that include summaries of key forest legislation):

<http://www.fao.org/forestry/site/33592/en>

FAO's Forest Law Enforcement Publications page (includes electronic publications on legal compliance in the forest sector and approaches to reforming government forest policies, as well as country case studies and other articles. Although the focus of most of the material is almost exclusively devoted to logging, the materials have a direct bearing on NTFPs):

<http://www.fao.org/forestry/foris/webview/forestry2/index.jsp?siteId=5201&sitetreeId=18448&langId=1&geoId=0>

International Treaty on Plant Genetic Resources for Food and Agriculture:

<http://www.fao.org/AG/cgrfa/itpgr.htm>

The International Tropical Timber Organization (forestry standards): [www.itto.or.jp](http://www.itto.or.jp)

IUCN Environmental Law Programme (conducts research on a variety of environmental laws and treaties, including some relevant to NTFPs, such as CITES, TRIPS, etc.

Publications available for a fee.):

<http://www.iucn.org/themes/law/>

The Montréal Process (criteria and indicators for the conservation and sustainable management of temperate and boreal forests): [www.mpci.org](http://www.mpci.org)

Policy and Law Initiative of the Mountain Partnership (has links to international and regional laws, policies and agreements governing conservation of mountainous regions, some of which directly impact NTFPs):

[www.eurac.edu/policylaw/](http://www.eurac.edu/policylaw/)

World Bank's Operational Policy on Forests (OP 4.36) addresses requirements for Bank projects addressing forest resources; point #15 states that where appropriate, forest projects should include evaluations of marketing potential for NTFPs):

<http://wbln0018.worldbank.org/Institutional/Manuals/OpManual.nsf/tocall/C972D5438F4D1FB78525672C007D077A?OpenDocument>

## 4. ECONOMIC POLICIES, MARKETING & TRADE

The final section of the bibliography addresses how economic policies impact NTFPs. Section 4.1 contains citations from the development literature. The use of NTFP commercialization to achieve conservation and rural development goals has provoked a lively and ongoing debate and papers here present the views of both advocates and critics. In addition, a number of case studies profiling NTFP pilot studies are included. Section 4.2 lists citations relating to the use of certification as a policy tool to promote sustainable harvest and trade of NTFPs. While ecological certification is largely promoted by NGOs, standards for safety and efficacy of NTFPs are most often advocated by industry and governments; articles discussing these initiatives are covered in section 4.3. The final section, 4.4, addresses literature relating to the trade of NTFPs. Most of the papers presented here concern international trade.

### 4.1. NTFPs and Economic Development

Allegretti, Mary Helena. 1990. Extractive reserves: an alternative for reconciling development and environmental conservation in Amazonia. Pages 252-264 in Anderson, Anthony B. (ed.), *Alternatives to deforestation: steps toward sustainable use of the Amazon rain forest*. Columbia University Press, NY.

**Keywords:** Brazil, rubber tappers, extractive reserves, rural development

**Comment:** Along with the Hecht et al. (1988 – see below) article, this paper questioned the wisdom of traditional rural development activities in Amazonia and proposed a new forest conservation and rural development policy direction for the region, namely the creation of extractive reserves.

Agrawal, Arun and Kent Redford. 2006. Poverty, development, and biodiversity conservation: shooting in the dark? Working Paper No. 26. Wildlife Conservation Society, Bronx, NY.

**Keywords:** Governance, sustainable development, community-based conservation, environmental policy, decentralization, ecotourism, extractive reserves

**Abstract:** Poverty alleviation and biodiversity conservation are basic social goals and part of the policy agenda of postcolonial states and international agencies. It is not surprising therefore that a large number of programmatic interventions have aimed to achieve the two goals at the same time. These interventions are funded by governments, conservation NGOs, bilateral and multilateral donor agencies, and private sector organizations. In this paper, we first examine the conceptual discussion around poverty and biodiversity, and then analyze three such interventions: community-based wildlife management, extractive reserves, and ecotourism. Our discussion shows that the literature on these programmatic interventions depends on relatively simplified understandings of poverty and biodiversity in stark contrast to the theoretical literature on

the two concepts. Further, writings on programmatic interventions tend to operationalize poverty and biodiversity in distinct and quite different ways.

Our analysis focuses on peer-reviewed writings and finds that 34 of the 37 identified studies share two common features: a focus on processes and outcomes in a single case and single time period, and a drastic simplification of the complex concepts of poverty and biodiversity. In addition, the cases we examine are relatively inattentive to the relationships between observed outcomes and the contextual features of programmatic interventions. As a result of these shared features, the mass of scholarly work on the subject does not permit systematic and context-sensitive generalizations about the conditions under which it may be possible to achieve poverty alleviation and biodiversity conservation simultaneously. The vast sums channeled toward joint achievement of poverty alleviation and biodiversity conservation are all the more remarkable in light of the basic lack of evidence on the extent to which these goals can jointly be reached. In conclusion, we discuss steps toward a rejuvenated research agenda for better knowledge and policies related to the links between poverty alleviation and biodiversity conservation.

Angelsen, A. and S. Wunder. 2003. Exploring the forest-poverty link: key concepts, issues and research implications. CIFOR Paper 40. CIFOR, Bogor, Indonesia. Available online at: [http://www.cifor.cgiar.org/publications/pdf\\_files/OccPapers/OP-40.pdf](http://www.cifor.cgiar.org/publications/pdf_files/OccPapers/OP-40.pdf)

**Keywords:** Poverty alleviation, rural livelihoods, timber, non-timber forest products, ecological services

**Abstract:** This paper provides a global review of the link from forests to poverty alleviation. Definitions are clarified and the key concepts and indicators related to livelihoods and poverty reduction and prevention are explored – distinguishing between the analysis (using broader welfare elements) and the measurement of poverty (using more tangible, traditional indicators). Reviewing the macro-level literature on the relationship between economic growth, inequality and poverty, we find that economic growth usually does trickle down to the poor and that poverty reduction without growth is in practice very difficult to achieve.

The potentials and limitations of forests in regard to poverty alleviation are canvassed and their possible roles as safety nets, poverty traps and pathways out of poverty are explored. A striking gap exists between, on the one hand, the current neglect of forests in many economic development and poverty reduction strategies and on the other, the high (and sometimes unrealistic) expectations regarding the role for forest products in parts of the forest literature. Both positions are critically evaluated. The core discussion addresses how forests can contribute to poverty reduction, distinguishing three main benefit categories. Firstly, non-timber forest products serve subsistence needs, may have important gap filling or safety net functions and sometimes provide regular cash income. Secondly, timber has not traditionally been very pro-poor but the current trend of increased local ownership of natural forests, growing tree commercialization and small scale wood processing could modify that picture. Thirdly, ecological service payments are emerging rapidly but it is uncertain how much the poor will benefit. In conclusion,

we outline ten promising research topics, within three broader fields: assessing current forest-based benefits to the poor; exploring emerging market opportunities; and evaluating cross-cutting institutional and extra-sectoral issues.

Arnold, J.E. Michael and Manuel Ruíz Pérez. 2001. Can non-timber forest products match tropical forest conservation and development objectives? *Ecological Economics*, 39: 437-447.

**Keywords:** Tropical deforestation, non-timber forest products, forest conservation, rural development, livelihoods, subsistence.

**Abstract:** The contributions that non-timber forest products (NTFPs) can make to rural livelihoods, and the fact that their use is less ecologically destructive than timber harvesting, have encouraged the belief that more intensive management of forests for such products could contribute to both development and conservation objectives, and have led to initiatives to expand commercial use of NTFPs. This paper reviews evidence that indicates that this ‘conservation through commercialization’ thesis needs to be revised. In practice, the selective nature of market demand, and the uneven distribution of resources of use value within forests, mean that with NTFP harvesting the resource can become altered and degraded. The pressures that market forces can place on local control mechanisms, and the conflicting interests of those using forest resources for subsistence and income generation, can also result in poorer users becoming disadvantaged as NTFP commercialization is intensified. An approach that recognizes such areas of conflict, and attempts to arrive at a realistic balance between development and conservation, is proposed.

**Comment:** This paper frames the rise of policies aimed at using NTFPs for development purposes by providing three main supporting propositions as well as a brief review of the relevant literature. The authors call for greater nuance in development projects and forest policies aimed at NTFPs, arguing that the local context is often ignored. The authors conclude (p. 445) that, “it may often be necessary in designing and implementing policy and other institutional interventions to distinguish between those who can improve their livelihoods through NTFP activities, and those who have no other option but to continue to gather NTFPs in order to survive.”

Belcher, Brian and Kathrin Schreckenber. 2007. Commercialisation of non-timber forest products: a reality check. *Development Policy Review*, 25(3): 355-377.

**Keywords:** Non-timber forest products (NTFPs), NTFP commercialization, rural development, rural livelihoods

**Abstract:** This article challenges the pervasive view that commercialisation of nontimber forest products can (easily) achieve ecosystem and species conservation as well as improving livelihoods. Following a brief review of who and what is involved, it focuses on the main ecological and livelihood risks of unconsidered promotion of NTFP commercialisation, drawing on a wide range of case studies from around the world. It

concludes with some recommendations, emphasising the lack of ‘magic-bullet’ products, and the importance – among other things – of not ignoring national policy, taking an integrated view of the value chain, considering the implications of different production options, and improving both quality and quantity.

Belcher, Brian, Manuel Ruíz Pérez and Ramadhani Achdiawan. 2005. Global patterns and trends in the use and management of commercial NTFPs: implications for livelihoods and conservation. *World Development*, 33(9): 1435-1452.

**Keywords:** NTFPs, global comparative analysis, conservation, commercialization, livelihood strategies

**Summary:** Understanding of the role and potential of nontimber forest products (NTFPs) for livelihood improvement and conservation has been hindered by a lack of a clear theoretical framework and a functional typology of cases. To help fill this gap, we did a comparative analysis of 61 cases of commercial NTFP production in Africa, Asia, and Latin America. Cases were documented using a standardized set of descriptors organized into categories describing various aspects of the production-to-consumption system. Exploratory analysis yielded useful case groupings by (a) household economic strategy and (b) NTFP production strategy. These groups and their key characteristics are used as a basis for discussing the development and conservation implications of NTFPs.

**Comment:** This broad study has a number of useful conclusions for policymakers regarding NTFP access and NTFP marketing.

Belcher, Brian and Kathrin Schreckenber. 2007. Commercialisation of non-timber forest products: a reality check. *Development Policy Review*, 35(3): 355-377.

**Keywords:** NTFPs, NTFP commercialization, ecosystem services, rural livelihoods, NTFP policy

**Abstract:** This article challenges the pervasive view that commercialisation of nontimber forest products can (easily) achieve ecosystem and species conservation as well as improving livelihoods. Following a brief review of who and what is involved, it focuses on the main ecological and livelihood risks of unconsidered promotion of NTFP commercialisation, drawing on a wide range of case studies from around the world. It concludes with some recommendations, emphasising the lack of ‘magic-bullet’ products, and the importance – among other things – of not ignoring national policy, taking an integrated view of the value chain, considering the implications of different production options, and improving both quality and quantity.

**Comment:** This article critiques NTFP commercialization to date and offers advice for avoiding future pitfalls such as harming rural livelihoods. The paper includes a short section on policy issues including inappropriate legislation, high transport fees and a lack of incentives to promote investment in NTFP processing and trade.

Bunker, Stephen G. 1985. *Underdeveloping the Amazon: extraction, unequal exchange and the failure of the modern state*. University of Illinois Press, Urbana, IL.

**Keywords:** Brazil, Amazon, underdevelopment, energy flows, economic policies, rubber.

**Comment:** Bunker's book analyzes the history of extraction in the Brazilian Amazon using theories of underdevelopment and energy flows. He demonstrates how state policies have caused conflict over access to resources, broken local institutions of order and land tenure, undervalued natural resources and human labor, and degraded natural and human environments. The book includes a brief section on rubber. Much of the policy analysis may be germane to situations found in other resource-rich countries that engage in extraction and trade of raw materials from forests.

Clay, Jason W. 1995. *Generating income and conserving resources: twenty lessons from the field*. WWF, Washington, DC.

**Keywords:** South America, NTFPs, Brazil nuts, trade, rural development

**Comment:** The first publication to compile empirical lessons gleaned from NGO attempts to promote NTFP micro-enterprises, drawing on experiences from projects in South America.

