Rural Learning Networks @ CF/FONP
Concept Paper for Strategy Development
(For Brainstorming)

Introduction

The situation analysis on "Knowledge sharing and participatory extension in community–based/private small-scale tree and forest management", commissioned to ETC Ecoculture, was recently finalised. The study made a recommendation that FTPP and CF/FONP should pay more attention to the following domain of interest in order to promote RLN in CBNRM.

- o the cosmovisions of local people living in natural forest areas as a basis for sustainable forest management;
- o giving back the credibility to local indigenous knowledge and management practices for multiple use of natural forest and tree resources. This should provide the basis for further participatory technology development (PTD) and up-scaling through local sharing processes and use of adapted 'external' knowledge;
- o a more focused analysis of the conditions necessary by which local people are able to assume their accountability for sustainable forest management and the analysis of the subsequently needed enabling environment. These conditions are related to benefits, knowledge, land tenure and usufruct rights and organisational capacities and claim making power;
- o the role of private enterprise in creating added value to forest and tree products, through certification, investments in higher quality products and market support. At the same time more information is needed to assure financial sustainability of extension services.

Discussion
Cosmovision behind Indigenous Knowledge and Practices

Knowledge-sharing/participatory extension itself is not a goal but just a mean. Knowledge-sharing initiatives should be put in the context of endogenous development. Learning local cosmovision and promoting due appreciation to local values are crucial steps for inducing endogenous development.

Criteria of local people over natural resource management are not just maximisation of profit (in money or in kind) and/or increased security. Spiritual aspect of farming and forest management also influences the criteria of farmers/forest users over natural resource management. Usually, farming means more than the crop production to farmers. Forest management means more than the production of tree/non wood products, too. For example, a case study shows ancestors play a crucial role in natural resource management and local knowledge generation in Northern Ghana (Millar). Satisfaction of ancestors is a crucial criterion in natural resource management in this case. Another case study also shows that "communities take good care of trees planted in the traditional spiritual context and that their survival rate is high" in Shona society in Zimbabwe (Gonese).

Unfortunately, spiritual and mental criteria of farmers have hardly been addressed by agricultural/forestry research and extension. Often, in the communication with outsiders, villagers pretend to think and act according to the concepts of the outside world, whereas in reality, under the surface, they follow their own internal logic, maintain their own cosmovision and have their own

values. In most cases there is a mix of indigenous and outside knowledge and values. Externally induced process of development such as participatory technology development will not be ingrained in a local society if it is not rooted in local people's set of values. Knowledge often works as long as people believe in it. Practices and knowledge that are embedded in local cosmovision are perceived as credible by local people. Mobilization of this "indigenous credibility" is a crucial issue. Externally introduced interventions such as development projects often lack this credibility.

Potential role of local traditional institutions and traditional ties of people should also be explored in the light of mobilising indigenous credibility. Our recent literature review on the status of decentralisation and devolution in CBNRM also pointed out that "generally, sufficient attention is not paid to the importance of "tapping" existing skills, "indigenous knowledge", and social capital in decentralisation and devolution. Institutional development may be facilitated or inhibited by the social trust, the local norms and codes of conduct that local leaders patronise, nourish and uphold, and by which a given social group identifies itself" (Messer). In reality, indigenous institutions are frequently neglected by development organisations or seen as obstacles to change.

Current tools and approaches dominant in rural development (including FFMS) do not necessarily emphasize or support this humble learning process. Those tools and approaches generally take deductive approach seen in a flow of "logical" thinking such as problem identification, prioritisation, planning, implementation and reflection. However, an approach articulated through this deductive process might not necessarily hold true because this is often not the local people's way of thinking. Some local criteria might be left out of this external way of "logical" thinking. Some criteria (e.g. "ancestors are satisfied", "spirits are felt") are even hard for outsiders/professionals to "digest".

Respecting endogenous criteria is a crucial process to incite emotional participation of people to a decentralised NRM system or to other rural development initiatives. A project cannot go beyond the project and cannot lead to endogenous development without realising this emotional integration and awakening. Only after this spiritual process an external intervention is embedded in indigenous values and practices. When people's physical, spiritual and mental criteria are fully accepted, external intervention such as a community forestry project may be perceived as being driven by the endogenous set of values rather than by outsiders. What else is what sustainability all about?

