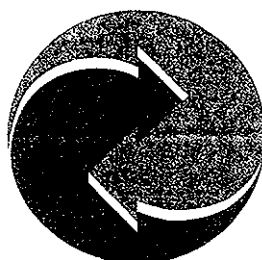


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## **Forest/Agriculture Interface**

**THE IMPORTANCE OF COMMON PROPERTY ISSUES, TENURE  
AND ACCESS RIGHTS IN RELATION TO LAND USE  
MANAGEMENT AND PLANNING AT THE  
FOREST/AGRICULTURE INTERFACE**

by

**Gill Shepherd<sup>1</sup>, Liz Kiff<sup>2</sup> and Di Robertson<sup>3</sup>**

**NRI**  
Natural Resources Institute



## SECTION A - TENURE RIGHTS RELATING TO FORESTS, TREES AND AGROFORESTRY SYSTEMS

A1

- Author** Acharya, H.  
**Title** Jirel property arrangements and the management of forest and pasture resources in highland Nepal.  
**Source** *Development Anthropology Network*. 7(2): 6-25, Institute for Development Anthropology; Binghamton, New York; USA.  
**Year** 1989  
**Language** English  
**Abstract** Forest and pasture resources both figure in the production systems practised by Jirel farmers, a Tibeto-Burman-speaking people who live in and around the Jiri River valley Dolakha District, Nepal. Fodder trees and pastures support livestock, which serve as a source of nutrition, cash income, draught power, and fertilizer. The Jirel extract wood from forests for fuel and construction, and leaf litter for fertilizer. Because of the contribution of forests and pastures to their household economies, they use these resources conservatively and prevent them from becoming exhausted. Jirel access to forest and pastures has changed through government intervention, with major turning points in 1795, 1868, 1951, and 1961. At the same time internal changes in family size, economic situation, and migration have led to changes in resource requirements, allocation, and access. For the most part, the Jirel have enjoyed the privilege of managing their resources on their own. Overall, usufruct rights have shifted to compensate for inequality in the distribution of ownership rights. Jirel systems of ownership and usufruct rights generate particular motivations, use patterns, and techniques that help them manage reasonably well to meet their needs while protecting the resources.  
**Keywords** animal production; Asia; external organisational arrangements; fuel wood; generational equity; internal regulations; journal article; natural forest; social organisation; socioeconomic issues; sustainable development/ management; trees on farms  
**Database** CABI

A2

- Author** Amyot, J. and Adams, N.R.  
**Title** Agroforestry and smallholder financial viability.  
**Source** In: *Proceedings of an International Workshop on Multipurpose Tree Species for Small-farm Use held in Pattaya, Thailand November 2-5, 1987*. pp. 182-190. (Eds. Withington, D.; MacDicken, K.G.; Sastry, C.B.) Co-published with the International Development Research Centre, Canada, Winrock International Institute for Agricultural Development; Arlington, Virginia, USA (9 ref ISBN 0-933494-18-2).  
**Year** 1988  
**Language** English  
**Abstract** This study of the exclusive usufructuary rights to use but not own examines the potential of agroforestry to help small farmers illegally squatting on national reserved forest land at Khao Phu Luang in NE Thailand. The study site is an FAO assisted social forestry project (the STK Land Licensing Program) initiated in 1979, and followed up from 1986 by the Thailand Royal Forest Department. The findings were derived from on-site visits, conversations with farmers and project staff, as well as project documentation and reports. 'Agroforestry' practices promoted include private forest tree plantations, use of these trees for charcoal production, forest plantation grazing of cattle, fruit tree plantations and beekeeping. As of 1986, marketing constraints and real or imagined legal constraints stopped many farmers from accepting the first two practices, although an external marketing study indicated that they are financially viable. It is recommended that further extension efforts be implemented to promote them. Although not yet adopted by a large number of farmers, the success of individual farmers engaged in grazing cattle, planting fruit trees, and beekeeping demonstrated that these practices can yield substantial income. However, it is likely that the main beneficiaries were the more

substantial farmers rather than the targeted smallholders. The project further suffers from the STK policies on permissible size of holdings and limited disposal rights of the holder, which have never been popular. Much of the land allocated to the project has never been taken up and farmers continue the more common practice of expanding holdings by illegal farming of forest lands.

**Keywords** agroforestry; animal production; Asia; beekeeping; charcoal production; enriched forest areas; external organisational arrangements; FAO; plantation; STK; workshop proceedings  
**Database** CABI

**A3**

**Author** Ardayfio, E.  
**Title** The rural energy crisis in Ghana: Its implications for women's work and household survival.  
**Source** *WEP Research Working Papers WEP 10/WP.39*, ILO, Geneva  
**Year** 1985  
**Language** English  
**Abstract** The research is set in the southern forested area, where the main activity is agriculture, using plough animals. Land rights are invested in the lineage or stool and any member of the lineage is entitled to use any land which is lying fallow, and it belongs to him or her for as long as he or she uses or occupies it. Trees from the owner's own swidden-fallow are pollarded for fuelwood, so that cattle cannot damage the new shoots.  
**Keywords** Africa; animal production; crop production; fallow systems; fuel wood; internal regulations; working paper  
**Database** ODI

**A4**

**Author** Arika, S.  
**Title** The socio-economic characteristics and conditions necessary for the existence of agroforestry in East Asia.  
**Source** *Bulletin of the Shinshu University Forests. No. 24.* pp.167-195 (34 ref)  
**Year** 1987  
**Language** Japanese  
**Abstract** Results from a joint research project in 1983-85 in Japan, Thailand and Indonesia showed that the *yakihata ringyo* system (a type of taungya) in Niigata Prefecture [Honshu] is unstable. Five socio-economic conditions for its existence are described. In Thailand and Indonesia, agroforestry, strongly supported by the government, is effective in promoting afforestation, but problems of forest ownership need to be resolved.  
**Keywords** agroforestry; Asia; external organisational arrangements; journal article; reforestation; socioeconomic issues; taungya systems  
**Database** CABI

**A5**

**Author** Arnold, J.E.M., Chowdhry, K., Adeyoju, S.K. and Huxley, P.A.  
**Title** Position papers.  
**Source** *Social, economic, and institutional aspects of agroforestry. 1984*, pp.3-35 (Ed Jackson, JK ISBN 92-808-0502-9) NRTS-23-UNUP-502. United Nations University, Tokyo, Japan.  
**Year** 1984  
**Language** English  
**Abstract** Arnold, J.E.M. Economic constraints and incentives in agro-forestry. 3-10. Chowdhry, K. Agro-forestry, the rural poor, and institutional structure. 11-19. Adeyoju, S.K. Some tenurial and legal aspects of agro-forestry. 20-25 [8 ref.] Huxley, P.A. Education for agro-forestry. 26-35 [5 ref.].  
**Keywords** agroforestry; economics; external organisational arrangements; geographically non-specific; institutional development; review; training/ extension/ technology transfer  
**Database** CABI

## A6

**Author** Baraona, R. and Raintree, J.B.  
**Title** Agroforestry and swidden cultivators in Latin America.  
**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp. 283-291 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.  
**Year** 1987  
**Language** English  
**Abstract** A (mainly philosophical) discussion of ways of developing 'scientific' agroforestry among peasant swidden cultivators whose traditional environment (and consequently practice and perceptions) are changing. Tenure aspects are included.  
**Keywords** fallow systems; indigenous knowledge; Latin America; tenural change and evolution; workshop proceedings  
**Database** CABI