Crook, Carolyn & Roger A. Clapp. 1998. Is market-oriented forest conservation a contradiction in terms? *Environmental Conservation*, 25(2):131-145.

**Keywords:** biological diversity, biodiversity prospecting, natural forest management, nontimber forest products, sustainable development, biodiversity prospecting

**Summary:** The destruction of forest ecosystems appears economically rational because many of the values of intact ecosystems are not recognized in land-use decisions. Many authors have suggested that the conservation of intact ecosystems requires that markets be extended to increase economic benefits derived from the standing forest to the point where they out-compete alternative, destructive land-uses. Three such strategies for market-oriented forest conservation are natural forest management for high-value timber, the collection of non-timber forest products, and biodiversity prospecting. In each case the proposed use of the ecosystem is likely to prove socially and economically unsustainable, or to generate significant alterations in ecosystem structure which endanger its diversity, or both (partial summary).

**Comment:** The authors recognize that market-oriented strategies can be a vital component of forest conservation strategies, but list a number of challenges with timber extraction, NTFP harvest and biodiversity prospecting. The paper concludes with policy recommendations for implementing better forest conservation policies, including better research and forest management systems, greater enforcement of laws, appropriate land use planning, and re-alignment of political interests.

de Beer, Jenne and Melanie McDermott. 1989. The economic value of non-timber forest products in Southeast Asia. IUCN, Amsterdam.

**Keywords:** Southeast Asia, NTFPs, household economies, economic valuation, international trade.

**Comment:** In one of the first regional studies of NTFPs, de Beer and McDermott focus on the contributions of NTFPs to households. As NTFPs gained popularity in the early 1990s as a potential vehicle for rural development, this volume became much-cited. A second edition of the book was published in 1996.

Debroux, L., T. Hart, D. Kaimowitz, A. Karsenty and G. Topa. 2007. Forests in post-conflict Democratic Republic of Congo: analysis of a priority agenda. CIFOR, Bogor, Indonesia.

**Keywords:** Democratic Republic of Congo, forest policy, rural development, forest management, conservation, NTFPs, conflict

**Abstract:** Forests are ubiquitous in the Democratic Republic of Congo; they touch the cultural and economic life of most of the population and have enormous global environmental significance. After years of conflicts and mismanagement, reconstruction is key to improving living conditions and consolidating peace. At the same time, better roads and trade bring risks—threatening forests and biodiversity by facilitating logging, land conversion, and the seizure of forest rights by vested interests. Anticipating these threats, in 2002, the transitional government started a Priority Reform Agenda. This report analyses the soundness of this Agenda, the progress achieved to date, and the priorities for the future. It emphasises the nature of forests as a public good; and the importance of the rule of law, transparency and public participation in managing natural resources. It highlights the multiplicity of claims on forests; calls for multipurpose participatory land-use planning; and emphasises the need to secure traditional user rights. Beyond the risks, the return of peace to the DRC also offers a unique opportunity to take a fresh look at the second-largest rainforest in the world, and to implement innovative strategies that give priority to the environment and to local people.

Deweese, Peter & Sara Scherr. 1996. *Policies and markets for non-timber tree products*. Environment and Production Technology Division Discussion Paper No 16. International Food Policy Research Institute, Washington, DC.

**Keywords:** Non-timber tree products, economic policies, NTFP markets.

**Abstract:** Markets for non-timber tree products (NTTPs) are widely viewed with great promise because of their potential for achieving a range of development objectives. Markets can, of course, be influenced by policy, but in order to do so, market information is needed to better inform the policy process. There has been increasing concern that few market studies have been adequate for doing so. There has been ambivalence at the

policy level because these markets are highly diverse and difficult to characterize, and because governments tend to view NTTP markets as a threat to the conservation and management of forests and woodlands. Perhaps most importantly, however, there has been a failure to link the design of market studies with the potential for policy change. We argue in this paper that policies *per se* can be used to influence the operation of these markets, and that good market research should be more carefully designed to reflect explicit policy objectives.

Policies toward the operation of NTTP markets have generally been designed to meet one or more of three objectives: to bring about the conservation of tropical forests and woodlands, to improve household welfare, or to support economic growth and development at the regional and national levels. These objectives are not necessarily compatible with each other. The link between market information and the development of policies toward the operation of NTTP markets poses considerable challenges for market research. Increasingly, market researchers must be brought into the policymaking process. In particular, market analysts must be encouraged to continually stretch their conceptual framework, to expand the ways of collecting relevant data, to broaden their use of analytical methods, and to consider more carefully the links between markets, the environment, household production and household welfare.

**Comment:** The authors focus on tree products rather than “game meat, mushrooms, thatch, and honey, which are all dependent on habitat management more generally, rather than on tree management specifically (p. 1).” The paper takes a decidedly economic focus on policy formation for non-timber tree products but is a useful contribution nonetheless because it is one of the few papers to broadly address NTFP policies (although aspects such as certification, trade regulations and the impact of quality standards are not addressed).

Donovan, J. (ed.). 2008. *Small and medium forest enterprise development for poverty reduction: opportunities and challenges in globalizing markets*. Technical Series, Technical Meetings 12. CATIE, Turrialba, Costa Rica.

Dove, Michael R. 1994. Marketing the rainforest: ‘green’ panacea or red herring? *Asia Pacific Issues*, No. 13. East-West Center, Honolulu, HI.

**Keywords:** Tropical forests, NTFPs, NTFP marketing, green marketing, rural development, certification

**Summary:** As more and more of the world’s tropical rainforests are cut down, environmentalists have come up with a new idea to stop the destruction: marketing non-timber products from the rainforest. They argue that if Western consumers buy forest products such as “Rainforest Crunch” ice cream, cookies, cereal, or cosmetics, the forest will become too valuable for the native people to cut down. Most of the trees, however, are cut down not by native forest dwellers but by commercial loggers and ranchers and the migrants who follow them. Moreover, whenever a forest product becomes valuable in international markets, elites are likely to appropriate it and leave only products of little value to forest dwellers. Marketing rainforest products is not only trying to protect the

trees from the wrong people; it perpetuates the process of leaving to the forest dwellers the resources of least interest to the broader society. The focus on “green shopping” is a dangerous distraction from the political and economic changes that must be made to encourage conservation of the world’s tropical forests and improve the lot of the people who live there.

**Comment:** A vigorous critique of promoting NTFPs as a rural development/tropical forest conservation policy, particularly the marketing of ‘green’ or certified products. This article provoked a great deal of discussion upon its publication and continues to resonate with critics of NTFP marketing.

Dove, Michael R. 1995. Political versus techno-economic factors in the development of non-timber forest products: lessons from a comparison of natural and cultivated rubbers in Southeast Asia (and South America). *Society and Natural Resources*, 8: 193-208.

**Keywords:** Colonial policy, *Hevea brasiliensis*, Indonesia, Kalimantan, non-timber forest products, peasant-state relations, rubber, South America, swidden agriculture, land rights, trade

**Abstract:** An outstanding historic example of development of non-timber forest products (NTFPs) involves the transition among the forest dwellers of Indonesia early this century, from gathering native forest rubbers to cultivating Para rubber (*Hevea brasiliensis*), introduced from South America. The dynamics of this transition bring into question one of the key premises of current research on NTFPs, that the challenges to this development are largely technical and economic. Analysis of this transition and comparative data from South America suggest that the most important issue in NTFP development is not the size or efficiency of the return but rather who receives it. This analysis can contribute to a politically more informed analysis of the contemporary development of NTFPs and to improved understanding of relations between forest-dwelling peoples and the broader societies in which they live.

**Comment:** A fascinating historical account of the social and economic impacts of commercial cultivation of Brazilian rubber in Indonesia. Of particular interest is the focus on government attempts to control production and trade in rubber through policy measures and the resistance such measures engendered among local populations. At one point, Dove extends his discussions of the peasant-state dialectic that developed in the rubber trade to explain current Indonesian policies restricting export of raw and half-finished rattan. The analysis contrasting rubber policies in Indonesia and Brazil is an interesting examination of how differing social, political and economic factors can produce differing policies for the same plant. Dove concludes with a cautionary note about using NTFPs as a development tool.

Fabricius, Christo, Eddie Koch, Stephen Turner and Hector Magome (eds). 2004. Rights, resources and rural development: community-based natural resource management in Southern Africa

**Keywords:** Southern Africa, community-based natural resource management, resource access, livelihoods, governance, rural development, traditional knowledge

**Comment:** This volume examines community-based natural resource management (CBNRM) projects in Southern Africa and includes a number of case studies from across the region. It notes flaws and successes in the application of CBNRM as a policy tool to promote biodiversity conservation and rural development.

FAO. 2006. Better forestry, less poverty: a practitioner's guide. FAO Forestry Paper No. 149. FAO, Rome, Italy.

**Keywords:** Poverty, poverty reduction, livelihoods, forests, value addition, microfinance, NTFPs, agroforestry, forest policies

**Comment:** This publication contains a short section on NTFPs harvest as a possible poverty alleviation tool as well as a larger section on tailoring national policies to better address poverty, forest law enforcement, forest financing and other relevant issues.

Fisher, Robert, Maginnis, Stewart, Jackson, William, Barrow, Edmund and Sally Jeanrenaud. 2008. *Linking conservation and poverty reduction: landscapes, people and power*. Earthscan, London, UK.

**Keywords:** Poverty, conservation, livelihoods, integrated conservation

Gubbi, S. and D. MacMillan. 2008. Can non-timber forest products solve livelihood problems? A case study from Periyar Tiger Reserve, India. *Oryx*, 42(2): 222-228.

**Keywords:** NTFPs, local communities, livelihoods, poverty, damar, honey, cardamom

**Comment:** A rather critical article regarding the potential of NTFPs to relieve poverty and promote conservation.

Hamilton, Alan (ed.). 2008. *Medicinal plants in conservation and development: case studies and lessons learnt*. Plantlife International, Salisbury, UK.

**Keywords:** Medicinal plants, rural development, conservation, case studies

Hecht, Susanna B., Anthony B. Anderson and Peter May. 1988. The subsidy from nature: shifting cultivation, successional palm forests, and rural development. *Human Organization*, 47(1): 25-35.

**Keywords:** Rural development, babassu palm, Brazil, extraction, shifting cultivation, gender issues, household production

**Abstract:** This paper outlines the importance of the small-scale extractive sector to extremely impoverished households in rural areas of tropical Brazil. Extractive activities

are important as inputs to household reproduction, and are critical as a source of cash income. In the case study we analyze, small-scale extraction was roughly equivalent to wage labor and to agriculture in its contribution to household income. We suggest that in rural development analysis, a significant source of both use and exchange values has been overlooked. This issue is of particular concern for three main reasons. First, the importance of small-scale extraction is more pronounced among the more impoverished. Second, extraction is a major source of cash for women, who are often denied access to alternative means of acquiring income in rural areas. Finally, current rural development programs are actively undermining access to the resources and often imply their destruction. Through a detailed social and ecological analysis of the babassu palm/shifting cultivational system in Northeastern Brazil, we show the interdependence of regional biological and human agricultural systems. Changes in social relations and technology can undermine the bases for the sustainability of the stable interactions between shifting cultivators and palms.

**Comment:** The Hecht paper was one of the first in wave of papers criticizing traditional development policy in Amazonia. This and other papers from the era sparked a debate over the establishment of extractive reserves and the importance of maintaining access to NTFPs for rural families in Brazil, a debate that is still ongoing.

Homma, A.K.O. 1992. The dynamics of extraction in Amazonia: A historical perspective. *Advances in Economic Botany* 9:23-31. New York Botanical Garden.

**Keywords:** NTFPs, economic analysis, sustainability, domestication, substitution effect

**Comment:** This 'keystone' paper examines the economic dynamics of forest product extraction in Amazonia and suggests that forest product extraction typically undergoes three distinct developmental phases: expansion, stagnation and decline. Four main factors are considered to contribute to decline: (1) inelastic supply of forest products; (2) harvest rates that exceed regeneration; (3) domestication; and (4) development of industrial substitutes.

Kaushal, K.K. and V.K. Melkani. 2005. India: achieving the Millennium Development Goals through non-timber forest products. *International Forestry Review*, 7(2): 128-134.