Promoting Technology Development for Multiple Use of Community Forests

A forest forms part of the holistic livelihood system of rural people. It provides diverse tangible benefits such as timber, fuelwood, fodder, fibre, various kind of foods, game meat, medicines, dyes and leaf litter. It also provides environmental benefits and security from ancient times. Forests have also been integrated in to traditional farming systems such as slash-and-burn agriculture. Naturally, each forest user has diverse interests and aspirations in community forestry.

This complexity and diversity in the use and management of community forests poses a big challenge to community forestry extension and research. The "right technologies" in community forestry extension must be knowledge which helps the users to make informed decisions regarding the multiple options for the management and use of forests. Unfortunately, technical knowledge provided through community forestry extension has been generally quite limited to silvicultural knowledge of timber species (often only exotic species) or at best, agroforestry/horticultural knowledge (e.g. fruit growing). Few significant progresses have been

achieved in research on silvicultural techniques specifically adapted to multiple management and use of community forestry. This kind of knowledge and technologies (such as effective management of a 'mixed' forest, domestication of NTFP and marketing information of forest products) are still not available at field level. There are few forest extension agents or facilitators who could give forest users proper technical knowledge or guidance on how to maximise the production of firewood and fodder grass, while assuring the good harvest of mushrooms and honey in season, for instance. There has been a big gap between needed knowledge and available knowledge in silvicultural management in community forestry. Consequently, timber-production-oriented or conservation-oriented CBNRM was induced in many cases ignoring real aspirations and down-to-earth interests of forest users regarding the diverse ways they use the forest.

While knowledge in line with particular local cosmovision is perceived credible by local people, externally introduced knowledge often lacks this credibility. On the other hand, traditional knowledge and practice which works in a certain cultural context doesn't necessary work in other places once it is isolated from the linkage with other elements of its original culture. While development intervention have to be built on local value set and pace by people themselves, it is still useful if people can utilise 'culture-free explanatory knowledge[1]'. Extracting local knowledge in a culture-free manner for dissemination while respecting local values and indigenous credibility in the process of adaptation will be a big challenge. On going initiatives such as Analog Forestry Network in Sri Lanka, Brazil, Ecuador, Costa Rica, Peru, Kenya and Canada, jungle rubber management in Indonesia under ICRAF are quite intriguing in this light. They try to extract local knowledge in culture-free explanatory way for wider adaptation while sensitively exploiting indigenous credibility through identifying, developing and implementing silvicultural techniques for mimicking natural succession of forest to local climax vegetation, which is not just ecologically credible but also culturally credible to local people. Forest users selectively facilitate the growth of valuable species according to the stage of succession so that they can assure good harvest of needed forest products in the flow of forest succession. People take advantage of their amazing knowledge on local vegetation including its use, propagation and husbandry in these forest management systems. They also have a confidence in these systems which can be woven into their traditional livelihood system. External interventions provide a concrete concept for selective forest succession and complementary silvicultural technologies through facilitating knowledge-exchange for establishing "artificial endogenous forest management systems". These systems even remind me of genuinely endogenous Damal[2] garden management in Southern Sumatra. Contrary, Farmer Forest Management School which FTPP currently supports has weakness in providing concrete set of techniques for alternative silvicultural management. Its strength lies rather on its open-endedness of free platform for local experiment. Comparative advantages and disadvantages of these different methodologies should be studied. They could be implemented together in a complementary way. Our understanding and experience for methodology development in participatory knowledge-generation are still limited. Further research and field tests will be required in this regard.

The topic backstopper would boldly argue that there is few silviculture[3] at CF/FONP in this respect. He has never came across a silvicultural database[4] or information clearing house

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[1] Distinction between local knowledge and indigenous knowledge should be made here. Indigenous knowledge is culturally specific and deeply rooted in local cosmovision and of relatively static nature. Local knowledge refers to knowledge that farmers have derived locally through experience and experimentation. We need to take advantage of **indigenous credibility** of indigenous knowledge as well as **culture-free adaptability** of local/external knowledge.
[2] Resin-producing *Shorea javanica.*
[3] Silviculture for multiple forest products and functions including e.g. NTFPs
[4] ICRAF has a good resource base in relation to agroforestry.

promoting "alternative" silviculture for multi-purpose forest management. Current efforts and available knowledge in this area are so dispersed.