## A7

**Author** Barnes, C.  
**Title** The historical context of the fuelwood situation in Kisii district.  
**Source** In *Wood, energy and households* pp. 61-78 (Eds. Barnes, C.; Ensminger, J. and O'Keefe, P.), Beijer Institute, Sweden and Scandinavian Institute of African Studies, Sweden.  
**Year** 1984  
**Language** English  
**Abstract** The Gusii people live in the southeast of Kisii district, Kenya. The region ranges from 1500-2350m elevation and contains many permanent streams and some swamps. Rainfall is 1500mm per year. The population has increased from 122/sq km in 1948 to 395/sq km in 1979. Indigenous trees grow only in river valleys and isolated areas. The Gusii are settled agriculturalists growing cash and subsistence crops with some livestock. Coffee and tea are the main cash crops; sugar cane and bananas are also sold. In the past, clan land was divided into settlements with arable fields. Each neighbourhood had a series of common fields comprising individual plots, and a bush area used for common pasture. Communal areas now belong to the State and most land comprises permanent private plots. Under communal land systems wood was freely available for collection and cutting to members of the clan. With privatisation of land holdings households are able to obtain their wood needs from their own land; through agreement with a landowner where there is wood available; or from Crown land, where it may be gathered but not cut without the permission of local government. Thus management has changed from use-rights based on clan-membership, to the exercise of State-granted privileges.  
**Keywords** Africa; animal production; chapter; crop production; external organisational arrangements; fuel wood; internal regulations; natural forest; tenural change and evolution; trees on farms  
**Database** ODI

## A8

**Author** Barrow, E.G.C.  
**Title** Usufruct rights to trees: the role of ekwar in dryland central Turkana, Kenya.  
**Source** *Human Ecology New York* 18(2): 163-176 (4 tab., 37 ref.).  
**Year** 1990  
**Language** English  
**Abstract** Usufruct rights to trees (ekwar) in the Turkana silvo-pastoral system are an important aspect of natural resource management, particularly in the drier central parts of Kenya. Originating from a participatory forestry extension programme, a survey was carried out that showed the extent and duration, often in excess of one generation, of occupancy of a person's ekwar. Such rights centre around the dry season fodder resources, especially of *Acacia tortilis*. However, they are not definite and are linked to risk-spreading by flexibility in livestock management and the need that they be maintained through efficient usage and social linkages. Hitherto, such natural resource management systems have all but been ignored in the development process in favour of the tragedy of the commons

## Section A - Tenure Rights

paradigm. Likewise, pastoral development has tended to emphasize range and water, while trees are not given the attention they deserve. This endangers the resilience of the system, and it is therefore important that development works with, not against, such environmentally-sound practices to try to make them more sustainable in the long term.

**Keywords** Africa; fodder production; generational equity; journal article; savanna woodland; social organisation; sustainable development/ management; tenural change and evolution

**Database** CABI

A9

**Author** Beaton, A.C.  
**Title** The Fur  
**Source** *Sudan Notes and Records* 29(1):1-39  
**Year** 1948.  
**Language** English

**Abstract** The Fur are Muslims who live in the western district of Darfur, in Sudan. They occupy the high backbone of land across the Nile-Chad watershed. Rainfall averages 555 to 650mm annually. The region is well forested with *Acacia spp.*, especially *Faidherbia albida*. Other common tree species are *Commiphora spp.*, *Zizyphus spp.*, *Combretum spp.*, mahogany and bamboo. The Fur are settled agriculturalists who keep some livestock and who market salt. Crops cultivated include wheat, maize, beans, sorghum, potatoes, vegetables, tobacco, groundnuts and cotton. Both sexes care for livestock. Wood is needed for fuelwood and construction. In addition, tree fruits are eaten which include *Balanites aegyptiaca*, *Cordia abyssinica*, *Ficus spp.*, *Sclerocarya birrea* and *Tamarindus indica*. Whoever clears bush for cultivation gains rights to the land, and cutting trees is men's work only, not least because women are the representatives of another lineage and the land cleared by men must clearly belong to the group to which they belong.

**Keywords** Africa; animal production; crop production; forest margins; fuel wood; gender issues; internal regulations; journal article; natural forest; timber/ pole products

**Database** ODI

A10

**Author** Behnke, R.H.  
**Title** The Herders of Cyrenaica.  
**Source** University of Illinois Press, Urbana, Illinois.  
**Year** 1980.  
**Language** English

**Abstract** The book is concerned with the Bedouin in Cyrenaica, Libya, who live on the slopes of Jebel Akhdar, relatively well-watered above 800 metres, but fading to 200mm of highly unpredictable rainfall at altitudes of 200 metres and below. Tree cover is higher at higher altitudes, and sparse in the plains. A variety of different kinds of animals are herded. Customary tenure (with which the text is in fact exclusively concerned) was calculated on a genealogical basis: all the descendants of one ancestor sharing one large area, within which more closely related kin shared smaller, closely adjacent portions. Thus any one piece of land had owners with strong claims and owners with weak claims to it. On the higher slopes, fruit trees such as apricot and almond were grown, while on the lower slopes scrub oak, *Juniperus sp.*, and finally *Zizyphus spina-christi* were browsed. In practice, farmed land was owned on a more or less private basis, while range land was shared: a practice which related to the irregularity of rainfall and the impermanent value from year to year of any one piece of land. In the areas of more stable productivity, high on the slopes of Mount Akhdar, access to land was restricted in various ways; in the plains, where productivity was erratic, access to resources was naturally much more open. It was also noticeable that labour inputs were what in part limited tenurial rights to more limited categories of people. On the mountain, where crops could be grown and water-points improved or created, such assets belonged to those who invested most, and most constant, labour in them. Thus increases in the reliable productivity of field sites were paralleled by increasingly exclusive terms of ownership. Trees fitted the tenure patterns of the land on which they were located - privately owned on the mountain side, and communally owned in the plains.

**Keywords** Africa; book; enriched forest areas; farming systems; internal regulations; natural forest; savanna woodland; social organisation; socioeconomic issues; tenural change and evolution; trees on farms

**Database** ODI

**A11**

**Author** Behnke, R.H.

**Title** The dynamics of open-range management and property rights in Pastoral Africa.

**Source** ODI internal document. (Section 3 the Baggara of South Darfur)

**Year** 1985.

**Language** English

**Abstract** The Baggara, of South Darfur, Northern Sudan, are agro-pastoralists who manage their resources through the mechanism of the lineage and who herd cattle. The Baggara originally practised a form of customary tenure calculated on a genealogical basis: all the descendants of one ancestor sharing a large area for such purposes as grazing, but focusing on a small segment of the genealogy when more intensive land-use, such as agriculture, was planned. Thus any one piece of land was owned simultaneously by small numbers of people with strong claims, and large numbers of people with weak claims to it. Trees are important as browse, especially in the dry season and are owned by the owners of the land on which they stand. The Baggara are in the process of privatising once-open range-land, claiming that they are doing no more than following original lineage rules, which allow for the intensification of ownership under certain conditions. In drier areas they do it by making sure that they control scarce water-points (and thus the grazing around them); in wetter areas they simply fence grazing areas and treat them as arable fields (which they may have been or may become). Such land-tenure changes are most common: where graze and browse are most under pressure from rising cattle numbers, or where there is a market for fodder (situations found near the town of Nyala where markets for milk and livestock on the hoof existed); where a particularly well-favoured grazing area is now needed at different points in the annual cycle by permanently resident local users, and by nomadic herders passing through. In both these situations, land had acquired a high value, and in consequence the range of 'legitimate' users has been narrowed by those with the strongest and most permanent interests in making sure that they retain access to the resource.

**Keywords** Africa; animal production; fodder production; internal regulations; paper; savanna woodland; social organisation; tenural change and evolution

**Database** ODI

**A12**

**Author** Beidelman, T.O.

**Title** The Matrilineal Peoples of Tanzania

**Source** *Ethnographic Survey of Africa, part 16* (Ed. D. Forde), East Central Africa, International African Institute, London.

**Year** 1967.

**Language** English

**Abstract** Much of Ukaguru, one of the tribal areas described in this survey, is covered in miombo woodland. Rainfall is around 750mm per annum. The people are agriculturalists, without animals. Men collect honey and wax and women make a great deal of cash from honey beer brewing. Labour creates ownership and maintains it, particularly with regard to the clearance and cultivation of land. If ownership is abandoned, the resource reverts to the matrilineage. Management is work, and will not be undertaken unless there is the desire to own the resource to be managed.