**Keywords:** MDGs, non-timber forest products, forest inhabitants, subsistence

**Summary:** Despite the rapid strides made in recent years in terms of development, India has a long way to go to achieving the Millennium Development Goals (MDGs). This paper attempts to analyze the role and potential of non-timber forest products (NTFPs) to meet the subsistence and income needs of forest inhabitants. Based on available literature, field and policy level experience, it shows how the NTFP sector has not received due importance in the country. The paper depicts the unique potential of NTFPs to assist in achieving all the 8 MDGs for the 178 million forest inhabitants in particular and the remaining population in general. It also provides a strategy for achieving the MDGs in India through NTFPs.

Marshall, E., K. Schreckenberg and A.C. Newton (eds.). 2006. *Commercialization of non-timber forest products: factors influencing success. Lessons learned from Mexico and Bolivia and policy implications for decision-makers*. UNEP/WCMC, Cambridge, UK.

**Keywords:** Mexico, Bolivia, NTFP policy, gender issues, access rights, value chains, cocoa, rubber, copal, fibers, palms, mushrooms

**Summary:** Commercialization of non-timber forest products (NTFPs) has been widely promoted as an approach to rural development in tropical forest areas. However, donor investments in the development of NTFP resources have often failed to deliver the expected benefits in terms of poverty alleviation and improved conservation of natural resources. In order to ensure that NTFPs fulfill their potential contribution to sustainable development, it is important to understand the reasons for success and failure, and the conditions under which NTFP commercialization can make a positive contribution to the livelihoods of the poor.

This publication presents the findings of the CEPFOR project (Commercialization of non-timber forest products in Mexico and Bolivia: factors influencing success), a multi-disciplinary research initiative involving partners drawn from the UK, Mexico and Bolivia. The research team critically examined the factors influencing successful NTFP commercialization and tested and further developed theory relating to the commercialization of NTFPs and rural development. Socio-economic and market research examined the impact of different NTFP commercialization networks (value chains) on poverty reduction, women's livelihoods, natural resources and rights and access of the poor, in the eight communities in Bolivia and 10 in Mexico. The structure and function of 16 NTFP value chains were analysed, enabling identification of the attributes that make a chain successful. The main findings of the CEPFOR project are presented below.

**Comment:** Eighteen case studies of NTFP development projects in Mexico and Bolivia illuminate many of the policy challenges posed by NTFPs. Of particular interest is chapter 8, "Policies, laws and institutions: what framework for NTFP commercialization?," which provides examples of successful and problematic NTFP policies and laws. The authors found that many NTFP development projects are difficult to launch and sustain due to the multiplicity of governmental institutions and laws touching on NTFPs, inconsistency in application of said policies and laws and bureaucratic reporting and licensing requirements.

McLain, Rebecca J., Alexander, Susan and Eric Jones. 2008. *Incorporating understanding of informal economic activity in natural resource and economic development policy*. Gen. Tech. Rep. PNW-GTR-755. US Forest Service, Portland, OR.

**Keywords:** NTFPs, informal economy, rural development, United States

**Summary:** This report synthesizes the literature on the role of informal economic activity in the United States of America's post-industrial economy. The NTFP sector serves as a case study of why it is important to consider informal economic activity when developing natural resource and economic development policy. We recommend steps policy-makers can take to identify and encourage positive aspects of the informal economic activity. We also highlight several areas of research to improve understanding of the role of informal economic activity in post-industrial societies.

Michon, Geneviève. 2006. NTFP development and poverty alleviation: is the policy context favourable? In *Non-timber forest products: between poverty alleviation and market forces*.

**Keywords:** NTFP policies, regulations, forest access, agroforestry, trade chains, local/national tensions, Southeast Asia

**Comment:** This brief overview of NTFP policies provides a glimpse at the complexities involved in regulating NTFP harvest and trade. Topics covered include local collectors versus opportunistic outsider collectors, access to capital, the difficulties of definitions surrounding forests and agriculture, competing legal and regulatory frameworks for NTFPs, the complexity of trade chains, and the challenges of implementing policies that support local people and local institutions. Examples are primarily from Southeast Asia.

Morsello, Carla. 2006. Company-community non-timber forest product deals in the Brazilian Amazon: a review of opportunities and problems. *Forest Policy and Economics*, 8: 485-494.

**Keywords:** Community forestry, company-community partnerships, NTFPs, Amazonia, corporate social responsibility

**Abstract:** Company-community partnerships represent a new forestry mechanism prompted by increased devolution of forest control and growing demand for socio-environmentally responsible production. In the Brazilian Amazon, general economic and cultural trends, combined with the appeal of the rainforests and its peoples, have led to the growing implementation of partnerships for non-timber forest products (NTFP) trade. However, despite the fanfare some companies have given these partnerships, evidence suggests that their impacts on communities, companies and forests are mixed. Communities and forest are more likely to experience problems, especially in a context of weakening government power. The complexities involved in company-community deals call for a changed research focus, advancing new theories that consider community forestry as part of broader economic systems.

Paumgarten, F. 2005. The role of non-timber forest products as safety-nets: a review of evidence with a focus on South Africa. *GeoJournal*, 64: 189-197.

**Keywords:** NTFPs, poverty, households, safety-nets, vulnerability

**Abstract:** Poor, rural communities are vulnerable to adversity. To secure their livelihoods, people adopt multiple livelihoods strategies, including using non-timber forest products (NTFPs). NTFPs have been identified as important to rural livelihoods, as an alternative land-use option as well as in fulfilling an important safety-net function although empirical evidence on the latter's strength is limited. Whilst NTFPs may contribute towards alleviating poverty, this safety-net function needs more critical and quantitative investigation. This includes the establishment of an applicable definition so this function can be communicated to policy makers and taken into account in national poverty alleviation strategies and, in attempts to promote resource-conserving behaviour by highlighting the value of natural resourcing (including NTFPs) compared to alternative land-use options. Poverty in rural households is complex and households are vulnerable to a range of shocks. During adversity households can turn to a range of possible safety-nets. What determines the use of NTFPs as a safety-net, how this safety-net function manifests and the strength of this function is poorly understood and there is need for further investigation.

Peters, Charles M., Gentry, Alwyn H. & Robert O. Mendelsohn. 1989. Valuation of an Amazonian rainforest. *Nature*, 339: 655-656.

**Keywords:** NTFPs, Peru, valuation, rubber, cattle ranching, plantation forestry

**Abstract:** Exploitation of non-wood resources would provide profits while conserving Amazon forests. Yet little is done to promote their development.

**Comment:** The Peters et al. paper was one of several in the late 1980s that helped revive interest in NTFPs. This valuation study suggested that the net present value of NTFPs on a single hectare of Peruvian forest exceeded the potential NPV from forest conversion, specifically if compared to logging, cattle ranching or plantation forestry. According to CIFOR, the study remains one of the most cited tropical forestry articles. The authors' methods and assumptions have been questioned (e.g., see Godoy, Lubowski & Markandya 1993, among others) and the paper is now viewed with skepticism. However, one of the aims of the paper was to bring NTFPs to the attention of policy makers ("We believe that the problem lies not in the actual value of these resources (NTFPs), but in the failure of public policy to recognize it," p. 656), and considering the ongoing debate about NTFPs as vehicles for development projects from the 1990s to the present, the paper remains significant and relevant.

Pfund, Jean-Laurent and Patrick Robinson (eds.). 2006. *Non-timber forest products: between poverty alleviation and market forces*. SECO, Zurich, Switzerland.

Available online at:

<http://www.tropicalforests.ch/publications2.php?id=20>

**Abstract** (taken from SECO website): "The goal of this publication is to build awareness, in the framework of development, on the problems related to the use and development of NTFPs, with determination but without excessive optimism."

**Keywords:** NTFPs, forest conservation, poverty alleviation, rural development, NTFP policies

**Comment:** This report has a number of good articles by highly respected NTFP researchers. Michon's article on NTFP policies is a highlight for policymakers.

Rigg, J.D. 2006. Forests, marketization, livelihoods and the poor in the Lao PDR. *Land Degradation and Development*, 17: 123-133.

**Keywords:** Market integration, resource decline, NTFPs, vulnerability, Lao PDR

**Abstract:** The Lao PDR is making the transition from subsistence to cash, and command to market. Rural communities are being drawn ever more tightly into the embrace of the market economy and of the central state. The construction of roads, schools and health centres, the provision of credit and new crops and technologies, and the arrival of traders and the panoply of the consumer economy are all, in their different ways, remoulding rural economy and society. This paper looks at one aspect of this multi-stranded process of agrarian transformation: the role and place of forests and, in particular, non-timber forest products, in rural people's lives and livelihoods. The paper highlights the contradictory and uneven livelihood-eroding/enhancing effects of these transformations. In many upland areas of Laos livelihoods are being squeezed from 'below' by environmental degradation and from 'above' by the operation of government policies and, more generally, by evolving market relations. While market pessimists see market integration as a largely destructive process, the paper highlights the opportunities that market integration can provide through diversification and livelihood reorientation. The challenge is that these opportunities are unequally available and are likely to promote social differentiation. Some households find themselves in a position to embrace new opportunities while others are forced to continue to rely on a declining and degrading forest resource.

Ros-Tonen, Mirjam A.F., Heleen van den Hombergh, and Annelies Zoomers (eds.). 2006. *Partnerships in sustainable forest resource management: learning from Latin America*. Brill, Leiden, Boston.

**Keywords:** Latin America, forest management, sustainable forestry, poverty alleviation, rural development, governance, forest policy, partnerships, certification

**Description** (from FAO's NTFP listserve): This book brings together experiences with a rich variety of sustainable forest and tree resource management partnerships in various countries in Latin America – Trinidad, Costa Rica, Nicaragua, Guyana, Brazil and Ecuador. The authors reflect on the scope, objectives, institutional organisation and benefits of partnerships, on the actors involved and excluded, and on the hindrances associated with overcoming cultural differences, institutional barriers, power imbalances and diverging interests. The question that runs as a common thread through this book is whether, and under what conditions, partnerships for sustainable forest and resource management can contribute to pro-poor, socially just and environmentally-friendly forest

governance. By presenting the lessons learned from a wide range of partnerships, this book is a valuable resource for students, scholars and practitioners dealing with new governance forms in forest and natural resource management.

Ruiz Pérez, Manuel and Neil Byron. 1999. A methodology to analyze divergent case studies of non-timber forest products and their development potential. *Forest Science*, 45(1): 1-14.

**Keywords:** Non-timber forest products (NTFPs), multivariate analysis, NTFP development potential

**Abstract:** Debate currently rages over the development potential of non-timber forest products (NTFP) in tropical forests. Proponents of particular “solutions” can refer to evidence (case studies, data) which tend to support their interpretation of events and relationships. Recommendations thus frequently depend on how data are classified and interpreted. Inaccurate or incomplete classification leads to defective subsequent theories, models, and recommendations. We present a method for classifying very divergent case-study data, and some initial results as a basis for general understanding of key factors that influence a given result. Crucial issues determining outcomes of NTFP development include the nature of government involvement, distribution of property rights, the ability of local people to claim and enforce such rights, market transparency, and pressure on the resource. This paper concludes with suggestions for further testing and development of the methodology.

Ruiz-Pérez, Manuel, Mauro Almeida, Sonya Dewli, Eliza Mara Lozano Costa, Mariana Ciavatta Pantoja, Atie Puntodewo, Augusto de Arruda Postigo and Alexandre Goulart de Andrade. 2005. Conservation and development in Amazonian extractive reserves: the case of Alto Juruá. *Ambio*, 34(3):218-223.

**Keywords:** Brazil, Amazon, extractive reserves, rubber, income diversification

**Abstract:** Extractive reserves constitute an innovative approach to match conservation and development objectives, which were originally envisaged as part of a land struggle by forest dwellers in Brazil. In spite of the idea’s popularity and the attempts to apply the concept to different tropical regions, there has been little analysis of the combined conservation and development performance of extractive reserve programs. We present a detailed analysis of deforestation and demographic and socioeconomic changes in Alto Juruá, the first extractive reserve created in Brazil in 1990. Forest cover has remained fairly stable. Population has declined slightly, with some internal displacements. The cash economy base has shifted from the original rubber production to a diversified portfolio of agriculture and livestock, and there has been a dramatic rise in nonagrarian income. We conclude that the Reserve represents a very dynamic setting with positive conservation and development outcomes during its first decade.

**Comment:** A relatively positive review of extractive reserves as a conservation and development policy tool, based on the analysis of data collected within a single reserve

one decade after its establishment. This article runs counter to some of the criticisms of extractive reserves leveled by Browder and Dove in the early and mid-1990s.