Regrettably, a lot of extension agencies and projects are still carrying out community forestry extension without clearly recognising this silvicultural gap. Extensionists have been spreading 'propaganda' on forest conservation and tree planting to rural audiences, without sincerely responding to the real silvicultural aspirations of forest users. Promotion of "alternative silviculture for community forestry" is a crucial niche which CF/FONP could fill in. At the beginning, the topic backstopper plans to set up a new website, "Alternative Silviculture for Community Forestry", introducing alternative IK-based silviculture, methodologies for silvicultural experiment, participatory forest inventory and so on. Kindly refer to the Appendix 1.

Enabling Condition for Local Accountability for Sustainable CBNRM

ETC pointed out following enabling conditions which CF/FONP should give more focused analysis: benefits, knowledge, land tenure/usufruct rights, organisational capacities and claim making power. CF/FONP presently works on these issues through other topics such as policy, MA&D and PPP. I would rather focus my discussion here on the last point calling it "claim making security" rather than "claim making power".

While it is quite important to mobilise indigenous credibility which traditional governance systems enjoy, these systems aren't necessarily more equitable than externally induced modern governance systems. Generally people who have relatively low social status in a given local society feel uneasy/unsecured to share their opinions with more powerful/distinguished people. Sensitive mutual learning is needed to understand how people feel about sharing their knowledge and opinions in a traditional social context. How do people feel about "empowerment" and "conscientisation" in the context of local values and belief system? How could local authority over learning and sharing be maintained in a context that is open to internal debate and external influence? How are "external" values embedded in a local society? What is an appropriate platform for inducing learning and sharing? To what extent should the platform be 'culture-free/decontextualised'? Set of values even in a very traditional culture is not homogeneous. All these questions lead to a central development issue: "How can recognition of internal diversity and pluralism in a traditional culture be facilitated to promote internal debate for endogenous development? How can accountability and trust be cultivated in such an internal dynamism? Further analysis on these issues would be necessary to make a RLN feasible and to put RLNs in the context of endogenous development. Issues around claim making security should be studied and presented in a way a facilitator and local people can make use of it in order to improve local claim making security in a culturally sensitive way. Information on social dynamism in traditional societies should not be just recorded as interesting phenomena/events in passive forms but as lessons which help facilitators and people to analyse their local social context so that they can create a culturally appropriate platform for free speech.

The role of private enterprise and the potential of rural service market

The topic backstopper originally expected to identify potential roles of private sector in rural service market for CF. The study with ETC could not collect much information/evidences on this issue. This is of course partly due to the limited number of studies. However, we can not still assume CBNRM could offer attractive conditions to private sectors. The discussion on feasibility of rural service market for CBNRM will be based on so many hypothesis and assumptions while

emergence of rural service market is seen in agricultural extension mainly in developed countries.

Farmers pay more easily if they receive access to private goods like credits and other resources (such as seeds and fertiliser) through the intervention of extension service in agriculture. "Private good component" is relatively limited In conventional extension services for CBNRM, and the extension product and output is generally blur especially in the context of finical returns to farmers/forest users. Consequently, small farmers and the environment do not belong in the clients favoured by the private extension service providers.

Apart from privatisation of extension service, Nestlé's case indicates that there is a potential for private sector involvement if forest users' enterprise has a clear crop production focus and if such focus is in line with companies' profit and policy. However, community forestry enterprises have a number of disadvantages to the eyes of private (service) sector investors as IIED (2001) points out:

- *Informal and limited management capacity.* Many communities have traditional forest management practices, but few are accustomed to formal, 'scientific' methods of tree husbandry and protection. Community members may also be unfamiliar with market-based enterprise, and may lack the necessary business skills. Most communities have only a limited knowledge of the timber trade and forest products marketing.
- *Low production.* Harvesting by communities is generally on a smaller scale and less capital intensive than industrial harvesting systems (although some communities may manage large forest tracts). Low production is often a function of limited financial and technical capacity, wastage from outdated or poorly maintained equipment, or conservative business goals.
- *Sporadic activities.* In most communities, forestry takes second place to subsistence agriculture. Harvesting may occur only during a lull in the agricultural cycle, or when extra cash income is needed, for example for a religious festival. The rhythm of for-profit forest management may necessarily be compromised by community traditions such as the regular rotation of management positions within community enterprises.
- *Remote locations.* Forest communities are often found in isolated areas with poor or non-existent transport, energy or communications infrastructure. Isolation increases production and transport costs, and limits access to markets, information and capital. The overall lack of information within a community impedes understanding and awareness of new concepts and issues.
- *Policy and legislation vacuum.* Community forest enterprises often have difficulty obtaining formal recognition and support, as forest policies and legislation tend to be biased towards large-scale producers, and sometimes the corporate sector. In general, communities have only a limited ability to influence policy developments that might favour them.
- *Low mobility of capital.* The capital and profits of a community enterprise tend, of necessity, to be invested locally, whereas those of a large-scale, corporate industrial enterprise are easily moved to other localities or sectors of the economy. Communities thus have a greater incentive to maintain their forest stocks, but may be more vulnerable to macroeconomic fluctuations.

As a result of such factors, the development of a stable, free-standing community enterprise may take many years (8-15 years according to IIED, 2001). A community-based forestry operations in southeastern Mexico of nearly 20 years standing still rely on outside assistance to maintain their production system. Generally, high standard of technical assistance is needed to let a CBE

uptake and grow. CBEs are not attractive business partners to private investors unless a given private company emphasises ethical business operations and can justify them (such as 'fair trade' schemes). Unfortunately such companies are still rare (with limited/invisible consumers' pull).

The involvement of private certifiers is seen in the field of forest certification as well. Community forest enterprises accounted for 25% of all FSC certificates in 1999. The majority of them are in developing countries. However, most of these are aid projects designed and heavily subsidised. Current status of certified community forestry is not an accurate reflection of market demand or capacity to meet this demand (IIED, 2001). Conventional market economy flows are yet to be established between customer (CBE) and service provider (certifier) in the majority of cases of community forestry certification. Sustainability of such initiatives is questioned. Besides, greater market security which is the main driving force of certification, is not necessarily assured through certification in many cases. Without this security, communities may not continue with certification beyond an initial 'honeymoon' period when support from donors and certifiers is at its highest (IIED, 2001).

Fiscal unsustainability of agricultural/forestry extension system is frequently discussed more than ever in recent years. However, this argument is driven by the trend of shrinking government budget for public services, decentralisation and pluralism rather than the feasibility of private rural service market especially in the field of CBNRM. A number of fund raising/cost recovery ideas are being tried out in the FFS in Integrated Pest Management such as pay for performance and creation of a rotating fund though payment by farmers in cash or in kind according to the increased performance gained through FFS[5]. These ideas could be applicable to commercial crop production oriented learning/extension activities of forest users as well. However, an evidence of such cost recovery in support for community forestry enterprises is yet to be seen.

Existing Important Initiatives:

Cosmovision and Ethnoforestry
ETC Ecoculture actively support NGOs[6] which is active in vitalisation of indigenous knowledge and cosmovision through coordinating **Compas**[7] project since 1995 and publishing bi-annual Compas Newsletter since 1999. Compas is an international network to enhance endogenous development, based on a general reorientation of development approaches. It draws attention to the holistic nature of indigenous knowledge and the cultural aspects of the management of natural resources. Its partners build development activities on the indigenous concepts and worldviews of indigenous people and seek collaboration with traditional leaders in efforts to improve livelihood systems. The activities of the partners are mainly action based participatory research in the domains of agriculture, use of natural resources and health. Compas keeps posing fundamental questions to presently dominant development approaches such as "project type" interventions, which tend to be biased by values (and interest) of outsiders and to ignore local pace of development. Compas Newsletter has some 5000 readers mainly in the South.