**Keywords** Africa; gender issues; geographically non-specific; internal regulations; report; savanna woodland; social organisation; tenural change and evolution

**Database** ODI

**A13**

**Author** Benneh, G.

**Title** Land tenure and agroforestry land use systems in Ghana.

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- Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* (Ed. Raintree-JB) pp. 163-168 (5 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.
- Year** 1987
- Language** English
- Abstract** The summary concerns the northern savanna region of Ghana where bush swidden-fallow farming is practised. The member of the land owning group who is the first to cultivate a piece of unclaimed land establishes for himself and his descendants the right to use that land for cultivation and for those rights also to extend to the swidden-fallow vegetation. Economically useful trees, particularly *Butyrospermum parkii* (sheanut), *Faidherbia albida*, *Adansonia digitata*, *Parkia clappertoniana* (dawadawa) and others are integrated with food crops. In areas where there is population pressure on land only these economic trees are left, and most of the trees are now very old.
- Keywords** Africa; crop production; fallow systems; intercropping; internal regulations; workshop proceedings
- Database** ODI
- A14**
- Author** Bentley, W.R., Singh, G.B., Chatterjee, N. and Raintree, J.B.
- Title** Tenure and agroforestry potentials in India.
- Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp. 231-237 (Ed. Raintree JB, 13 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya
- Year** 1987
- Language** English
- Abstract** The serious problem of land degradation in India is discussed and it is suggested that grazing and common property or common-access property rights are often the causal forces. The total area involved is 118.69 million ha of which approx. 25 million ha are legal forest and the rest waste lands, of which the bulk are marginal agricultural lands. The current land use and tenure problems, and possible agroforestry solutions to them are discussed separately for the legal forests, marginal cultivated lands, and commons or revenue lands. There are tenorial insecurities on at least 100 million ha of cultivated common lands, and forestry department control is minimal on 30-40 million ha of legal forest. It is argued that clarification and assignment of tenure rights could increase the productivity of these lands if trees are included as part of their management system.
- Keywords** agroforestry; animal production; Asia; environmental degradation; external organisational arrangements; forest margins; natural forest; tenural change and evolution; wastelands; workshop proceedings
- Database** CABI
- A15**
- Author** Bertrand, A.
- Title** Tenure problems in African tropical forests: tenure of trees and tenure of forest.
- Source** *Bois et Forêts des Tropiques*. No. 227, pp. 11-16; Paper given at the 10th Congress of World Forestry, Paris, September 1991; (11 ref)
- Year** 1991
- Language** French
- Abstract** A brief discussion exploring traditional and current land tenure regulations in tropical and savanna regions of Africa, particularly as regards trees. The distinction is drawn between forested land - where both the land and the trees may or may not be considered separate resources - and single or small groups of trees - which, according to landscape or socioeconomic context, may have functions quite different from those in a forested area. The role of government or state agencies in planning or organizing forest policies is questioned.
- Keywords** Africa; external organisational arrangements; farming systems; institutional development; internal regulations; journal article; natural forest; savanna woodland

**Database** CABI

**A16**

**Author** Bertrand, A.

**Title** (Land security: a condition for viable management of renewable natural resources?)

**Source** Nogent sur Marne (France), CIRAD Foret 30 pp.

**Year** 1993

**Language** French

**Abstract** Land security is often presented as a prerequisite to economic and social development in rural areas. Various examples show the complexity of interactions between secure land ownership and viable management of renewable natural resources. The two-fold function of the tree, as a sign and as a means of providing land security, is illustrated.

**Keywords** external organisational arrangements; geographically non-specific; institutional development; report; social organisation

**Database** TROPAG

**A17**

**Author** Birgegard, L.E.

**Title** Natural resource tenure: a review of issues and experiences with emphasis on Sub-Saharan Africa.

**Source** *Rural Development Studies No. 31*. Swedish University of Agricultural Sciences, International Rural Development Centre, Uppsala, Sweden.

**Year** 1993

**Language** English

**Abstract** This study reviews natural resource tenure issues with emphasis on Sub-Saharan Africa (SSA). Tenure systems in SSA are diverse due to inherent cultural, climatic and ethnic differences, and further diversified by changes with colonisation and subsequent independence (especially in countries with socialist transformation). The socialist land that has resulted, as well as ecological problems, sustainable management demands and the current emphasis on markets and individuals has lead to arguments against indigenous systems. Alternatives are seen as private land registration in agriculture and government control or private registration titles in rangelands and forestlands. The arguments against indigenous tenure systems and for modern individual titling systems are assessed on empirical research evidence, suggesting that tenure security, access to credit and socioeconomic and gender equity do not improve with individualisation. The specific tenure issues related to common property resources, such as range land and forests are reviewed and implications of the findings for NATUR/SIDA are identified.

**Keywords** Africa; economics; external organisational arrangements; gender issues; institutional development; paper; SIDA; socioeconomic issues; tenural change and evolution

**Database** NRI

**A18**

**Author** Blowfield, M.E.

**Title** Land tenure, natural resoruces and socioeconomic development in Indonesia: conflict between national, regional and indigenous perceptions and aspirations with specific reference to Irian Jaya.

**Source** Dissertation, University of Sussex, Brighton.

**Year** 1989

**Language** English

**Abstract** This dissertation is based on the primary sector dependence on natural resources in rural areas of outer island provinces of Indonesia. These outer islands are not reaching their potential to strengthen the Indonesian economy. Irian Jaya is used as a case study to describe the indigenous economic situation and relevant development polices, their differences and impacts. The two land tenure systems are described of private/ individual title and community ownership. Policy has attempted to create a single land system. In forestry local communities are allowed to utilise forest resources providing they do not interfere with commercial exploitation (which are government controlled) Recommendations are made on how polices could be reformed to achieve development



objectives, and the limitations of reforms discussed. Assessment is made of the more likely success of reconceptualising some of the fundamental features of the development policy. Decentralisation and community involvement is advocated, as is policy development based on an awareness of the diversity of culture and environments and the logic determining behaviour of local communities

**Keywords** Asia; economics; external organisational arrangements; forestry; institutional development; internal regulations; natural forest; policy; tenural change and evolution; thesis

**Database** NRI

**A19**

**Author** Blowfield, M.E. and Ruwiasuti, M.R.

**Title** Traditional land rights in Ubahak.

**Source** Jayapura, Church World Service.

**Year** 1987

**Language** English

**Abstract** This report results from the need for more objective information on the land and its customary law in Ubahak in the Central Highlands, Irian Jaya, Indonesia. It is only in the last forty years that the outside world has influenced the lifestyle of the Ubahak local communities. Adaptive change has taken place particularly with the introduction of Christianity. However recent imposed change, especially regarding land registration to attempt to provide uniformity to national legislation, has caused much conflict. This report describes the existing systems of land use and rights, including the clan based systems of land and forest administration and usufructary rights. A method is suggested that formalises the existing rights to resources in a way that fits in with national legislation. A legal education workshop is planned for the local community to assist it formulating its own solution to land registration that fit in with national requirements.

**Keywords** Asia; conflict resolution; external organisational arrangements; forestry; institutional development; internal regulations; policy; report; social organisation; tenural change and evolution

**Database** NRI

**A20**

**Author** Blowfield, M.E. and Ruwiasuti, M.R.

**Title** Traditional Systems of Natural Resource Management in the areas of Sawa Er.

**Source** Agats, Asmat Diocese, Catholic Church, Irian Jaya, Indonesia

**Year** 1989

**Language** English

**Abstract** This report investigates the existing system of organisation of land and rivers by the autochthonous community of Sawa Er, Irian Jaya, Indonesia. *Hukum adat* ('traditional law') is defined. The traditional systems of leadership is described. The lack of respect and understanding of the system by outsiders, especially the government, results in conflict between the traditional and modern leadership systems. Management of resources is also described where legal alliances are responsible for resources within its area, and land is not owned by individuals. The report concludes that traditional law is still alive and forms an appropriate basis for future development of a legal system that is in accordance with the health of the nation as a whole.

**Keywords** Asia; indigenous knowledge; institutional development; internal regulations; natural forest; policy; report; social organisation

**Database** NRI

**A21**

**Author** Borlagdan, S.B., Alegado, E.M., Carillo, I.M. and Alcaria, J.F.A.

**Title** The Cebu Integrated Social Forestry Project

**Source** *Network Paper. Social Forestry Network Overseas Development Institute (UK). 1990 no. 10c* 16 pp. Institute of Philippine Culture, Ateneo de Manila Univ., Quezon City, Luzon, Philippines.