Shackleton, Charlie M. 2001. Re-examining local and market-oriented use of wild species for the conservation of biodiversity. *Environmental Conservation*, 28(3): 270-278.

**Keywords:** Economics, land use, non-timber forest products, resource use, transformation, certification, bioprospecting

**Summary:** The hypothesis of attaching and realizing market values as one means of conserving biodiversity has gained ground over the last decade. This has been challenged recently after examination of a number of case studies, largely from tropical Amazonia, on high value logging, marketing of non-timber forest products, and bioprospecting. The conclusion was that market-oriented conservation has seldom generated the financial returns envisaged, and as such cannot be used as an incentive to prevent land transformation. This paper reviews the basis of the challenge to market-oriented conservation on a number of grounds, drawing on examples largely from southern Africa. It concludes that generalizations from tropical Amazonia regarding the failure of market-oriented conservation are probably premature, and that it should remain an option, amongst a number of options, for conservation of biodiversity. Additionally, the prerequisite criteria identified as necessary to create an enabling framework for the success of market-orientated conservation are insufficient. Case studies are presented where the prerequisites do not apply, yet current extraction for market purposes is sustainable. Other potential prerequisites are also considered. There is a need for multivariate analysis, based on a large sample size drawn from across a range of environments and resources, of which factors are important prerequisites for successful market-orientated conservation, and under which circumstances.

**Comment:** A rebuttal to Crook and Clapp's 1998 paper (see above), this piece argues for greater contextual analysis of NTFP development projects and cautions against extrapolating only from lessons learned in South America.

Shackleton, Sheona. 2006. Making the invisible visible: ameliorating poverty in South Africa through natural resource commercialization. Rhodes University, Department of Environmental Science, South Africa.

Policy briefs only poverty alleviation focusing on natural products including NTFPs. There are four briefs aimed at promoting local and regional NTFP trade. Specific audiences include government, NGOs, and the private sector:

<http://campus.ru.ac.za/index.php?action=category&category=2983>

Subedi, Bishma. 1999. Non-timber forest products sub-sector in Nepal: opportunities and challenges for linking the business with biodiversity conservation. Paper presented at the workshop on Natural Resources Management for Enterprise Development in

Himalayas, August 19-21, 1999, Nainital, India. Available at:  
[http://www.ansab.org/research\\_papers/NTFPs\\_Nepal.pdf](http://www.ansab.org/research_papers/NTFPs_Nepal.pdf)

**Keywords:** Nepal, regulations, forest policy, forest user groups, NTFP enterprises, export bans

**Comment:** This paper outlines a number of Nepali laws and policies impacting the harvest and trade of NTFPs. The report includes recommendations for enhancing NTFP enterprise development, including the amendment of current export bans of raw and semi-processed NTFPs.

Wertz-Kanounnikff, Sheila, Timothy S. Thomas, Giacomo De Luca, Piet Buys and Kenneth M. Chomitz. 2006. *At loggerheads? Agricultural expansion, poverty reduction, and environment in the tropical forests.* World Bank, Washington, DC.

**Keywords:** Forestry, development, environmental policies, economic policies, common property resources

**Abstract:** There are many causes, consequences, and connections of deforestation and forest poverty in the tropical world. This report specifically addresses the potential dilemma of trade-offs between poverty reduction and environmental protection. It seeks to improve the diagnosis of forest problems and facilitate the prescription and application of solutions by focusing on both the causes and consequences of forest conversion to agriculture and on the nature and location of forest poverty. The first section is diagnostic, examining the drivers and consequences of deforestation and forest poverty. The second part looks at how governance, institutions, and policies shape those drivers. It identifies opportunities for win-win policies. In particular, anything that boosts labor demand outside agriculture will tend to reduce both poverty and deforestation. Additionally, promotion of some kinds of agroforestry can help to improve the ecological functions of degraded forests while boosting farm output and employment. The report offers a systematic framework for thinking about how to integrate forest management with rural development in a sustainable way.

Available online at:

<http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPRRS/EXTTROPICALFOREST/0,,contentMDK:21092971~pagePK:64168098~piPK:64168032~theSitePK:2463874,00.html>

Wunder, Sven. 2001. Poverty alleviation and tropical forests – what scope for synergies? *World Development*, 29(11): 1817-1833.

**Keywords:** Poverty, forestry, conservation, environment

**Summary:** This paper explores the “state-of-the-art” of the two-way causal links between poverty alleviation and natural tropical forests. Microimpacts of rising poverty can increase or slow forest loss. At the macrolevel, poverty also has an ambiguous effect,

but it is possible that higher income stimulates forest loss by raising demand for agricultural land. The second question is what potential forest-led development has to alleviate a country's poverty, in terms of producer benefits, consumer benefits and economy-wide employment. Natural forests widely serve as "safety nets" for the rural poor, but it proves difficult to raise producer benefits significantly. Urban consumer benefits from forest, an important target for pro-poor agricultural innovation, are limited and seldom favor the poor. Absorption of (poor) unskilled labor is low in forestry, which tends to be capital-intensive. Natural forests may thus lack comparative advantage for poverty alleviation. There are few "win-win" synergies between natural forests and national poverty reduction, which may help to explain why the loss of tropical forests is ongoing. This may have important implications for our understanding of "sustainable forest development" and for the design of both conservation and poverty-alleviation strategies.

**Comment:** Wunder's paper concludes with a brief section on "policy implications" wherein he recommends donors to invest in education, health, institutional capacity-building and agriculture before considering investment in natural forests. Any investments in forestry should be small and directed at "the forest margin and in extensive, forest-rich areas," and go toward Natural Resource Management, including stakeholder dialogue, distribution of timber rents, etc., as well as "commercial NWFPs."

Internet resources linking NTFPs with conservation and development:

Swiss State Secretariat for Economic Affairs (SECO) – Sustainable forest management and trade programs (includes policy positions and papers on NTFPs):  
<http://www.tropicalforests.ch/>

#### 4.2. Certification and Labeling

Andel, T. van. 2006. A company-community partnership for FSC-certified non-timber forest product harvesting in Brazilian Amazonia: requirements in sustainable exploitation. Pages 169-185 in M. Ros-Tonen (ed.), *Partnerships in sustainable forest resource management: learning from Latin America*. Brill Academic Publishers, Leiden, Holland.

Anderson, P.J. and F.E. Putz. 2002. Harvesting and conservation: are both possible for the palm, *Iriartea deltoidea*? *Forest Ecology and Management*, 170(1-3): 271-283.

**Keywords:** Certification, forest management, green markets, *Iriartea deltoidea*, matrix model, NTFP, sustainable harvesting

**Abstract:** We consider the mechanism of certification to encourage sustainable harvesting and best management practices of *Iriartea deltoidea* Ruíz and Pavón, in the context of current land use and agricultural management in Amazonian Ecuador. Interviews and observations with harvesters, storeowners, and furniture-makers provided information about current and potential markets for goods made from the palm. To understand the demographic variables that are critical for population stability, data from five plots in each of three different forest types (mature, secondary, and dissected) were collected. Matrix models were used to develop harvesting simulations through which biological constraints on sustainable harvesting were explored. These simulations suggest that sparing individuals 5–15 m tall when pastures are cleared and adding this palm to current agroforestry polycultures can improve the likelihood of sustainable harvesting for this species. Results showed that harvesting *Iriartea* could fit within current land use. Some forest colonists clear pastures to graze cattle, while others devote land to agriculture, including polycultures of annuals and perennials. In either case, palms can be left standing when forests are cleared. Swidden agriculture (slash and burn or slash and mulch) depends on a fallow period during which secondary forest may begin to regenerate. These secondary forests are ideal locations for extraction of forest products that fit within the cycle of fallow regeneration in areas near human settlements. Sparing *Iriartea* individuals 5–15 m tall could benefit agriculture, encourage the sustainability of future harvests, and help ensure the future of this palm as a part of the Amazonian landscape.

Interviews with staff of governmental and non-governmental conservation organizations investigated the policy context for certification as a mechanism for conservation. Establishing guidelines for harvesting requires input from all stakeholders in the decision, not simply an ecological analysis. Such guidelines for certifying good management practices, if they are developed, should include provisions for monitoring unanticipated consequences of harvesting or changes in future environmental conditions. Transportation issues and stem drying processes need to be addressed if efforts to expand markets are to succeed. More generally, guidelines for management of forest resources can be improved by combining ecological and social research perspectives; the potential

for carrying out such guidelines can be improved by incorporating the knowledge of local forest dwellers and NGOs.

Cashore, Benjamin, Graeme Auld and Deanna Newsom. 2003. Forest certification (eco-labeling) programs and their policy-making authority: explaining divergence among North American and European case studies. *Forest Policy and Economics*, 5: 225-247.

**Keywords:** Forest certification, market instruments, voluntary initiatives, eco-labeling, privatization of governance, sustainable forest management, environmental governance, market access

**Abstract:** In recent years, transnational and domestic non-governmental organizations have created private standard setting bodies whose purpose is to recognize officially companies and landowners practicing 'sustainable forest management.' Eschewing traditional state processes and state authority, these certification programs have turned to the market to create incentives and force compliance to their rules. This paper compares the emergence of this non-state market driven (NSMD) phenomenon in the forest sector in eight regions in North America and Europe. We specifically seek to understand the role of forest companies and landowners in granting competing forest certification programs 'legitimacy' to create the rules. We identify distinct legitimation dynamics in each of our cases, and then develop seven hypotheses to explain differences in support for forest certification.

**Comment:** This paper discusses the political dynamics in non-governmental policy making, specifically focusing on timber certification and the rise of the FSC and competing timber certification programs. The paper does not touch on NTFPs. Some of the highlighted issues of division between FSC and its competitors over timber certification may apply to NTFPs (issues of cost, local support, transparency, decision-making structures, NGO campaigns, etc.). However, transferability of the results to NTFPs may be limited by unique aspects of NTFP sourcing, markets and the diversity of existing harvest norms for NTFPs (wildcrafting guidelines, organic certification, etc.).

Cashore, B., G. Graeme and D. Newsom. 2004. *Governing through markets: forest certification and the emergence of non-state authority*. Yale University Press, New Haven, CT.

**Keywords:** Forest certification, forest policy, forest management, forestry standards, governance

**Comment:** Again, a timber-oriented treatment of certification but useful for its analysis of certification as a non-governmental policy tool.

Cormier-Salem, M.C., D. Juhé-Beaulaton, J. Boutrais and B. Roussel (eds.). 2005. *Patrimoines naturels au Sud: territoires, identités et stratégies locales*. IRD, Paris.

**Keywords:** Certification, green labeling, fair trade, appellations of origin

**Comment:** This volume contains some discussion of the potential value of promoting labeling at the national and international levels for African products.

Dudley, Nigel and Sue Stolton. 2006. Edible non-timber forest products: harmonizing FSC and IFOAM Certification. ISEAL, Oxford, UK.

**Keywords:** Organic certification, forest certification, NTFPs, IFOAM, FSC, harmonization

Glowka, Lyle. 2002. Towards a certification system for bioprospecting activities. Study Commissioned by the Swiss State Secretariat for Economic Affairs (SECO). Available online at: <http://www.biodiv.org/doc/meetings/cop/cop-06/other/cop-06-ch-rpt-en.pdf>

**Keywords:** Bioprospecting, certification, standards development, genetic resources, indigenous communities, benefit sharing, CBD

**Summary:** A Panel of Experts under the CBD Conference of Parties (CBD COP) has explored the user and provider sides of genetic resource transactions. Among the suggestions in its first report, the Panel noted that the exploration of multilateral mechanisms to support prior informed consent internationally might be necessary. A number of possibilities were listed, among them “certification systems for institutions abiding by rules on access and benefit sharing.”

**Comment:** An exploratory paper investigating the feasibility of a bioprospecting certification scheme (global, national and local/small scales are explored). The paper focuses largely on developmental issues (cost, funding, governance, participation) rather than specific content (actual standards, assessment protocols, etc.).

Gulbrandsen, Lars H. 2004. Overlapping public and private governance: can forest certification fill the gaps in the global forest regime? *Global Environmental Politics*, 4(2): 75-99.