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[5] It is estimated that in-kind cost of *Matoke* (cooking banana) FFS in Uganda would be 5 bunches of banana for 18 sessions of FFS for 25 farmers. The in-kind costs of cotton-maize FFS in Zimbabwe would be 20-25kg of class II seed cotton.
[6] Following local NGOs are affiliated to COMPAS: TALPUY and GIAREC network (Peru), AGRUCO of the Univ. in Cochabamba (Bolivia), Adici (Guatemala), CECIK (Ghana), AZTREC (Zimbabwe), PFARD (Uganda), ENIAKA network (Africa), IDEA, FRLHT, Green Foundation, KPP and CIKS (India), ECO and ETC with 4 NGOs (Sri Lanka), ECOS (Nepal), TIRD-p network of 5 NGOs (Indonesia) and Vereniging voor Biologische Landbouw (The Netherlands).
[7] Comparing and Supporting Endogenous Development, funded by Directorate General of International Co-operation (Ministry of Foreign Affairs, the Netherlands), NOVIB (The Netherlands), SDC (Switzerland) and CTA Brussels/Wageningen.

ETC and **Both Ends** (a Dutch NGO) have drafted a concept programme proposal to initiate a NGO Platform on Forest Cosmovisions. They asked CF/FONP to support this initiative. It is meant to be a sister programme to Compas with the emphasis on indigenous/local people living in natural forest environments. A budget of US$ 40,000, excluding the cost of the publication (The Netherlands Committee might be interested to contribute to this initiative with perhaps US$ 20,000) is estimated for a first phase (identifying 12 NGO partners, ask them describe their case and discuss it in a first workshop as well as planning together next steps, publication of the 12 case studies and a 'state of the art' paper). This will be quite an exciting, unique and currently sole initiative addressing the cosmovision issue in forestry management. CF/FONP should definitely support such a valuable and innovative initiative.

Developing Silvicultural Knowledge for Multiple Use of Community Forestry

Several institutions are active in this area. Forestry related local knowledge are collected and disseminated by those institutions although most of these institutions are not specifically forestry focused.

Analog Forestry Network
(Refer to the Appendix 1)

ICRAF Indonesia
(Refer to the Appendix 1)

International Network on Ethnoforestry (INEF)
(Refer to the Appendix 1)

ILEIA[8]: ILEIA started in 1984 in response to a concern that mainstream agricultural development - particularly the green revolution - was bypassing the small and marginal farmers in the South, eroding their livelihoods, affecting the environment adversely and leading to widespread losses of agrobiodiversity. ILEIA started to identify promising technologies involving no or only marginal external inputs, but building on local knowledge and traditional technologies, where these still existed, and the involvement of the farmers themselves in development. Information about these technologies was exchanged mainly through the ILEIA Newsletter. ILEIA issued a few newsletters focused on desertification (introducing indigenous water catchment techniques and orchard development in the degraded land) and agroforestry (introducing indigenous farming strategies in the forest). Documentation, analysis and publication of successful experiences in low external input and sustainable agriculture are the major activities.

PTD[9] Circular: ETC also has been co-ordinating and issuing PTD Circular, six-monthly update of Participatory Technology Development since 1994. Some agroforestry-related literatures have been introduced.

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[8] Centre for Information on Low External Input Sustainable Agriculture
[9] Participatory Technology Development

Alternative Silviculture for Community Forestry Webpage
(First draft)

Indigenous-knowledge-based Silviculture

Analog Forestry

Analog Forestry is a system of forest management which is originally developed from indigenous forest garden management systems in Sri Lanka. Analog Forestry systematically mimics natural succession process of local forest from degraded land to a climax forest while selectively cultivating valued tree crops and non-tree crops in the forest. Through mimicking local climax vegetation Analog Forestry is perceived not just ecologically credible but also culturally credible by local people. Forest users selectively facilitate the growth of valuable species according to the stage of succession so that they can assure good harvest of needed forest products in the flow of forest succession. People take advantage of their amazing knowledge on local vegetation including its use, propagation and husbandry in these forest management systems. They also have a confidence in these systems which can be woven into their traditional livelihood system. External interventions provide a concrete concept for selective forest succession, complementary silvicultural technologies and marketing support of forest products for establishing "artificial endogenous" forest management systems which can be ingrained in the local society sustainably. The Analog Forestry Network is actively working in Sri Lanka, Costa Rica, Ecuador, Kenya and Canada. "Analog Forestry Manual" is available at: http://www.fallsbrookcentre.ca/publications/pub.html For further information:
http://www.bothends.org/service/analogforestry.pdf
http://www.sustdev.org/explore/forestry/ed3_pdfs/SDI3-19.pdf
http://www.forestgarden.org/