**Year** 1990

- Language** English
- Abstract** The focus of this description of the Cebu Integrated Social Forestry Project in the Philippines is on the integration of women in the project activities. The paper begins with an overview of the goals and organization of the project. The site and the project participants are also described. Then, the 3 main concerns of the project are discussed: the creation and development of a farmers' association; delivery of farm security through granting stewardship to farmers; and promotion of upland development technologies. Finally, some gender issues that directly concern project implementation are considered. It is pointed out that stewardship is usually granted to the men, therefore it does not really provide security of land tenure to the women. It is also put forward that the organizational skills of the women are under-utilised as the farmers' association membership is based on the possession of stewardship certificates. Possible ways in which these issues may be addressed in the future are indicated.
- Keywords** Asia; external organisational arrangements; gender issues; organisational development; paper; social organisation; stewardship
- Database** TROPAG
- A22**
- Author** Brinkman, W., Brouwer, R., Gerritsen, P., Mol, P., Remmers, G., Strijker, B., van Duijl, E., den Heijer, R.P. and van Lierop, P.
- Title** Communal management of forest lands.
- Source** *BOS-Nieuwsletter*.10:(1): 22-38; (39 ref.)
- Year** 1991
- Language** English
- Abstract** Some of the potentials of communal management of forest resources are reviewed in relation to the development of third world communities. The concepts of property, open and limited access, and management regulation concerning these resources are discussed. It is concluded that differences between private and community property are relative, with non-owners having certain rights on the land in private property systems, and not every member having the same rights in communal property systems. Factors are examined that have led to deterioration in communal management systems (both within the community and within the wider socioeconomic and political structure). Perspectives and conditions are suggested for ecologically and socially sustainable forms of communal resource management.
- Keywords** external organisational arrangements; forestry; geographically non-specific; internal regulations; journal article; social organisation
- Database** CABI
- A23**
- Author** Brokensha, D., Riley, B.W. and Raintree, J.B.
- Title** Privatization of land and tree planting in Mbeere, Kenya.
- Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp. 187-192 (Ed. Raintree JB, 2 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya
- Year** 1987
- Language** English
- Abstract** This paper is a further consideration of issues dealt with in an earlier report in which a broad spectrum of factors associated with fuelwood use and deforestation was examined. Here, the reasons why people do, or do not, plant trees are studied, using field work in Mbeere, Embu District, as a case study. It has been demonstrated elsewhere that individual land title, now universal in Mbeere, is a key factor in tree planting. However, it is not the only factor, nor is there a simple relationship, although the granting of individual land titles generally leads to an intensification of agriculture, which often involves the planting of trees. Long-term planning, essential for tree planting, is facilitated by the security of tenure which the titles provide. However, many other factors must also be considered as important in tree planting and these are considered here.

They include environmental factors, social factors, and external factors (the government, NGOs and private nurseries). The social factors discussed are income and wealth (fewer trees, or no trees, are planted by poorer people), education, religion (church groups are often active in promoting tree planting), models (the encouragement of tree planting by local extension officers, teachers or other change agents), and idiosyncratic factors. It is concluded that land privatization in Mbeere has been a key factor in tree planting.

**Keywords** Africa; economics; empowerment; external organisational arrangements; forestry; institutional development; plantation; social organisation; socioeconomic issues; trees on farms; workshop proceedings

**Database** CABI

**A24**

**Author** Brokensha, D.W., Castro, A.P., Kundu, M. and Hewlett, B.

**Title** Fuelwood, agro-forestry, and natural resource management: the development significance of land tenure and other resource management/utilization systems.

**Source** 64 pp. Institute for Development Anthropology; Binghamton, New York; USA.

**Year** 1984

**Language** English

**Abstract** An examination of natural resources management and interlinkages in relation to local environmental factors in developing countries. There are 4 main parts to the paper. The first of these, 'Significant resources and relationships for tree management and wood fuel use', considers the major technical factors which have to be considered in assessing the suitability of social forestry projects in a given area; these are discussed from the point of view of ecosystems and ecozones, including social and cultural aspects. The second main section, 'Resource management strategies, land tenure and modes of livelihood', is of more general agricultural interest. It includes a section on 'Irregularities and social forestry' which discusses inequalities in land ownership, asking how the poor and landless can benefit from social forestry programmes. The third section discusses 'Government interventions in forest, tree and land management' and the fourth 'Problems of social forestry' (Communal woodlots, Distribution of benefits, Use of 'waste' lands, Participation, Variation and Conflicts). The concluding parts of the paper outline emerging issues and policy recommendations.

**Keywords** community woodlot; external organisational arrangements; forestry; geographically non-specific; institutional development; paper; plantation; social organisation; socioeconomic issues; technical methods; wastelands

**Database** CABI

**A25**

**Author** Bromley, D.W. and Chapagain, D.P.

**Title** The village against the center: resource depletion in south Asia.

**Source** *American Journal of Agricultural Economics* 66(5): 868-873

**Year** 1984

**Language** English

**Abstract** The institutional environment of conventions, norms and rules that define resource user behaviour is reviewed for villages in south Asia. Specifically the impact of nationalisation of forests in Nepal, which upset centuries of traditional patterns of resource control and village governance over resource use, is examined. Nationalisation occurred as a result of increasing population and the new agricultural potential in the terai since malaria was controlled. A survey of 140 households in a Nepali village examined the free-riding behaviour and concluded that this was not prevalent. There was considerable interest in contributing to collective village assets, but working against this ethic is population pressure and the external laws being imposed that threaten the individual household. With removal of resource responsibility the concern for the viability of the resource is also removed. The paper concludes that for successful policy formulation the state should not decree what it cannot enforce (nationalisation of forests has been in name only) and policies that restrict resource use need to be matched by providing alternative resources and development of techniques and institutions that dampen the need for threatened resources.

**Keywords** Asia; external organisational arrangements; forestry; institutional development; journal article; natural forest; policy; survey/ questionnaire; sustainable development/ management; tenural change and evolution

**Database** NRI

**A26**

**Author** Brown, C.L. and Valentine, J.

**Title** The process and implications of privatisation for forestry institutions: focus on New Zealand.

**Source** *Unasylva* 178(45): 11-19.

**Year** 1994

**Language** English

**Abstract** The majority of New Zealand's commercial wood production is from 1.3 million ha of planted forests, mainly *Pinus radiata*. Another 6 million ha is natural forest which is generally protected. Prior to 1987 over half of the plantation forest was government owned, and managed under a single department. This department, however, was unable to provide accountability for its mix of functions and conflicts of interests, and in 1987 was separated into the New Zealand Forestry Corporation a state owned enterprise with a commercial focus, the Ministry of Forestry, responsible for advisory and regulatory and the Department of Conservation for protection of the natural forests. Sale of the plantation forests to private companies began in 1990 (exclusive of land which remained in government ownership to protect Maori, indigenous, claimants' land rights), and by 1994 about 350 00 ha had been sold. New Zealand has lead the privatisation process in forestry and various issues and questions have been raised, including environmental sustainability, foreign ownership, local market priorities and the continued role of the government via the state owned enterprise. The economic effects on New Zealand are also discussed.

**Keywords** economics; external organisational arrangements; forestry; institutional development; journal article; natural forest; Oceania; plantation; policy; tenural change and evolution

**Database** NRI

**A27**

**Author** Brown, M.R. and Raintree, J.B.

**Title** Agroforestry issues in Latin America.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp. 329-331 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya

**Year** 1987

**Language** English

**Abstract** A brief discussion of the main tenure problems, the potential of agroforestry, agroforestry and the rural poor, and research and planning issues.