**Keywords:** Forests and forestry -- Certification.; Forest Stewardship Council.; Sustainable forestry.

**Abstract:** This article investigates whether forest certification (eco-labeling) is likely to rectify certain omissions in the current global forest regime. Following an examination of the achievements and shortcomings of the forest regime to date, I argue that gaps could be filled by including a broad range of stakeholders in certification standards development; promoting strong environmental and social performance standards in forestry; providing effective control mechanisms; securing producer participation; and penetrating markets. Although the Forest Stewardship Council (FSC) was considered initially to have the greatest potential to fill these gaps, the emergence and widespread proliferation of industry-dominated schemes have marginalized the FSC in many countries. The study shows that while forest certification would probably promote more

sustainable forestry in the temperate and boreal zones than it would in the tropical zone, the ability of this tool to actually do so remains to be seen.

**Comment:** Although dedicated to timber certification and wider forest policy, this article is a useful for its analysis of the limitations of certification as a private sector policy instrument.

Hayes, Dermot J., Sergio H. Lence and Andrea Stoppa. 2004. Farmer-owned brands? *Agribusiness*, 20(3): 269-285.

**Keywords:** Designation of origin, protected geographical indication, brand names, certification, market competition, product differentiation.

**Abstract:** This report lays out the economic arguments in favor of the establishment of farmer-owned brands in Midwestern agriculture and presents four case studies based on successful efforts in this area in the European Union and the United States. The case studies involve Parma Ham, Brunello di Montalcino wine, Vidalia onions, and a third-party verification organization. The case studies show that these brands can be profitable for farmers, and emphasize the importance of restricting the supply of any successful brand. One of the case studies shows that this type of supply control can run afoul of antitrust regulations.

**Comment:** This paper has interesting implications for small-scale producers of NTFPs. It demonstrates how the use of a designation of origin can increase value for products, create niche markets and enable small-scale producers to compete with undifferentiated bulk products. Curiously, the paper makes no mention of the Slow Food movement.

Jain, Pushp. 2004. *Certifying certification: can certification secure a sustainable future for medicinal plants, harvesters and consumers in India?* TRAFFIC International, Cambridge, UK.

**Keywords:** India, certification, FSC, organic certification, best collection practices, good agricultural practices, good manufacturing processes

**Comment:** This report summarizes the various certification systems in place for NTFPs globally and makes recommendations for the adaptation and implementation of certain elements from such programs to the Indian context.

Levi, M. and Linton, A. 2003. Fair trade: a cup at a time? *Politics and Society* 31(3): 407-432.

**Keywords:** FairTrade, certification, coffee, smallholders

**Comment:** This paper provides a useful overview of Fairtrade coffee and how campaigns around this have improved the lives of small-scale producers.

Maciel, Raimundo Cláudio Gomes. 2007. *Certificação ambiental: uma estratégia para a conservação da floresta Amazônica*. Ph.D. dissertation, Universidade Estadual de Campinas (Unicamp), Campinas, Brazil.

**Keywords:** Amazonia, Brazil, environmental certification, organic certification, fair trade certification, extractive reserves, rubber trappers, Brazil nuts, community forestry

**Comment:** This is a generally positive review of certification's potential to assist rural Amazonians in the marketing of rainforest products, particularly rubber and Brazil nuts. The dissertation provides a number of policy recommendations that would support rural extractivist communities in organization, management and marketing.

Mbolo, M. and A. Asseng Ze. 2006. *Les perspectives de la certification des produits forestiers non ligneux en Afrique Centrale*. Produits Forestiers Non Ligneux, Document de Travail No. 4. FAO, Rome, Italy. Available online at: <ftp://ftp.fao.org/docrep/fao/010/ah945f/ah945f00.pdf>

**Keywords:** Non-timber forest products, Central Africa, certification, international trade, world markets, trade policies

Nelson, V., A. Tallontire and C. Collinson. 2002. Assessing the benefits of ethical trade schemes for forest dependent people: comparative experience from Peru and Ecuador. *International Forestry Review*, 4(2): 99-109.

**Keywords:** Peru, Ecuador, Brazil nuts, cocoa, ethical trade, fair trade, producer capacity, forestry, agroforestry

**Summary:** In this paper we consider the social impacts of ethical trade schemes, particularly the kinds of benefits ethical trade provides for smallholder farmers and their livelihoods and for sustainable forestry. We focus on two cases, which are linked to the fair trade movement: brazil nuts collected from forests in Peru and cocoa grown under agroforestry conditions in Ecuador. The impact assessment approach used in these studies is explained and the findings outlined. The evidence that benefits accrue to smallholders and collectors of forest products is mixed. In Ecuador, we found that the benefits accruing to small producers of the cocoa scheme included cash payments, more transparent weighing and grading systems, better returns on crops due to the vertical integration of the ethical trading chain, and capacity building benefits (e.g. organizational development, cultivation techniques and marketing). In Peru, brazil nut collectors participating in the ethical trade scheme did not perceive major differences between the ethical scheme and the conventional trading chain. However, there are also positive aspects of the brazil nut ethical scheme, such as the use of electronic weighing scales which increases transparency and advocacy efforts relating to improving the quality of the brazil nuts exported and thus helping to maintain access to international markets. Most of the brazil nuts and cocoa are now sold on conventional markets, although the fair trade markets helped both schemes to become established in international markets. Non-

monetary benefits, obtained through capacity building, are often underrated but are important to producers, particularly in the ethical cocoa scheme.

**Comment:** Although based on only two cases, this paper is interesting for its contrast of products and production systems. This research supports the theory that ethical trade certification, or any certification for that matter, is but a first step for developing country producers in a long-term strategy to enter the international market. The agroforestry system derived more benefits than the natural forest system, perhaps demonstrating the advantages of intensification of production and heightened capitalization.

Nicholls, A. and Opal, C. 2005. *Fair Trade. Market-driven ethical consumption*. Sage Publications, London.

**Keywords:** FairTrade, certification, ethical trade

**Comment:** Provides a comprehensive guide to all aspects of Fair Trade through case studies, quantitative analysis and the histories of different Fair Trade organizations.

Parrott, Nicholas, Natasha Wilson and Jonathan Murdoch. 2002. Spatializing quality: regional protection and the alternative geography of food. *European Urban and Regional Studies*, 9(3): 241-261.

**Keywords:** Terroir, products of regional origin, regional labels, label of origin, alternative geography of food, conventions, Europe, protected designation of origin (PDOs), protected geographical indication (PGIs), appellation of origin (AOC), quality

**Abstract:** The globalization of trade in foodstuffs is now a firmly established feature on the landscape of economic geography, although its impacts and desirability remain the source of controversy. Yet, while the liberalization of trade in food continues apace we are simultaneously witnessing a reassertion of foods with local and regional identities. This 'counter-trend' has led some economic and agricultural geographers to propose that an 'alternative geography of food' may be coming into view. If this contention is correct, it would seem to be implicated in new forms of food governance, notably European legislation that has provided legal protection to designated regional foods, through the 'PDO' and 'PGI' labels. In this paper we explore the background to the development of these protective devices, which, we argue, illustrates profound differences between 'northern' and 'southern' food cultures and agricultural systems within Europe. In stylized terms, we argue that the former places great emphasis on 'efficient' production of commodities while the latter retains strong affiliations to '*terroir*', tradition and artisanal production. Analysis of the spatial distribution of registered regional foodstuffs reflects this north-south divide, with more than 75 percent of the products registered in five southern EU states (France, Italy, Greece, Portugal and Spain). Our analysis, which compares the two 'cultures of food' using conventions theory, shows that spatial differentiation also exists at a regional level and that a similar proportion of PDO products originates from Less Favoured Areas (LFAs). This implies that the new geography of 'alternative' foods is becoming increasingly complex. We explore the

obstacles and opportunities, arising within the two distinct food cultures of ‘north’ and ‘south’.

**Comment:** Although the article does not discuss NTFPs specifically (although reference is made to gums, resins and essential oils bearing labels of origin, mainly from Southern Europe, particularly Greece), it provides a good introduction to the labels of origin literature. As discussion of NTFP labeling grows, it is likely to encompass use of regional labels such as AOCs, PDOs and PGIs.

Pattberg, Philipp H. 2005. The Forest Stewardship Council: risk and potential of private forest governance. *Journal of Environment & Development*, 14(3): 356-374.

**Keywords:** Global forest politics, Forest Stewardship Council (FSC), private governance, environmental politics

**Abstract:** Among the many organizations active in the forestry sector, the Forest Stewardship Council is claimed to be one of the most effective, in terms of its effect on forestry and the political discourse. This article takes the first decade of private forest politics as a starting point for an assessment of the advantages and disadvantages of private systems of rules operating on the transnational level. It points to four open questions: (a) the problem of uneven geographic representation and the resulting disadvantages for developing countries; (b) the question of long-term financial support for private politics; (c) the problem of competing schemes and the resulting contradictory signals toward consumers and policy makers; and (d) generic structural limitations to market-based governance. These empirical observations, derived from analyzing one prominent private system, are generalized to a wider set of private systems of rules operating at the global level to assess the future of private governance in sustainability politics.

**Comment:** This article not does touch on NTFPs but is included because of its examination of forest certification as a private sector policy initiative.

Pierce, Alan R. and Sarah A. Laird. 2003. In Search of Comprehensive Standards for Non-Timber Forest Products in the Botanicals Trade. *International Forestry Review*, 5(2):138-147.

**Keywords:** Non-timber forest products, medicinal plants, standards, certification, sustainability

**Abstract:** Non-timber forest products (NTFPs) are receiving increased attention from standard-setting agencies including governments, trade associations, and private sector certification organizations. A sub-set of the NTFP category, botanicals, is witnessing a proliferation in standards-setting initiatives addressing topics as diverse as ecological sustainability, social justice, and product safety and efficacy. To examine this trend a survey of companies, industry associations, research institutions and NGOs worldwide was undertaken, and more than 100 sets of voluntary standards and regulations that apply

to the trade or sourcing of botanicals were collected and analysed. It was found that many sets of standards under development are single-issue oriented and fail to address the wide and overlapping range of questions that arise as a product moves from source to shelf. Although a range of problems arises from this fragmented approach, steps are available to streamline processes and make standards development and implementation more effective.

**Comment:** An overview of the wide range of standards that apply to the medicinal plant trade, ranging from best harvest standards to product safety and efficacy.

Shanley, Patricia, Alan R. Pierce, Sarah A. Laird and Abraham Guillén (eds). 2002. *Tapping the Green Market: Certification and Management of Non-Timber Forest Products*. London, Earthscan.

**Keywords:** Forest certification, NTFP certification, Forest Stewardship Council (FSC), forest management standards, chain-of-custody, eco-labeling

**Comment:** The first book solely devoted to examining NTFP certification, this volume provides an in-depth analysis of this policy tool with a heavy focus on the Forest Stewardship Council's accreditation program for well-managed forests. The potential of certification as a voluntary, market-oriented policy instrument is analyzed and recommendations for improving the prospects of NTFP certification are addressed to a variety of stakeholders. Generic guidelines for NTFPs and a species-specific standard for maple syrup production are included in the book's appendices.

Shanley, Patricia, Alan Pierce, Sarah Laird and Dawn Robinson. Forthcoming. *Beyond timber: certification of non-timber forest products*. CIFOR, Bogor, Indonesia.

**Keywords:** NTFP certification, FSC, PEFC, certification standards, chain-of-custody

**Comment:** This publication discusses the progress of NTFP certification programs to date with a particular focus on the FSC system. Case studies from around the globe provide insight into the challenges and benefits of NTFP certification. The final section of the publication provides various stakeholders (e.g., NGOs, governments, certifiers) with recommendations about ways to engage with NTFP certification schemes.