Rubber and Damar Agroforests in Indonesia

ICRAF Southeast Asia analyses and develops options for farmers to improve the profitability of rubber, damar (resin producing *Shorea javanica*) and other types of agroforests. Among the range of alternatives to unsustainable land-uses, agroforests such as the damar agroforests or the rubber agroforests found in Sumatra occupy a special place for they have been successfully tested on a large scale: developed and managed for decades by million of smallholder farmers, agroforests have ensured a smooth transition from traditional shifting cultivation to permanent production systems. Such agroforests may be defined as forest structures planted and managed by farmers for the production of various forest and agricultural products on the same piece of land. Established through a complex succession of development and production stages involving the plantation of crops as well as of various commercial and useful tree species, agroforests mimic natural forest structures, with a complex multistrata structure and a closed or almost closed canopy that is usually dominated by a few tree species. Forest biodiversity in agroforests is usually quite important, as farmers do not systematically eliminate unused species, thus allowing the regeneration of numerous forest species -those that are perceived as having no detrimental impact on system productivity. Numerous examples of such agroforests have been described from Southeast Asia, and especially from Indonesia. In Sumatra alone, an estimated area of about 4 million ha is covered with damar (*Shorea javanica*) agroforests, rubber agroforests and fruit/timber/spice agroforests. For further information:
http://www.icraf.cgiar.org/sea/Researchthemes/Theme_4.htm
http://www.mekonginfo.org/mrc_en/announce.nsf/0/0DB9DC2426D12B1C47256985002E283A/$FILE/Papjoshiedit.html

International Network on Ethnoforestry (INEF)
INEF is a peer group of concerned foresters, scientists, international agencies, and NGOs working for the documentation, dissemination and integration of indigenous knowledge on forest management with formal forestry, in various cultures and indigenous peoples in different parts of the globe.
http://www.forestguru.com/inef.htm

COMPAS Network
Compas advocates due appreciation of spiritual aspect of farming and forest management for endogenous development truly ingrained in local cosmovision and people's values. ETC, the institution which co-ordinates COMPAS Newsletter and PTD Circular, and Both Ends, a Dutch NGO, plan to initiate a NGO Platform focused on cosmovision of forest dependent people. (upcoming)
Link to COMPAS Newsletters: http://www.etcint.org/compas_newsl.htm

Methodologies for Silvicultural Experiment

Farmer Forest Management School: Facilitators' Manual (PDF)
FFMS is a methodology for facilitating experiments and knowledge-generation by forest-users in forest. FFMS is based on the Farmer Field School (FFS) methodology and is an adaptation for Community Forestry.   It is characterised by the diverse and site-specific forest-user-led experiments in communally managed forests. FFMS offers forest users opportunities to: analyse the existing forest resources, and future needs for forest resources; identify the opportunities for various forest management including opportunities of income generation, analyse available resources what they have under their control, analyse existing constraints, and try out new forest management options at small scale.   FFMS can act as a forum for exchanging ideas for the improvement of livelihoods, identifying common problems and encouraging joint efforts.

The Forests, Trees and People Programme (FTPP) of FAO supports the field trials of FFMS. A facilitator's manual developed by RECOFTC (Regional Community Forestry Training Center for Asia and the Pacific) is now being field tested in Nepal and Vietnam.

Proceeding of an international seminar on "Cultivating Forests: Alternative Forest Management Practices and Techniques for Community Forestry" is also available at RECOFTC Website:
http://www.recoftc.org/pub_recoftc_rp_series.html#Cultivating

PTD in forestry management in Vietnam
Social Forestry Support Programme (SFSP) in Vietnam supports forest users' experiments in forest applying Participatory Technology Development (PTD) methodologies. A number of experiments are introduced on its website.
http://www.socialforestry.org.vn/

Agroforestry

ICRAF Agroforestree Database introduces silvicultural information (e.g. propagation and use) of more than 300 agroforestry tree species. ICRAF also offers Tree Seed Suppliers Directory.
http://www.icraf.org/treessd/databases.htm