**Keywords** agroforestry; Latin America; socioeconomic issues; workshop proceedings

**Database** CABI

**A28**

**Author** Bruce, J.W., Fortmann, L.P. and Nhira, C.

**Title** Tenures in transition, tenures in conflict: examples from the Zimbabwe social forest.

**Source** *Rural-sociol. Bozeman, Mont. : Rural Sociological Society*, 58(4): 626-642.

**Year** 1993

**Language** English

**Abstract** The landscapes of rural communities are commonly divided into areas in which distinctive resource uses are practiced and for which there exist particular types of property rights. Such tenure niches for different resources may overlap where those-resources themselves occupy the same space (e.g., land and trees). Further, competing legal and utilization systems (e.g., national and local) may place the same resource in different incompatible tenure niches. Conflict may involve overlapping tenure niches. Co-management by conflicting right-holders may offer a solution.

Section A - Tenure Rights

**Keywords** Africa; conflict resolution; institutional development; journal article; organisational development  
**Database** AGRICOLA

**A29**

**Author** Bruce, J.W.  
**Title** Community forestry: rapid appraisal of tree and land tenure.  
**Source** *FAO Community Forestry Note 1990 No. 5*, 90 pp.(9 pp. of ref.).  
**Year** 1990  
**Language** English  
**Abstract** This document has been produced as part of the FAO/SIDA Forests, Trees and People (FTP) Programme, who asked the author to develop a framework for more effective analysis and design of community forestry activities in relation to tenure, using rapid appraisal techniques. Tenure issues are considered within 3 broad tenure types (the holding, the commons, and the reserve), and opportunities for tree planting and use under each tenure type are examined from the point of view of the household. There are 8 chapters: (1) Introduction: trees and tenure; (2) Tenure problems and opportunities in tree projects; (3) Preparing for rapid appraisal; (4) Field procedures; (5) Tenure on the holding; (6) Tenure on the commons; (7) Tenure and the forest reserve; and (8) Conclusion: tenure opportunities and tenure strategies.  
**Keywords** external organisational arrangements; FAO; forestry; FTP; geographically non-specific; internal regulations; natural forest; plantation; policy; report; SIDA; social organisation; tenural change and evolution  
**Database** CABI

**A30**

**Author** Bruce, J.W. and Fortmann, L.P.  
**Title** Agroforestry: tenure and incentives.  
**Source** *LTC Paper, Land Tenure Center, University of Wisconsin Madison: 1989, No. 135*, 46 pp.(12 pp. of ref.). AID Research and Development Abstracts (1990) 16 (1) Abs. 091.  
**Year** 1989  
**Language** English  
**Abstract** A paper whose production was sponsored by the USAID Bureau for Science and Technology, Office Rural and Institutional Development. The effect of tree and land tenure on farmers' incentives to plant trees is examined, and lessons are drawn for agroforestry project planning. The validity of the generally accepted 'security of tenure' model, which assumes that without land tenure security tree planting will be discouraged, is examined in relation to 3 different situations. Firstly, an analysis of tree tenure with respect to household agricultural holdings finds the issue more complicated than previously thought. Trees can be an object of property rights separable from the land, like water and mineral rights. In addition, tree planting can sometimes actually increase security of land tenure. Gender issues are also relevant, since the household is not necessarily under single management by the male. Secondly, with regard to tree tenure in communal areas (e.g. village woodlots), the report details the deforestation that results when states refuse to recognize common areas - instead conferring land rights on the first person to clear the land. Problems in developing institutional mechanisms for managing common property are also examined. Thirdly, an analysis of tree tenure on state managed reserves focuses on conflicts between the state and local communities over control of forests, and on alternative systems such as the taungya system in Asia, in which farmers are temporarily allocated areas for both tree planting and subsistence cropping. Overall, it is concluded that while tree tenure does affect incentives, its importance varies dramatically from case to case, so that the mere elimination of tenure constraints will accomplish little. The final section of the paper suggests procedures to assess tree and tenure relations in agroforestry project planning. A sample field questionnaire is included.  
**Keywords** community woodlot; enriched forest areas; external organisational arrangements; gender issues; geographically non-specific; internal regulations; paper; social organisation; taungya systems; tenural change and evolution; trees on farms; USAID

- Database** CABI
- A31**
- Author** Bruce, J.W., Fortmann, L.P. and Raintree, J.B.
- Title** Tenurial aspects of agroforestry: research priorities.
- Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.387-400 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya
- Year** 1987
- Language** English
- Abstract** Two types of research required are discussed: documentary research, which involves inventorying existing systems of land and tree tenure; and explanatory research which analyses the dynamic relations between land tenure, tree tenure, agroforestry (and other technologies), ecology, and other variables. The way in which a tenure strategy can be developed for an agroforestry project is described.
- Keywords** agroforestry; geographically non-specific; tenural change and evolution; workshop proceedings
- Database** CABI
- A32**
- Author** Bruce, J.W., Noronha, R. and Raintree, J.B.
- Title** Land tenure issues in the forestry and agroforestry project contexts.
- Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.121-160 (Ed. Raintree JB, 65 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya
- Year** 1987
- Language** English
- Abstract** A discussion in 6 sections: (1) Land tenure and project failure/shortfall - ways in which ignoring or poorly handling land tenure issues can contribute to project failure are suggested; (2) Analytical basis for interpreting land tenure and land use systems - a series of enquiries are suggested concerning traditional tenure rights which must be made a part of the project planning process if tenure issues are to be recognized and understood; (3) Land tenure issues in the social/community forestry project context - where trees are planted on community land; (4) Land tenure issues in the agroforestry project context - where trees are planted on individual or household holdings; (5) Dealing with land tenure issues in the project context - possible options in response to tenure issues identified in project planning, and the legal and administrative tools which may be available to project planners and managers; and (6) Research goals.
- Keywords** agroforestry; community woodlot; external organisational arrangements; geographically non-specific; internal regulations; social organisation; trees on farms; workshop proceedings
- Database** CABI
- A33**
- Author** Capistrano, A.D. and Fujisaka, S.
- Title** Tenure, technology, and productivity of agroforestry schemes.
- Source** *Philippine Institute for Development Studies. 1984, No. 84-06, 64pp., (37 ref.)*
- Year** 1984
- Language** English
- Abstract** A review is presented of literature on agro-based technologies currently being developed. Government and non-government efforts in 'social forestry' in the Philippines, accompanying land tenure issues and emerging policies, and the productivity of developing agro-based technologies, are described. The study reveals that: social forestry projects provide opportunities for involving communities in the effort to develop the Philippine uplands as well as test the applicability of available technologies; tenure insecurity is regarded as biasing land use practices in favour of crops yielding immediate

returns and consequently causing environmental degradation; and experiences with ipil-ipil based agroforestry technologies indicate the need for further scrutiny of these technologies.

**Keywords** Asia; crop production; enriched forest areas; environmental degradation; external organisational arrangements; plantation; technical methods; working paper

**Database** CABI

**A34**

**Author** Castro, A.P.

**Title** Indigenous Kikuyu agroforestry: a case study of Kirinyaga, Kenya.

**Source** *Human Ecology New York* 19(1): 1-18, (90 ref).

**Year** 1991

**Language** English

**Abstract** An analysis of agroforestry practices among the Ndia and Gichugu Kikuyu of Kirinyaga, Kenya, at the turn of the century, before the onset of colonial rule. The ways in which people adapted to competing pressures for retaining and removing tree cover are described. It is shown how religious beliefs, tenure relations based on a communal property-rights regime, and farm forestry practices contributed to the conservation of trees. Such strategies were not aimed at reversing deforestation, but at mitigating its impact by incorporating valued trees into local sociocultural and household production systems. It is noted that indigenous agroforestry practices need to be viewed in the context of local socioeconomic and ecological differences, and in this context the impact of the caravan trade on land use during the late 1800s is considered. Tree scarcity in the late precolonial era is briefly contrasted with the fuelwood crisis of the 1980s.

**Keywords** Africa; case studies; farming systems; historical perspective; indigenous knowledge; internal regulations; journal article; organisational development; social organisation; sustainable development/ management

**Database** CABI

**A35**

**Author** Caveness, F.A. and Vogel, W.

**Title** An investigative report of on-farm alley cropping trials in east and central Nigeria: considerations for interregional technology transfer.