Wenban-Smith, Matthew, Jim Bowyer, Kathryn Fernholz and Jeff Howe. 2006. *Combining organic and FSC certification of non-timber forest products: reducing costs, increasing options*. Dovetail Partners, Inc., Minneapolis, MN. Available online: <http://www.dovetailinc.org/documents/DovetailNTFPCert1006.pdf>

**Keywords:** NTFP certification, organic certification, forest certification, IFOAM, FSC, mutual recognition, harmonization of standards, joint assessments

Internet resources for organic, fair trade and ecological certification of NTFPs:

Estandar para la certificación del manejo forestal con fines de producción de castaña (*Bertholletia excelsa*) en Perú (certification standard for Brazil nut forest management in Brazil; an FSC standard created by the Proyecto Conservando Castaños and the Consejo Peruana para la Certificación Forestal Voluntaria, in Spanish only):

<http://www.gtz.de/de/dokumente/es-st15-peru-castana.pdf>

EU Regulation 2092/91 (organic production of agricultural products):

[http://europa.eu.int/eur-lex/en/consleg/main/1991/en\\_1991R2092\\_index.html](http://europa.eu.int/eur-lex/en/consleg/main/1991/en_1991R2092_index.html)

Fairtrade Labelling Organizations International: [www.fairtrade.net](http://www.fairtrade.net)

FairWild Certification (certification for wild harvested products): [www.fairwild.org](http://www.fairwild.org)

Forest Stewardship Council: [www.fsc.org](http://www.fsc.org)

GTZ (German International Aid) Forest Certification page (with project descriptions, information on forest, organic and social standards, a cache of publications and links):

<http://www.gtz.de/en/aktuell/3963.htm>

International Federation of Organic Agriculture Movements: [www.ifoam.org](http://www.ifoam.org)

Lembaga Ekolabel Indonesia (Indonesian Ecolabelling Institute – forest certification in Indonesia, available in English and Bahasa):

<http://www.lei.or.id/english/faq.php>

Natural Newswire – Natural and organic industry news – provides links to stories on organic and natural products in the US and occasionally carries reactions to national policies (e.g., the federal organic standards or national forest policies and management actions) from organic producers, the American Herbal Products Association, etc.:

<http://www.naturalnewswire.com/>

Non-Timber Forest Products Certification Standards Addendum. 2002. Rainforest Alliance/SmartWood Program, Richmond, VT. Also available online: [www.rainforest-alliance.org/programs/forestry/smartwood/certification/pdfs/ntfp-addendum-generic-guidelines.pdf](http://www.rainforest-alliance.org/programs/forestry/smartwood/certification/pdfs/ntfp-addendum-generic-guidelines.pdf)

Pan European Forest Council (forest certification organization):

[www.pefc.org](http://www.pefc.org)

Pierce, Alan, Laird Sarah and Ruth Malleson. 2002. Annotated collection of guidelines, standards and regulations for trade in NTFPs. Rainforest Alliance, New York.

<http://www.rainforest-alliance.org/news/2002/botanicals-standards.pdf>

United States Department of Agriculture's National Organic Program (standards, policy statements, etc.):

<http://www.ams.usda.gov/nop/NOP/NOPhome.html>

Wild Farm Alliance: this organization, along with others, provided input on biodiversity conservation to the US National Organic Program; WFA currently provides guides to farmers and certifiers which “lay out a range of farm management possibilities for a variety of situations that maintain and enhance biodiversity at the farm level and contribute to biodiversity outside of farm borders at the regional or watershed level.”):

[www.wildfarmalliance.org/resources/organic\\_BD.htm](http://www.wildfarmalliance.org/resources/organic_BD.htm)

Woodmark Non-Timber Forest Product Standard. 2004. Soil Association, Bristol, UK. Also available online:

<http://www.soilassociation.org/web/sa/saweb.nsf/848d689047cb466780256a6b00298980/fd3e9f2cb526279680256f3f003a8128!OpenDocument>

Yale University Program on Forest Certification:

<http://www.yale.edu/forestcertification/index.html>

### 4.3. Standards Relating to Product Quality and Safety

Bodeker, Gerard & Burford, Gemma (eds). 2007. *Traditional, complementary and alternative medicine. Policy and Public Health Perspectives*. Imperial College Press.

**Keywords:** Public health policies, traditional medicine, alternative medicine, safety standards, intellectual property rights.

**Description** (taken from FAO's NTFP listserv): This is the first book to address public health issues in traditional, complementary and alternative medicine (TCAM). It presents state-of-the-art reviews of TCAM research in a range of priority public health areas such as malaria and HIV and in such common ailments as skin conditions and orthopaedic injury in developing countries. Contributions analyze policy trends in areas such as financing of TCAM and education and training in this field as well as selected case studies of model TCAM projects. Important chapters on research methodology, ethical and safety issues, and intellectual property rights pertaining to traditional medicine are also presented.

Dolan, Catherine & John Humphrey. 2003. Governance and trade in fresh vegetables: the impact of UK supermarkets on the African horticulture industry. *The Journal of Development Studies*, 37(2):147-176.

**Keywords:** Kenya, Zimbabwe, commodity chains, trade, product quality, product specifications

**Abstract:** Production of fresh vegetables for export has grown rapidly in a number of countries in sub-Saharan Africa over the past decade. This trade brings producers and exporters based in Africa together with importers and retailers in Europe. Large retailers in Europe play a decisive role in structuring the production and processing of fresh vegetables exported from Africa. The requirements they specify for cost, quality, delivery, product variety, innovation, food safety and quality systems help to determine what types of producers and processors are able to gain access to the fresh vegetables chain and the activities they must carry out. The control over the fresh vegetables trade exercised by UK supermarkets has clear consequences for inclusion and exclusion of producers and exporters of differing types, and for the long-term prospects for the fresh vegetables industry in the two major exporting countries studied, Kenya and Zimbabwe.

**Comment:** Although the focus of this paper is on agricultural commodities, the findings can be applied to a number of NTFPs around the globe, particularly NTFPs produced in large quantities for international trade in the food and medicinal sectors. This paper demonstrates that the development and implementation of quality standards for NTFPs (e.g., GAPs, GMPs, sustainable harvest standards, etc.) will likely cause additional burdens to producers, particularly smallholders, and could radically transform supply chain structures.

European Pharmacopoeia Commission. 2006. *European Pharmacopoeia*, 5<sup>th</sup> edition. Council of Europe: Strasbourg, France.

Newing, Helen and Stuart Harrop. 2000. European health regulations and Brazil nuts: implications for biodiversity conservation and sustainable rural livelihoods in the Amazon. *Journal of International Wildlife Law and Policy*, 3(2): 109-124.

**Keywords:** Brazil nuts, European Community, aflatoxins, food quality standards, phytosanitation, trade, WTO, Codex Alimentarius, precautionary principle

**Abstract:** The Brazil nut industry fits closely with the principal objectives of European policy on development co-operation (poverty reduction linked with environmental protection) and forest conservation (maintaining forest cover). However, European Regulation 1525-98 EC, which decreases acceptable levels of aflatoxins in Brazil nuts to 4 parts per billion, may cause a crash in the Brazil nut trade. Thus, European policies on food quality, development co-operation and forest conservation are likely to work in opposition. Brazil nut producer countries have questioned the legal basis of the Regulation in terms of scientific justification for the stricter limits on aflatoxin content and lack of conformity with international standards set by Codex Alimentarius. The EC has countered by calling for use of the precautionary principle. This paper documents the debate in the context of the World Trade Organization's Sanitary and Phytosanitary Agreement and discusses the implications for the relationship between agendas of trade, environment and sustainable development.

**Comment:** One of the few papers to examine the impact of food safety and sanitation requirements on the trade of NTFPs. Newing and Harrop provide a fascinating case study of a trade dispute over sanitation requirements for aflatoxins in Brazil nuts. This paper is a must-read for NTFP researchers interested in how governmental tensions between departments of trade and environment/social welfare can lead to the formulation of seemingly contradictory regulations.

WHO. 1998. Regulatory situation of herbal medicines: a worldwide review. World Health Organization, Geneva.

**Keywords:** Herbal medicines, regulations, safety, efficacy, national health policies

**Summary:** The increasing demand for medicinal plants and the products derived from them has led to concerns over their safety and efficacy. The evaluation of herbal medicines and the use of registration and regulation to ensure their safety and efficacy present important challenges. This document describes experiences from 52 countries in formulating policies on herbal medicines and introducing measures for their regulation and registration.

WHO. 2001. Legal status of traditional medicine and complementary/alternative medicine: a worldwide review. World Health Organization, Geneva.

**Keywords:** Traditional medicine, alternative medicine, complementary medicine, safety, efficacy, national health policies, regulations

**Summary:** Various types of traditional medicine and other medical practices referred to as complementary or alternative medicine are increasingly used in both developing and developed countries. In order to promote safe and appropriate use of these medicines and practices, as well as to ensure the quality of service and practitioners, national regulations are vital. Establishing national policies on traditional medicine, and/or complementary /alternative medicine and their medical practices, should therefore include creation of legal frameworks. This review summarizes the legal status of several major practices in traditional medicine and complementary/alternative medicine in 123 countries. It includes data on: the use of traditional and complementary/alternative remedies and practitioners; health insurance coverage of traditional and complementary/alternative medicine; education and training of practitioners of traditional and complementary/alternative medicine.

WHO. 2004. WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance systems. World Health Organization, Geneva.

**Keywords:** Pharmacovigilance, herbal medicines, herbal safety, herbal efficacy, safety monitoring, risk, quality assurance, quality control

**Summary:** The World Health Organization (WHO) received an urgent request from its Member States, through the national pharmacovigilance centers participating in the WHO International Drug Monitoring Program and drug regulatory authorities, to assist Member States to strengthen national capacity in monitoring the safety of herbal medicines and in analyzing the causes of adverse events, and to share safety information at national, regional and global levels. These guidelines have been developed as WHO's immediate response to this request, and to support Member States efforts in this area in the context of the WHO International Drug Monitoring Program, which has been in operation since the 1970s. Thus, development of the guidelines has been carried out as a joint project between the Traditional Medicine Team (TRM) and the Quality, Safety Medicines Team (QSM) in the Department of Essential Drugs and Medicines Policy (EDM) at WHO headquarters.

**Comment:** A general overview of pharmacovigilance systems for herbal medicines with recommendations for UN Member States. The bibliography and appendix containing the safety monitoring guidelines from the Uppsala Monitoring Center point to more detailed aspects of pharmacovigilance systems.

Internet resources for standards relating to product quality and safety:

Codex Alimentarius (UN food safety standards) <http://www.codexalimentarius.net>

Commission on Dietary Supplement Labels – Report of the Commission on Dietary Supplement Labels (1997) – contains a sector on pertinent regulations pertaining to dietary supplements in the US, including herbal medicines:

<http://www.health.gov/dietsupp/cover.htm>

European Directorate for the Quality of Medicines (includes the European Pharmacopoeia and its associated quality specifications for specific herbs):  
[www.pheur.org](http://www.pheur.org)

European Herb Growers Association Guidelines for Good Agricultural Practices of Medicinal and Aromatic Plants and Guidelines for Good Wildcrafting Practice:  
<http://www.europam.net/Working%20documents.htm>

European Medicines Agency (EMA) – Guideline on Good Agricultural and Collection Practice (GACP) for Starting Materials of Herbal Origin:  
<http://www.ema.eu.int/pdfs/human/hmpc/24681605en.pdf>

European Medicines Agency (EMA) – Guideline on Quality of Herbal Medicinal Products/Traditional Herbal Medicine Products (for human and veterinary use):  
<http://www.ema.eu.int/Inspections/docs/281900en.pdf>

Good Agriculture Practice for Chinese Crude Drugs (interim – 2002):  
<http://www.sfda.gov.cn/cmsweb/webportal/W45649039/A55807078.html>

Good Manufacturing Practices for Ayurvedic, Siddha and Unani Medicines (Government of India):  
<http://indianmedicine.nic.in/html/acts/GMP%20Notification.pdf>

Medicines and Healthcare products Regulatory Agency (MHRA). Traditional herbal medicines registration scheme: guidance notes. London, UK:  
[http://www.mhra.gov.uk/home/idcplg?IdcService=SS\\_GET\\_PAGE&nodeId=602](http://www.mhra.gov.uk/home/idcplg?IdcService=SS_GET_PAGE&nodeId=602)

Natural Health Products Directorate, 2003 (Canada) – Evidence for Safety and Efficacy of Finished Natural Health Products:  
[http://www.hc-sc.gc.ca/dhp-mps/alt\\_formats/hpfb-dgpsa/pdf/prodnatur/efe-paie\\_e.pdf](http://www.hc-sc.gc.ca/dhp-mps/alt_formats/hpfb-dgpsa/pdf/prodnatur/efe-paie_e.pdf)

U.S. Pharmacopoeia: [www.usp.org](http://www.usp.org)

WHO Guidelines on Good Agricultural and Collection Practices (GACP) for Medicinal Plants. 2003. World Health Organization, Geneva. Also available online:  
<http://whqlibdoc.who.int/publications/2003/9241546271.pdf>

World Trade Organization's Sanitary and Phytosanitary Measures:  
[http://www.wto.org/english/tratop\\_e/sps\\_e/sps\\_e.htm](http://www.wto.org/english/tratop_e/sps_e/sps_e.htm)

#### 4.4. Trade

Bun, Yati and Israel Bewang. 2005. National analysis of trade-related instruments influencing trade in sandalwood (*Santalum macgregorii* F. Muell) and eaglewood (*Acquilaria* and *Gyrinops ledermannii* spp): Applications and impacts on poverty alleviation and sustainable forest management in Papua New Guinea. FAO, Rome. Available online at: <http://www.fao.org/forestry/media/13369/1/0/>

**Keywords:** NTFPs, sandalwood, eaglewood, Papua New Guinea, forest legislation, forest certification, CITES, CBD

Burgener, Markus. 2007. *Trade measures – tools to promote the sustainable use of NWFP?: An assessment of trade-related instruments influencing the international trade in non-wood forest products and associated management and livelihood strategies*. Non-Wood Forest Products Working Document No. 6. FAO, Rome.