ICRAF Southeast Asia researches domestication of agroforestry trees.
http://www.icraf.cgiar.org/sea/Researchthemes/theme_4.htm#Domestication

Cornell University's Tropical Agroforestry and Organic Agriculture site introduces:
Tree and Shrub Species for Agroforestry Systems (with pictures)
http://wwwscas.cit.cornell.edu/ecf3/Web/AF/Trees%26Shrubs.html
Multipurpose and Fruit Trees Commonly Used in Agroforestry
http://instruct1.cit.cornell.edu/courses/hort400/mpts/splist.html"
http://eddie.mannlib.cornell.edu/H415/MultiPurpose+FruitTrees.html

Water Catchment

Sourcebook of Alternative Technologies for Freshwater Augmentation in Africa introduces
various water harvesting methods.
http://www.unep.or.jp/ietc/Publications/TechPublications/TechPub-8a/index.asp#1

Water Harvesting site introduces traditional and modern water harvesting technologies.
http://www.rainwaterharvesting.org/methods/methods.htm

A Manual for the Design and Construction of Water Harvesting Schemes for Plant Production introduces various micro catchments for tree planting.
http://www.fao.org/docrep/U3160E/u3160e00.htm#Contents

ILEIA Newsletter 16-1: "Livelihoods reborn communities combating desertification" includes
some articles on indigenous water harvest methods.
http://www.ileia.org/2/nl16-1.html

The African Water Page disseminates information on water issues in Africa and to exchange
views and ideas on water on the continent, including information on handpumps.
http://www.africanwater.org/index.htm

Participatory Forest Inventory

Papers introducing inventory methods:

A Protocol for Participatory Inventories of Timber and Non-Timber Forest Products in Cameroon
http://www.irmgt.com/documents/CHUCKMDOC.pdf

Simple Participatory Inventory: A Key Factor for Sustainable Forest Management (Experience in
Nepal)
http://www.recoftc.org/download/International%20Report%20Series/Cultivating%20forests/aus%
20der%20Beek.pdf

A Community Forest Inventory For Productive Forest Management in Cross River State, Nigeria,
With Reference To Ekuri.
http://www.earthwatch.org/europe/limbe/upa.html#Heading96

Developing Needs-bases Inventory Methods for Non-Timber Forest Products (Workshop proceeding)
http://www.etfrn.org/etfrn/workshop/ntfp/ntfpproceedingsfinal.pdf

The biometrics of non-timber forest product resource assessment: A review of current methodology
http://www.etfrn.org/etfrn/workshop/ntfp/text.pdf

Orthophotographs to Assist Participatory Forest Management: Application in the Jhikhu Khola Watershed, Nepal
http://www.icimod.org.sg/publications/imd/home2000-3/imd00-3.htm

Book
Recent Approaches to Participatory Forest Resource Assessment, Jane Carter (ed.)
http://www.oneworld.org/cgi-bin/index.cgi?root=129&url=http%3A%2F%2Fwww%2Eodi%2Eorg%2Euk

Simple participatory forest inventory and data analysis: guidelines for the preparation of the forest management plan, Chandra Bahadur Rai, Robin aus der Beek, Shambhu Prasad Dangal.
- Kathmandu: Nepal Swiss Community Forestry Project (NSCFP), 2000. - 70 p.

Indigenous Trees

Website
Indigenous multipurpose trees of Tanzania: Uses and economic benefits for people
http://www.fao.org/docrep/X5327e/X5327e00.htm

Basic guide on how to plant your indigenous tree seeds
http://www.botany.uwc.ac.za/Envfacts/facts/plant_tree.htm

Vegetative tree propagation for arid and semi-arid lands: technical notes for agroforestry including nursery, cutting, grafting and layering techniques
http://www.icraf.cgiar.org/res_dev/prog_5/tr_mat/course-i/course-i.htm

Books
Making the Most of Indigenous Trees, Fanie and Julye-Ann Venter: Indigenous trees in South Africa
http://www.wildnetafrica.com/goodies/b093.html

Seed germination of indigenous trees in Tanzania: H.P.Msanga
http://www.nrcan.gc.ca/cfs/pub/digest/common/seedgerm.html#frenchabstract