**Source** *How systems work. Proceedings of Farming Systems Research Symposium, 1987. Farming Systems Research Paper Series. 1987, No. 15, pp.77-88; (13 ref). Kansas State University; Kansas; USA*

**Year** 1987

**Language** English

**Abstract** The introduction to this paper describes and discusses the development and implementation of alley cropping in Nigeria as a result of research at the International Livestock Center for Africa (ILCA) and the International Institute of Tropical Agriculture (IITA). The system developed was designed primarily to increase maize production, with hedgerows of *Leucaena* or *Gliricidia* to provide staking material for yams, and as a source of animal feed supplement. Its implementation in on-farm trials at Zaki-Biam, Benue State (in E. Nigeria) and Mgbakwu, Anambra State (central Nigeria) is described from interviews and inspections carried out in 1985. Evidence of complications was found in both areas, but although some of the problems were common, the primary constraint in each case was local. At Zaki-Biam, where *Leucaena* and maize were alley cropped, the problems were related to lack of communication on management practices and consequent poor performance of the system. The system adopted at Mgbakwu was intensive feed gardens of rows of *Leucaena*, *Gliricidia* and *Panicum* or *Pennisetum* grasses, set up on household sites within the village, because of severe land-tenure constraints on the outlying cropland which is rotated among family members annually. Because of this, maize alley cropping plots could not be set up without unanimous agreement in the family, which it was not possible to obtain.

**Keywords** Africa; alley farming; crop production; farming systems; fodder production; IITA; ILCA; internal regulations; journal article; symposium proceedings; technical methods; trees on farms

**Database** CABI

**A36**

**Author** de Ceara, I.A. and Raintree, J.B.

**Title** Land tenure and agroforestry in the Dominican Republic.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.301-322 (Ed. Raintree JB, 12 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya

**Year** 1987

**Language** English

**Abstract** An outline is given of the land tenure systems of the Dominican Republic together with descriptions of the agroforestry systems (agrosilvicultural, silvopastoral and agrosilvopastoral) found. The relationship between the tenure systems and agroforestry systems is discussed. Experiences from the establishment of agroforestry systems by programmes for rural development (the Plan Sierra project), natural resource management (the MARENA project) and utilization of energy resources (the Wood as Fuel Program) are described. All are basically forestry projects. Key factors to be considered in designing agroforestry programmes in the Caribbean and Central American region are noted.

**Keywords** agroforestry; Caribbean; external organisational arrangements; trees on farms; workshop proceedings

**Database** CABI

**A37**

**Author** Cernea, M.M.

**Title** The social actors of participatory afforestation strategies.

**Source** In *Putting people first: sociological variables in rural development*. pp. 340-393 (Ed. Cernea MM, 2nd ed. bibl., ISBN 0-19-520465-4) Oxford University Press for the World Bank; New York; USA.

**Year** 1991

**Language** English

**Abstract** Policy and operational options are discussed for improving current social forestry strategies by enhancing the role of self-management groups and grassroots organizations as vehicles for people's participation in forestry. The chapter first considers the socio-cultural prerequisites of participatory forestry programmes. The next two sections focus on land tenure variables in forestry development, particularly under conditions of common property ownership or joint usufruct rights on state lands. A case is analysed in which good intentions to experiment and innovate were not backed up by the necessary social knowledge. The case consists of two successive World Bank-assisted projects: the first was the pilot forestry programme under the Azad Kashmir Hill Farming Technical Development Project in Pakistan, which started in 1978; and the follow-up project, called the Azad Kashmir Integrated Hill Farming Development Project, which started in 1984 to continue into 1990. The case of Azad Kashmir is used to highlight the subtle and pervasive process of privatization of the commons. The three key stages of this process (a) informal partitioning, (b) incremental appropriation, and (c) formal privatization, are identified. The fourth section concentrates on the definition of social actors and the role of self-managing groups in sociologically guided strategies for reforestation. The disappointing performance of communities as agents of community woodlot schemes in many World Bank-assisted programmes is discussed in the fifth part. The last two sections explore and recommend options to replace the elusive and unfocused community woodlots either with family-centred strategies, or with group-centred reforestation strategies. The latter would rely on alternative units of social organization such as group farm forestry, tree growers' associations, age groups, women's groups and watershed forestry.

**Keywords** Asia; chapter; community woodlot; forestry; gender issues; organisational development; plantation; social organisation; trees on farms; World Bank

**Database** CABI



**A38**

**Author** Chavangi, N.A. and Raintree, J.B.  
**Title** Agroforestry potentials and land tenure issues in western Kenya.  
**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.193-199 (Ed. Raintree JB, 8 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya  
**Year** 1987  
**Language** English  
**Abstract** The information on issues discussed in this position paper has been collected through field investigations in Kakamega District on existing agroforestry practices, the utility and consumption of available woody biomass, and the socioeconomic forces within the household which mediate domestic production and the utilization of woodfuel. This is intended to form the basis for the design and subsequent testing of technical options and extension strategies for the development of effective woodfuel production projects in the District. One of the projects presently operating in the area, under the auspices of the Ministry of Energy and Regional Development in cooperation with the Beijer Institute of Sweden, is the Kenya Woodfuel Development Programme (KWDP). The issues discussed in relation to this project are: tree planting activities in relation to land ownership and in relation to women - who traditionally have no ownership rights and are responsible for fuelwood gathering; the implications of these factors for fuelwood procurement; possibilities for tree planting; and issues arising out of group problem solving discussions held by the KWDP with men and women from the local community. The latter include problems over the definition of trees (useful multipurpose agroforestry species such as *Sesbania sesban* are often not regarded as trees but as 'fuelwood shrubs' and 'fodder'), trees as land demarcation species, local suspicion of tree planting programmes, and implied participation by women. It is concluded that while KWDP focusses mainly on the possibilities of increased tree planting for fuelwood, the farmer approaches tree planting on a wider basis, giving more emphasis to the multipurpose aspects of trees, with a major inclination to their use for construction purposes and sale. Agroforestry projects have to accommodate most of the needs of the farmer, while KWDP may have to focus on the participation of women because of their responsibility for fuelwood supply.  
**Keywords** Africa; Beijer Institute of Sweden; forestry; gender issues; KWDP; social organisation; socioeconomic issues; workshop proceedings  
**Database** CABI

**A39**

**Author** Chew, S.T.  
**Title** Agroforestry projects for small farmers: a project manager's reference  
**Source** *AID Evaluation Special Study (USA). 1989, no. 59, 91 pp. (137 ref.), summary (En)*. Bureau for Program and Policy Coordination, U.S. Agency for International Development, Washington, D.C., USA.  
**Year** 1989  
**Language** English  
**Abstract** This report is part of the Project Manager's Reference Series published by the US Agency for International Development (USAID). It summarizes major issues identified in the general literature on agroforestry and those being addressed in ongoing USAID projects. Section 1 provides an overview of USAID support for agroforestry activities. Section 2 describes state-of-the-art agroforestry techniques which could be used to increase and sustain agricultural production. Some examples are given: intercropping *Acacia albida* trees with food crops; alley-cropping experiments; contour hedgerow farming and windbreaks in arid and semi-arid areas. Section 3 discusses technical and non-technical issues pertinent to designing and implementing agroforestry projects or projects with agroforestry components. Technical, economic and sociocultural factors influencing the selection of tree species and techniques are reviewed first. Government policies and land tenure issues constraining investment in tree growing are discussed