**Keywords:** NWFPs, international trade, CITES, CBD, certification, ITTO, WTO, sanitary and phytosanitary measures

**Comment:** This report discusses a wide array of agreements, treaties and instruments that directly or indirectly influence trade of non-timber forest products, with particular reference to international trade of NTFPs. The references contain many difficult-to-find NTFP trade-related citations from the gray literature.

Cameron, Grant, et al. 2004. *Traditional Asian Medicine Identification Guide for Law Enforcers*. TRAFFIC International, London.

**Keywords:** Traditional Chinese Medicine, traditional Asian medicine, customs inspections, species identification, labeling

**Comment:** Contains color pictures of 430 packages of traditional Asian medicines in trade as well as translations of ingredients to help customs officials unfamiliar with Asian languages discover controlled items of trade in their inspections of imported goods.

Cunningham, Michelle, Anthony B. Cunningham and Uwe Schippmann. 1997. *Trade in Prunus africana and the implementation of CITES*. Results of the R+D-Project 808 05 080. Bundesamt für Naturschutz, Bonn.

**Keywords:** Africa, Cameroon, Madagascar, Kenya, Uganda, Democratic Republic of Congo, CITES, NTFP trade, medicinal plants

**Comment:** A case study outlining the difficulties in CITES implementation for a popular medicinal herb, *Prunus africana*. A set of recommendations for is provided, including: improving identification and monitoring of the *Prunus* trade; enhancing in-country management capacity for the species; raising awareness; and encouraging cultivation.

Eckersley, Robyn. 2004. The big chill: the WTO and multilateral environmental agreements. *Global Environmental Politics*, 4(2): 24-50.

**Keywords:** World trade organization (WTO), multilateral environmental agreements (MEAs), NGOs, international governance, policy, representation

**Introductory paragraph:** “If sustainable development is about the integration of economic and environmental goals, then there seems to be a significant lack of integration between the preeminent global governance structures set up to manage trade and environment respectively.”

**Comment:** A pessimistic assessment of the efficacy of MEAs such as the CBD in the face of the overwhelming power of the WTO.

FAO. Forthcoming. *The role of CITES in controlling the international trade in forest products: implications for sustainable forest management*. FAO, Rome, Italy.

Hachfeld, Berit. 2003. Ecology and utilization of *Harpagophytum procumbens* (devil’s claw) in Southern Africa. Plant Species Conservation Monographs 2. Federal Agency for Nature Conservation, Bonn.

**Keywords:** Devil’s claw, *Harpagophytum procumbens*, Namibia, South Africa, legislation, trade

**Summary:** This study assessed the ecology and utilization of *Harpagophytum procumbens*. Several aspects were investigated which range from the assessment of important ecological parameters, the analyses of the current extent and impact of harvesting on wild populations, the perception of landowners and harvesters on the biological status of *Harpagophytum procumbens* to the assessment of soci-economic aspects. Several field approaches complemented each other, i.e., next to a comprehensive mapping on the occurrence and ecological requirements of *Harpagophytum procumbens*, a countrywide interview with Namibian farmers and a monitoring of selected sites over a period of three years was carried out. Most of the study was conducted in two of the three ranges states, Namibia and South Africa.

**Comment:** Although this is primarily a conservation report focusing on biology, ecology and management of devil’s claw it nonetheless contains chapters on relevant legislation and profiles the trade of the species. As such, this report provides a good example of how legal and policy matters are often included in (sometimes buried within) conservation monographs of important species in trade (e.g., ginseng [*Panax spp.*], *Prunus africana*, etc.).

Iqbal, M. 1993. *International trade in non-wood forest products: an overview*. FO: Misc/93/11 Working Paper. FAO, Rome, Italy.

Iqbal, M. 1995. Trade restrictions affecting international trade in non-wood forest products. Non-Wood Forest Products No. 8. FAO, Rome.

**Keywords:** Trade, tariffs, CITES, health and safety regulations, quality and technical standards, Uruguay Round

**Abstract:** Non-wood forest products have considerable potential as a means of increasing the value of forests and contributing to their effective sustainable management. Many developing countries produce a wide range of these products. In recent years there has been a heightened awareness that they may be underutilized and especially that their potential in international trade may not be adequately recognized, because little is known about markets for many of the products or the tariff and non-tariff barriers they face when traded internationally. Trade restrictions affecting international trade in non-wood forest products provides information on the range of trade barriers facing these products and also the extent to which they may create difficulties for those interested in beginning or expanding trade. It provides an overview for the main products and detailed information for the European Community, United States and Japanese markets, which together account for an estimated 60 percent of the international trade in non-wood forest products. The report will assist those engaged in or contemplating the export of these products. It will also assist government policy-makers. It is particularly intended for readers in developing countries.

**Comment:** Iqbal's paper was one of the first to attempt to address the complex arena of trade restrictions affecting NTFPs in commerce. The focus of the paper is on major NTFP importers (Japan, the EU and USA), with additional supplementary material. The major interest in the paper is the discussion of tariffs for NTFPs (generally low in developed nations and high in developing countries due to issues of market competition). The sections on export taxes and state policies for NTFPs, though short, reveal how many government sponsored NTFP policies are ultimately counter-productive to NTFP market development and trade. The treatments of CITES, GATT and safety and technical standards are cursory but nonetheless helpful as they highlighted the issues for future research.

Galetti, Mauro and José Carlos Fernandez. 1998. Palm heart harvesting in the Brazilian Atlantic forest: changes in industry structure and the illegal trade. *Journal of Applied Ecology*, 35: 294-301.

**Keywords:** Amazon forest, *Euterpe edulis*, *Euterpe oleracea*, sustainable management, illegal trade, commodity chains

**Summary:** Until the late 1960s, *Euterpe edulis* was the most important edible palm species in the Brazilian markets. Since then, overharvesting of natural stands and the limited scope of plantations have caused the industry to shift to the multistemmed *E. oleracea* from the Amazon river estuary. As a result of the relocation of the industry, the structure of the palm harvesting industry has changed and illegal trade has continued to exploit the remaining natural stands of *E. edulis*. It is suggested that, to avoid the total

harvesting of *E. edulis* and to achieve sustainable management of the palm heart, it will be necessary to diversify the local economy, create incentives for small land owners to improve their management practices, while keeping their competitiveness against the illegal trade, create the incentive of new sources of palm hearts and create a “green stamping” for managed palms. Transformation of the illegal structure of the palm heart industry is probably the only solution to avoid the total depletion of the wild stands of *E. edulis*.

**Comment:** Although not framed as a commodity chains paper, this paper provides a good overview of the trade network for palm hearts in Brazil, including palm harvest, palm heart sales through middlemen and palm processing. The authors contend that insufficient incentives, expensive licenses for legal palm heart management, and other market and policy failures are to blame for the continuing illegal trade of *Euterpe edulis*, with the potential consequence of its extirpation from the Atlantic forest region. The paper also contains some interesting anecdotes on the difficulty of policing the palm heart trade, including estimates of confiscated illegal loads of palm hearts.

Joshi, Surendra R. et al. 2004. International standards discriminate against honey from indigenous bees. *Bees for Development*, 73: 11.

**Keywords:** Honey, bees, international trade, trade regulations

**Comment:** A 2001 ruling by the European Commission recognizes honey as the product of *Apis mellifera*. Therefore all other honeys derived from *Apis dorsata*, *Apis cerana* or *Trigona* spp. cannot be traded as “honey” in the EU.

Kathe, W., F. Barsch and S. Honnef. 2003. *Trade in devil’s claw (Harpagophytum procumbens) in Germany – status, trends and certification*. FAO, Rome.

Lange, Dagmar and Uwe Schippmann. 1997. Trade survey of medicinal plants in Germany: a contribution to international plant species conservation. Bundesamt für Naturschutz (BfN), Bonn, Germany.

**Keywords:** Germany, Medicinal plant trade, import and export regulations

**Comment:** Germany plays a significant role in the importation, use and trade of medicinal plants. This volume gives a general overview of the medicinal drug trade in Germany with specific reference to importation and exportation regulations and tariffs for medicinal and aromatic plants. This document will be of use to people interested in trade regulations and trade policies for medicinal plants.

Lange, Dagmar. 1998. *Europe’s medicinal and aromatic plants: their use, trade and conservation*. TRAFFIC International, Cambridge, UK.

**Keywords:** Medicinal plants, aromatic plants, medicinal plant trade, national legislation, trade regulations, Albania, Bulgaria, France, Germany, Hungary, Spain, Turkey, UK

**Summary:** The report aims to (i) examine the exploitation of native European medicinal and aromatic plants; (ii) investigate the trade of medicinal and aromatic plants in Europe; and (iii) recommend actions to ensure legal and sustainable use of the taxa involved. The findings are based on country-specific surveys which were carried out in Albania, Bulgaria, France, Germany, Hungary, Spain, Turkey and the UK, during 1994-1997. In addition, international trade data from the UNCTAD Comtrade database (United Nations Statistics Division, Geneva) have been analysed.

**Comment:** Of interest to NTFP policy makers is the section describing international, EU and national level legislation pertaining to the harvest and trade of medicinal and aromatic plants (MAPs) in Europe. The recommendations section of the report touches on a number of policy areas for MAPs including trade monitoring, legislation, enforcement and species/habitat management.

Lange, Dagmar. 1999. Identification training for medicinal and aromatic plants covered by CITES and EU Regulation 2307/97. BfN-Skripten 11. Bundesamt für Naturschutz (BfN), Bonn, Germany.

**Keywords:** Medicinal and aromatic plants, CITES, EU regulations, medicinal plant trade, trade regulations

Lange, Dagmar. 2006. International trade in medicinal and aromatic plants. Pages 155-170 in R. Bogers, L. Craker and D. Lange (eds.), *Medicinal and aromatic plants*. Wageningen UR Frontis Series, Vol. 17. Springer-Verlag, Dordrecht, Holland.

Lintu, L. 1995. Trade and marketing of non-wood forest products. Pages 195-222 in *Report of the international expert consultation on non-wood forest products*, 17-27 January, 1995, Yogyakarta, Indonesia. FAO, Rome, Italy.

Lombard, C. and P. du Plessis. 2003. The impact of the proposal to list devil's claw on Appendix II of CITES. In Sara Oldfield (ed.), *The trade in wildlife: regulation for conservation*. Earthscan, London.

**Keywords:** Devil's claw (*Harpagophytum procumbens*), Southern Africa, CITES, NTFP trade

**Comment:** This chapter, written by representatives from Phytotrade in South Africa, provides insight into the controversial initiative to list the popular medicinal remedy devil's claw (*Harpagophytum procumbens*) on CITES.

Marshall, Nina T. 1998. Searching for a cure: conservation of medicinal wildlife resources in East and Southern Africa. TRAFFIC International, Cambridge, UK.

**Keywords:** Medicinal resources, medicinal trade, legislation, Botswana, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe

**Summary:** In 1996, TRAFFIC East/Southern Africa initiated an 18-month review of the trade in wildlife medicinals in east and southern Africa and Madagascar, with the aim of identifying species most in need of conservation, management and/or research attention. This review also entailed collecting information about trade patterns, markets, source areas, and impacts of harvest. Relevant information was collected in 17 countries: Botswana, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

**Comment:** This report covers the use of wild plants and animals for medicines purposes in 17 African countries. Individual country profiles include listings of relevant laws governing the harvest and trade of medicines from the wild, descriptions of local and international trade in medicines from the wild and policy recommendations.