Seed Germination of Indigenous Trees in Botswana by Tabe Tietema, Eldjorg Merkesdal and Jan
Schroten
http://www.acts.or.ke/catalogue%20-%20drylands.htm

Trees of India (Medicinal, Commercial, Religious and Ornamental): A Colour Atlas/C.K. Warman
http://www.vedamsbooks.com/no14574.htm

Non Timber Forest Products and Marketing

Publications (downloadable)
Community-based tree and forest product enterprises: Market Analysis and Development (manual), 2000
http://www.fao.org/forestry/FON/FONP/cfu/pub/en/fm/madpdf-e.stm

Marketing information systems for non-timber forest products, 1996
ftp://ftp.fao.org/fo/fon/fonp/cfu/fm-e06.pdf

Domestication and commercialization of non-timber forest products in agroforestry systems
http://www.fao.org/docrep/w3735e/w3735e00.htm

Sustainable Harvest of Non-timber Plant Resources in Tropical Moist Forest: An Ecological Primer
http://www.bcnet.org/learning/primer/eng1.htm

Developing Needs-Based Inventory Methods for NTFPs
The proceedings of the workshop "Developing Needs-Based Inventory Methods for Non-Timber Forest Products", held in Rome 4-5 May 2000, can be downloaded from:
http://www.etfrn.org/etfrn/workshop/ntfp/index.html

Databases
FAO Non-Wood Forest Products Database provides information, such as address, profile, activity, field and geographical coverage of organizations and individuals actively working in the field of NWFP.
http://www.fao.org/forestry/FOP/FOPW/NWFP/nwfpdb-e.stm

Survey of Economic Plants for the Arid and Semi-arid Lands (SEPASAL)
SEPASAL is a major source of information on the flora of arid and semi arid regions. It contains information on some 6000 useful dryland species. The data include detailed botanical description, geographical distribution, conservation status and climatic preferences, and uses of different plant parts.
http://www.rbgkew.org.uk/ceb/sepasal/

Herbal Medicine.org contains good bibliography
http://www.herbal-medicine.org/

Philippines Herb Index
http://www.philippineherbs.com/philippineherbindex.htm

Centre for International Ethnomedicinal Education and Research
http://www.cieer.org/ contains a link to databases
http://www.cieer.org/ebdirectory/databases.html

Programmes
Medicinal and Aromatic Plants Program in Asia (MAPPA)
http://www.idrc.ca/saro/research/mappa_e.html

IUCN NTFP page
http://www.iucn.org/themes/fcp/about/regional/ntfp2.html

Rainforestweb.org's NTFP pages:
http://www.rainforestweb.org/Rainforest_Protection/Green_Business/Non-Timber_Forest_Products/

NTFPRC - Non timber forest products research centre in Vietnam
http://www.mekonginfo.org/mrc_en/contact.nsf/0/ABB6ECC3F00D510E8025686A00805DAD/$FILE/NTFP3.htm

Indigenous Knowledge

Recording and using indigenous knowledge: A manual (1996), International Institute of Rural Reconstruction, Philippines.
http://www.panasia.org.sg/iirr/ikmanual/

Case Studies on Indigenous Forest Management

26 case studies of indigenous knowledge-based forestry is available at IK Resources website (under "Topic"-"Agriculture")
http://www.nuffic.nl/ik-pages/default.asp

Farmers' experiments in teak germination in Sri Lanka
http://www.panasia.org.sg/iirr/ikmanual/srilanka.htm

Indigenous technical knowledge (ITK) of people on fodder tree management
http://www.panasia.org.sg/nepalnet/forestry/itk_paper.htm (Nepal)

Community forestry: herders' decision making in arid and semi-arid Africa
http://www.fao.org/docrep/t6260e/t6260e00.htm

The traditional date palm cultivation in Oman
http://www.geocities.com/RainForest/8883/datepalm

Indigenous Food Plants Programme: using locally available edible species to enhance community health, provide income and conserve biodiversity (Kenya)
http://www.unesco.org/most/bpik8.htm

Traditional tree-crop practices in Sri Lanka

http://www.nuffic.nl/ciran/ikdm/3-3/articles/ranasinghe.html

Indigenous knowledge of miombo trees in Morogoro, Tanzania
http://www.nuffic.nl/ciran/ikdm/7-2/munyanzi.html