- subsequently. Finally, attention is given to institutional issues, incentive policies and monitoring and evaluation techniques.
- Keywords** agroforestry; alley farming; external organisational arrangements; farming systems; geographically non-specific; intercropping; report; sustainable development/ management; taungya systems; technical methods; USAID
- Database** TROPAG
- A40**
- Author** Child, B.
- Title** Zimbabwe's CAMPFIRE programme: using the high value of wildlife recreation to revolutionise natural resource management in communal areas.
- Source** *Commonwealth Forestry Review* 72(4): 284-296
- Year** 1993
- Language** English
- Abstract** The incentives for landholders to conserve wildlife were removed when colonial governments expropriated this resource from landholders. In Zimbabwe, this process has been reversed with some success under the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE). Government has devolved the authority for wildlife to rural communities. Rural communities now manage and market their wildlife, receive benefits from its sale directly, and are beginning to value and conserve it. This paper uses an example to illustrate some of the principles underlying CAMPFIRE, and shows how these practices are spreading throughout the country. It argues that wildlife will only survive in most of Africa if profitable sustainable utilisation is combined with defined access to resources. It attacks 'protectionism' because removing the value from wildlife will remove its ability to compete for space and will ultimately sabotage programmes like CAMPFIRE that at least have some chance of succeeding.
- Keywords** Africa; environmental conservation; external organisational arrangements; internal regulations; journal article; sustainable development/ management
- Database** NRI
- A41**
- Author** Cornista, L.B. and Raintree, J.B.
- Title** The land tenure system in the Philippine uplands: implications for agroforestry.
- Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.277-281 (Ed. Raintree JB, 4 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya
- Year** 1987
- Language** English
- Abstract** The land tenure system is briefly described and research and development implications for tenure and agroforestry discussed.
- Keywords** agroforestry; Asia; tenural change and evolution; workshop proceedings
- Database** CABI
- A42**
- Author** Cruz, R.V., Francisco, H.A. and Torres, C.S.
- Title** Agroecosystem analysis of Makiling forest reserve, Philippines.
- Source** In: *Los Banos, Laguna (Philippines). ERMP 103* p. Philippines Univ., Los Banos, College, Laguna (Philippines). Environmental and Resource Management Project.
- Year** 1991
- Language** English
- Abstract** This report presents the results of an agroecosystem analysis of the Makiling Forest Reserve, Philippines. Major areas of concern include issues of resource utilization, administration and management, property rights and tenurial arrangement, and institutional linkages. Key questions for research and guidelines for development were identified through the active involvement of the major stakeholders, each with their own perception, knowledge and motivation.

**Keywords** Asia; institutional development; natural forest; organisational development; report; social organisation

**Database** AGRIS

**A43**

**Author** Davis, S.H. and Wali, A.

**Title** Indigenous land tenure and tropical forest management in Latin America.

**Source** *Ambio* 23(8): 485-490 (37 ref.).

**Year** 1994

**Language** English

**Abstract** Indigenous peoples have received much attention as potential resource managers of threatened tropical forest ecosystems. Using data from Latin America, this article argues that fundamental changes need to take place in the legal recognition and demarcation of indigenous territories in order for this potential to be fulfilled. A comparison is made between different national land-tenure models for forest-dwelling indigenous peoples and a new model proposed by Latin American indigenous organizations. This comparison suggests that not only do indigenous peoples need to be provided with some degree of control over their territories and resources, but there needs to be a new type of partnership among indigenous peoples, the scientific community, national governments and international development agencies for the management of tropical forests.

**Keywords** external organisational arrangements; institutional development; journal article; Latin America; natural forest; organisational development; social organisation

**Database** CABI

**A44**

**Author** de Ponteves, E., Bourbouze, A. and Narjisse, H.

**Title** (Land tenure, common law and forest legislation in an argan forest area, northern Morocco)

**Source** *Cahiers de la Recherche Developpement (France)*. 26: 28-43 (figs, 30 ref., summaries (En, Es, Fr) ISSN 0760-579x). Centre National d'Etudes Agronomiques des Regions Chaudes, Montpellier, France.

**Year** 1990

**Language** French

**Abstract** A description is given of different forms of land tenure laid down by statutes or common law (based on land usage or land occupancy) and agriculture in the northern argan region of Morocco. The farming system is based on argan (an oleaginous tree), small ruminants (mainly goats) and barley. Argan is essential, providing the population with nut oil and pulp, foliage for the goats and wood. However, there is a conflict with foresters, who wish to use the state forests for charcoal production and practice what they consider to be more rational silviculture. As a result of population pressure, overgrazing is becoming more serious, the social climate is worsening and relations with the foresters are tense. However, this example of the management of an argan forest used for its fruit shows that a combination of forestry legislation and common law can protect the natural environment and conserve its production potential. From authors' summary.

**Keywords** Africa; charcoal production; conflict resolution; external organisational arrangements; farming systems; forestry; journal article; natural forest

**Database** TROPAG

**A45**

**Author** Dei, G.J.S.

**Title** A forest beyond the trees: tree cutting in rural Ghana.

**Source** *Human Ecology New York* 20(1): 57-88 (6 tab.; 76 ref.).

**Year** 1992

**Language** English

**Abstract** This paper examines the complexity of human forces involved in tree cutting in a Ghanaian forest region. It provides evidence to link the indiscriminate tree-cutting activities of some local communities to the gradual loss of communal control over land and the replacement of kin group control with state property regimes. It points to the

interrelated factors of the state's promotion of an export-led development strategy, the intensification of agricultural commercialization, and household and group variations in access to land as all having deleterious impacts on local traditions of sustainable forestry.

**Keywords** Africa; deforestation; external organisational arrangements; institutional development; internal regulations; journal article; natural forest; socioeconomic issues

**Database** CABI

**A46**

**Author** Dennis, R.R.

**Title** Social report on Gedo community forestry project.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.265-271 (Ed. Raintree JB, 7 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya

**Year** 1987

**Language** English

**Abstract** A practical description of the social characteristics and land use systems of the Gedo Region of Somalia, with particular reference to the Luuq District. Topics covered include land tenure, cropping patterns, fallow systems, tree planting practices and species used, the livestock production system, salient features of the wood collecting network and the potential for community participation in an extensive woodlot establishment project (including agroforestry techniques).

**Keywords** Africa; animal production; community woodlot; crop production; social organisation; technical methods; workshop proceedings

**Database** CABI

**A47**

**Author** Denniston, D.

**Title** Defending the world with maps

**Source** *World Watch* Jan/Feb 1994 pp: 27-31.

**Year** 1994

**Language** English

**Abstract** The philosophy of the European colonist's to label any land as uninhabited if no Europeans lived there still exists today. In Central America the current problem is of cattle ranchers, loggers and landless peasant farmers encroaching on Indian homelands. Securing land protection for the indigenous people is seen as fundamental to preserving their way of life and related ecosystems. This paper describes the process of participatory mapping of the homelands in Honduras and Panama. The initial workshop (of locals and assisting individuals) selected local surveyors and decided the process for mapping. The resulting maps from the surveyors (who traversed the areas mapping the land with local residents) were clarified and analysed and combined into a single map at subsequent workshops. The information was then presented at the national level to initiate the political campaign for land rights. International conservation groups have backed the process as the areas include the majority of remaining forest, savannah and wetlands. The participatory mapping process has been seen as a positive first step towards land protection for the indigenous people with increasing threats from outsiders including in Panama, the Pan American highway.

**Keywords** environmental conservation; forest margins; indigenous knowledge; institutional development; journal article; land use patterns/ mapping; Latin America; natural forest

**Database** NRI

**A48**

**Author** Dielen, H.

**Title** Report of an agroforestry survey in three villages of northern Machakos, Kenya.

**Source** Wageningen Agricultural University, The Netherlands and ICRAF, Kenya.

**Year** 1982

**Language** English

**Abstract** The report considers the Kamba area of Kenya, with rainfall averaging between 700-900mm. The land has marginal agricultural potential, having a natural vegetation of dry woodland savanna. The major crops are maize and pulses and some animals are kept. In the past, only farmed land was privately owned, and grazing land was open for all Kamba. Management has moved from the clan to the household, or in the case of shared grazing areas, by particular limited arrangements between a small number of households. With the change from agro-pastoralism to subsistence farming has come a change to privately owned grazing areas which are also a source of firewood and other tree/shrub produce. Several households will share the privately owned grazing areas but rights to trees in the area remain individual.