Mulliken, T. 2003. *The role of CITES in international trade in forest products: links to sustainable forest management*. GCP/INT/775/JPN. FAO, Rome.

**Keywords:** CITES, international trade, forest products

**Comment:** A useful introduction to CITES. This report is not NTFP-specific but does include some NTFPs listed under CITES.

Mulliken, Teresa and Petra Crofton. 2008. *Review of the status, harvest, trade and management of seven Asian CITES-listed medicinal and aromatic plant species*. BfN, Bonn, Germany.

**Keywords:** CITES, *Rauvolfia serpentina*, international trade, medicinal plants

Pettenella, David, Laura Secco and Daria Maso. 2007. NWFP&S marketing: lessons learned and new development paths from case studies in some European countries. *Small-scale Forestry*, 6(4): 373-390.

**Keywords:** Europe, Italy, NTFPs, marketing, terrior

**Abstract:** The paper examines key factors affecting the marketing of various types of Non-Wood Forest Products and Services (NWFP&S) through a comparative analysis of case studies in Europe, according to the main results of Working Group 3 (WG3) of the COST Action E30 'Economic integration of urban consumers' demand and rural forestry production. Seventeen Italian case studies have been analysed in addition to the COST Action E30 experiences. Products and services are classified within a conceptual framework developed by the WG3 and described in detail according to three main categories: mass-produced, specialized and complementary NWFP&S. Especially this

latter category can play a relevant role in improving the profitability of small and medium-scale forest-based enterprises and in maintaining competitiveness of the forest product-consumer chain in rural areas, but new marketing strategies are necessary for commercial success. Differentiation, integration and creation of networking among both private and public actors and the development of the so-called ‘territorial marketing’ are considered the most important tools for the role of complementary NWFP&S in improving the economic value of small-scale forestry in marginal areas.

Ribot, Jesse C. 1998. Theorizing access: forest profits along Senegal’s charcoal commodity chain. *Development and Change*, 29:307-341.

**Keywords:** Senegal, charcoal, commodity chains, access, forest policy, trade networks

**Abstract:** The questions at the centre of this article are: who profits from commercial forestry, and how? Through access mapping with commodity chain analysis, this study examines the distribution of benefits from Senegal’s charcoal trade from charcoal are derived from direct control over forest access, as well as through access to markets, labour opportunities, capital, and state agents and officials. Access to these arenas is based on a number of inter-related mechanisms including legal property, social identity, social relations, coercion and information control. A commodity chain is the series of relations through which an item passes, from extraction through conversion, exchange, transport, distribution and final use. Access mapping involves evaluating the distribution of benefits along the chain, and tracing out the mechanisms by which access to benefits is maintained. It sheds light on the limited role of property, the embedded nature of markets, and the role of extra-legal structures and mechanisms in shaping equity and efficiency in resource use. It does so in a socially situated, multi-local manner, spanning the geographic spread of production and exchange. It also illuminates the practical issues surrounding establishment of community participation in benefits from control over natural resources.

**Comment:** Like the Dolan and Humphrey (2003) article, this paper demonstrates the utility of the commodity chains analysis with respect to NTFPs. “At the most applied level, commodity-chain analysis is itself a policy tool. Because it identifies who benefits from the forests, and how, it can be used to evaluate whether new policies, such as proposed participatory forest management, can reshape distribution (p. 337).” This paper posits that policies designed by NGOs and states without regard to local customs and trade networks are doomed to failure.

Robbins, Christopher S. 1999. Comparative analysis of management regimes and medicinal plant trade monitoring mechanisms for American ginseng and goldenseal. *Conservation Biology*, 14(5): 1422-1434.

**Keywords:** CITES, medicinal plants, ginseng, goldenseal, harvest quotas, trade monitoring

**Abstract:** Two popular and profitable native North American medicinal plants, American ginseng (*Panax quinquefolius*) and goldenseal (*Hydrastis canadensis*), both of which are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), are monitored under disparate domestic strategies that are designed to satisfy CITES requirements. The *P. quinquefolius* program has benefited the species by encouraging U.S. states to enact laws to protect wild populations and regulate collection, and by establishing a transparent system under which harvest, commerce, and export can be monitored, evaluated, and controlled routinely. But certain programmatic constraints, such as insufficient funding and gaps in biological monitoring, undermine its effectiveness as a management strategy for the species. The joint industry and government *H. Canadensis* initiative is intended to give commercial traders more responsibility in monitoring plant trade and the federal government access to information that may otherwise be difficult to obtain without the help of traders. I examined the structure, successes, and deficiencies of the *P. quinquefolius* program, promising features of the evolving *H. Canadensis* program, Turkey's management of geophytes, and other sources of information from federal agencies that might contribute to more effective management of medicinal plants in the United States. Although the main goal of domestic monitoring programs for *P. quinquefolius* and *H. Canadensis* is to implement their CITES listings, it is conceivable that similar programs could be established for non-CITES medicinal plants, thereby minimizing or replacing the need for CITES protection.

Shackleton, S., P. Shanley and O. Ndoye. 2007. Invisible but viable: recognizing local markets for non-timber forest products. *International Forestry Review*, 9(3): 697-712.

**Keywords:** NTFPs, local markets, global markets, NTFP trade, rural livelihoods

**Summary:** An emphasis on global markets for non-timber forest products (NTFPs) often overshadows attention to the local trade in many traditionally important products. Inattention to local markets can result in diminished appreciation of their role in supporting livelihoods and potentially lead to further marginalisation of the low-income groups involved. This paper draws on the literature and the research experience of the authors in three different regions of the world to demonstrate the significance of local markets for NTFPs and to build a case for recognizing and strengthening support to them. Discussion includes: features of these markets and current trends favouring them; the benefits they bring to producers and traders; their comparative advantages and disadvantages in relation to their role in strengthening livelihoods; and the policy reforms and development support required to improve them. We conclude that a combination of both strong local and export markets permits diversification and choice, assisting poor local people to minimise livelihood risk due to dependence on any single market.

Singh, Sarinda, Ramesh Boonratana, Mark Bezuijen and Aloun Phonvisay. 2006. *Trade in natural resources in Attapeu Province, Lao PDR: an assessment of the wildlife trade*. TRAFFIC Southeast Asia/Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme. Vientiane, Lao PDR.

**Keywords:** Wildlife trade, NTFPs, livelihoods, local trade, trade networks, trade routes, government policies, enforcement

**Summary** (condensed): The aim of the field study was to provide an overview of natural resource trade, including fish, wildlife (terrestrial and aquatic vertebrates aside from fish) and non-timber forest products (NTFPs)...The results demonstrate the critical importance of trade in natural resources for rural livelihoods, as both a source of regular income and a coping strategy during rice shortages...While trade in NTFPs is most significant at a provincial level, fish trade was considered more important by villagers in the demonstration site, thus indicating the significance of wetlands and river systems in the site...Provincial authorities are making clear efforts to regulate trade in natural resources, such as by establishing checkpoints to regulate natural resources trade at domestic and international borders. However, uncertainties and contradictions persist in implementation and enforcement, as they do in policy.

**Comment:** Much of the focus of this research is on the trade of animals and fish, but NTFPs are examined as well. New road construction in Attapeu Province is cited as a contributing factor to increased trade of wild resources because it has facilitated access to formerly remote areas. This report provides an interesting look at local trade networks and markets and underscores the difficulties of creating and implementing appropriate policies for local trade of wild resources.

Singh, Sarinda, Ramesh Boonratana, Mark Bezuijen and Sok Ko. 2007. *Trade in natural resources in Stung Treng Province, Cambodia: an assessment of the wildlife trade*. TRAFFIC Southeast Asia/Mekong Wetlands Biodiversity Conservation and Sustainable Use Programme. Vientiane, Lao PDR.

**Keywords:** Wildlife trade, NTFPs, livelihoods, local trade, trade routes, government policies, permits, regulations

**Comment:** This report is similar to Singh et al.'s 2006 research (see above) and takes place in a neighboring province in Cambodia. Again, much of the focus is on the trade of fish and animals, but NTFPs feature prominently as trade and subsistence goods. As in Lao PDR, regulation and enforcement of local trade is challenging and policies are often ill-suited to what is occurring on the ground.

Tomich, T.P. 1999. Markets, policies and institutions in NWFP trade: nothing is perfect. In R.R.B. Leakey, A.B. Temu and M. Melnyk (eds.), *Domestication and commercialization of non-timber forest products in agroforestry systems*. Non-wood Forest Products No. 9. FAO, Rome. Also available online at: <http://www.fao.org/docrep/W3735e/w3735e30.htm>

**Keywords:** NTFP policies, NTFP trade, agroforestry, incentives, smallholders

**Abstract:** New tree varieties and related technological innovations require years to affect smallholders' profits. But policies affecting trade in non-timber tree products (NTFPs)

can have immediate effects that are transmitted through markets to prices at the forest or the farmgate. These trade policies also affect incentives to adopt innovations. There have been few studies of the political economy of trade in NTTPs, but substantial literature from development economics and agricultural economics contains relevant insights. The development economics literature of the 1950s and 1960s placed great faith in public institutions to implement policies that addressed market failures and imperfections. In contrast, the 'new political economy' that emerged in the 1970s and 1980s pointed out that policies were a product of political processes that often favour individuals with wealth and power. In this view, 'bad' policy (from an economic perspective) is not a mistake but a product of self-serving influence. Characteristics of NTTPs and their markets make them susceptible to failures in markets, policies and institutions. Although much can be gained from improving basic understanding of these markets, it is naive to think that better information is a panacea.

Internet resources for NTFPs and trade:

American Herbal Products Association (includes code of ethics for members, resources advising companies on how to comply with FDA requirements [including new importation requirements that address bioterrorism, and order forms for publications such as AHPAs Botanical Safety Handbook):

[www.ahpa.org](http://www.ahpa.org)

BioTrade Initiative (UNCTAD program promoting trade of biodiversity products and services – webpage includes a section on policy achievements at national and regional levels. BioTrade is also creating a set of standards for products traded under its name):

[www.biotrade.org](http://www.biotrade.org)

Bioterrorism Act of 2002 – U.S. Food & Drug Administration. Post Sept. 11, 2001 legislation which lays out more stringent screening of imported foods and drugs.

[www.fda.gov/oc/bioterrorism/bioact.html](http://www.fda.gov/oc/bioterrorism/bioact.html)

CBI - Centre for the Promotion of Imports from Developing Countries – provides information for producers interested in exporting products to Europe (although access to papers such as the EU Market Survey: Natural Ingredients for Pharmaceuticals requires website registration):

[www.cbi.nl](http://www.cbi.nl)

Convention on International Trade in Endangered Species of Wild Flora and Fauna:

[www.cites.org](http://www.cites.org)

From Our Atlantic Woods (new directory of NTFP producers in Eastern Canada and the Northeastern US):

[www.fromouratlanticwoods.com](http://www.fromouratlanticwoods.com)

International Trade Centre (cooperative agency of UNCTAD and WTO for operational, enterprise-oriented aspects of trade. This site has a helpful review of various national and international standards and regulations (with links to the documents themselves) that pertain to trade in edibles (organic, phytosanitary, safety, etc.) as well as an organics section that facilitates linkages between producers and buyers/importers and exporters):

[www.intracen.org](http://www.intracen.org)

Phytotrade (Southern Africa Natural Products Trade Association – focusing on Fair Trade and environmentally sustainable products from Southern Africa):

<http://www.phytotradeafrica.com>

Swiss Import Promotion Programme (SIPPO) – SIPPO produces publications for producers of medicinal herbs, mushrooms and other NTFPs from Eastern Europe, Africa and other regions detailing organic production details, importation requirements, guidelines for gatherers of medicinal herbs, etc.

<http://www.sippo.ch>

TRAFFIC (wildlife trade monitoring program of WWF – includes work on trade in plants as well as animals):

[www.traffic.org](http://www.traffic.org)

UNCTAD International Trade Center – Bulletins on Medicinal Plants and Extracts (requires a subscription fee). These bulletins provide regional information on markets and prices for medicinal plants as well as information about factoring influencing demand and conservation issues (produced in conjunction with TRAFFIC):

<http://www.p-maps.org/mns/medplants.php>

Union for Ethical Biotrade:

[www.uebt.ch](http://www.uebt.ch)

World Trade Organization: [www.wto.org](http://www.wto.org)