**Keywords** Africa; agroforestry; crop production; fuel wood; internal regulations; report; savanna woodland; tenural change and evolution

**Database** ODI

**A49**

**Author** Dove, M.R. and Raintree, J.B.

**Title** The perception of peasant land rights in Indonesian development: causes and implications.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.265-271 (Ed. Raintree JB, 7 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya

**Year** 1987

**Language** English

**Abstract** The thesis of this paper is that the perception and treatment of peasant rights is determined largely by the interplay between the interests of political-economic elites, development officials, and the nation as a whole. Attention to the reality of this situation, as opposed to the ideal of how development programmes are supposed to work, offers important lessons for the design of all programmes involving peasants and land. One major conclusion of relevance is drawn for development planning in agroforestry. Any government project involving the clearing, registration, redivision, resettlement (etc.) of land is potentially disastrous for the local peasant land owners. More generally, in any sort of government sponsored programme of land development, those who have no special access to information and influence will lose to those who do have such access - regardless of the relative justice of their cases. One immediate implication of this conclusion is that agroforestry programmes, at least in Indonesia, should focus at the level of the individual farmer on extant holdings. More ambitious programmes, involving relocation of people and redistribution of land, should be avoided. A second implication, therefore, for both the government and international aid agencies, is that greater expenditure does not guarantee better development; experience in Indonesia has shown that it is difficult to spend large amounts of money without being, in effect, destructive. A third implication, of special relevance for international aid agencies, is that appearance and reality in the developing world are often not the same thing; aid agencies need to be informed by sophisticated knowledge of the country concerned (in particular of its political economy) before aid decisions are made.

**Keywords** aid allocation; Asia; external organisational arrangements; indigenous knowledge; institutional development; socioeconomic issues; workshop proceedings

**Database** CABI

**A50**

**Author** Duinker, P.N., Matakala, P.W. and Zhang, D.

**Title** Community forestry and its implications for Northern Ontario.

**Source** *For-Chron. Ottawa : Canadian Institute of Forestry*, 67(2): 131-135.

**Year** 1991

**Language** English; Summary in: French

**Abstract** Community forestry is becoming an increasingly important policy issue for provincial governments in Canada. Many single-industry communities in the northern parts of the provinces, surrounded as they are by forests, are looking to forest resources for possible

economic diversification and stability. At the same time as there is increasing interest, there is little understanding about what community forestry could and should be for communities surrounded by Crown land forests. This paper looks at some definitions and dimensions of community forestry, as well as reviewing briefly some experiences with it. We examine various ways in which community forestry might be different from provincial government forestry and industrial forestry, and reflect on whether community forestry could lead to improvements in forest management. We conclude with some thoughts on potential future directions for community forestry in Ontario.

**Keywords** external organisational arrangements; journal article; natural forest; North America; organisational development; plantation; social organisation; sustainable development/management

**Database** AGRICOLA

**A51**

**Author** Dupraz, C.

**Title** Prospects for easing land tenure conflicts with agroforestry in Mediterranean France: a research approach for intercropped timber orchards.

**Source** *Agroforestry-Systems* 25(3): 181-192 (23 ref.).

**Year** 1994

**Language** English

**Abstract** Agroforestry plots offer the opportunity to combine annual agricultural production and long-term wood capitalization. The fallow scheme now in operation in Europe intends to reduce the surplus of agricultural products. Agroforestry management could be a valuable alternative to fallow or to forestry plantations on agricultural land. Agroforestry is attractive to agricultural landowners in Mediterranean France, as agroforestry stands are less costly than forestry plantations, are less prone to fire hazards, provide agricultural returns from intercropping during the first twenty years and have many environmental benefits. An experimental network of on-farm agroforestry plots has been set up since 1988 in the Mediterranean part of France. These plots include 7 grazed paddocks (silvopastoral systems with sheep or cows) and 2 ungrazed field (silvoarable systems) established with 'best-bet' species which included walnut (*Juglans regia*) on deep lowland soils, wild cherry (*Prunus avium*) on hill and low mountain sites, and red oak (*Quercus rubra*) at higher locations. Tree stocking in agroforestry plots was 100 and 400 stems/ha, and on traditional forestry plots 1100 stems/ha. Trees were protected with plastic tree guards, spot weeded with glyphosate for the first 3 yr, and intercropped with forage species. Early thinning was applied to the denser plots. The trials have gained support both from landowners and tenants: the former expect a high value treestock, while the latter have a free use of the space between plantation lines. Plantations have been designed to allow easy mechanical intercropping. First results from two experimental sites (at Pomy and Portes, both in the Montpellier region) are discussed; these sites were grazed with sheep and planted with a number of tree species (including multipurpose trees). The main tree species was *P. avium* at Pomy, intercropped with grass sward, and *Q. rubra* at Portes, intercropped with cocksfoot (*Dactylis glomerata*). The growth of the trees in the agroforestry plots was much higher than in the control forestry plots. An appendix is included listing tree species used in all the experimental plots, and indicating their uses.

**Keywords** agroforestry; animal production; crop production; Europe; farming systems; intercropping; journal article; project methodology; technical methods; timber/ pole products; trees on farms

**Database** CABI

**A52**

**Author** Fahrenhorst, B., Altan, T., Ehlers, K. and Scheumann, W.

**Title** The importance of traditional land and forestry laws for the conservation and rehabilitation of natural resources.

**Source** *Forschungsberichte des Bundesministeriums für Wirtschaftliche Zusammenarbeit*. No. 105, 277pp. (8 fig., 2 tab.; 42pp. of ref. ISBN 3-8039-0407-2)

**Year** 1992

- Language** German
- Abstract** The study examines how traditional property rights, tenure and forestry laws in developing countries affect the possibilities of conserving tropical forests, land and other natural resources. A detailed literature survey was supplemented by three case studies in Ecuador, India and Tanzania and by discussions with experts. Under traditional systems, periods of fallow were adequate for resource renewal. Under current ecological, social and economic pressures more active conservation measures such as planting are needed. Traditional property rights prevent planting on communal land or on rented land. Where forests are state owned there may be conflicts between official state laws and traditional rights of use. Where land is state owned or where ownership is not clearly defined, the user has no incentive to conserve. Measures which could be taken to encourage the conservation and rehabilitation of land and forestry resources are proposed and the role of development aid in promoting such measures is discussed.
- Keywords** Africa; Asia; case studies; environmental conservation; external organisational arrangements; internal regulations; journal article; Latin America; natural forest; plantation; social organisation; sustainable development/ management
- Database** CABI
- A53**
- Author** Follis, M.B. and Nair, P.K.R.
- Title** Policy and institutional support for agroforestry: an analysis of two Ecuadorian case studies.
- Source** *Agroforestry Systems* 27(3): 223-240; (34 ref.).
- Year** 1994
- Language** English
- Abstract** Institutional and policy issues are now recognized as high priority items in agroforestry research. However, such studies based on actual field experiences seldom seem to have been undertaken. To help address this deficiency, a study was undertaken in Ecuador to evaluate institutional and policy impacts on agroforestry dissemination using two field projects as case studies. The projects were in contrasting ecological locations: the Amazonian lowlands (the Coca Agroforestry Project, 1985-90), and the Andean highlands (the PROMUSTA project, started in 1986). The Coca Project (initiated by the Ministry of Agriculture and the National Forestry Directorate, and substantially supported by USAID) aimed to increase wood, coffee and livestock production by colonist families, by (1) incorporating valuable indigenous tree species (primarily *Cordia alliodora* and *Jacaranda copaia*) in coffee (*Coffea canephora*) and pasture, (2) introducing new coffee management and harvesting practices, and (3) introducing *Desmodium ovalifolium* to improve pasture and as a ground cover for coffee. The PROMUSTA project (initiated by CARE and the Ministry of Agriculture) aimed to promote soil conservation techniques and agricultural sustainability on sloping lands using various agroforestry techniques. The impact of policy and institutional constraints (such as land tenure, research and extension support, marketing and pricing, and credit) on the implementation of these projects was assessed based on interviews with farmers and project officials as well as analyses of secondary data. The Coca project was found to be adversely impacted by the lack of extension, product marketing, and credit availability. The principal institutional constraints for the Andean project included legal obstacles to farmland procurement, inadequate extension, little state-financial assistance, and limited affordable credit. The relevance of these issues was location specific: while access to land was not a serious constraint in the lowlands, it was a major issue in the highlands. The study validates the premise that policy and institutional evaluations should become an essential component of the design and implementation of agroforestry projects. Although the components of a sound policy framework might be similar in most developing country situations, it may not be possible to evolve universally applicable procedures for agroforestry policy formulation because of the location specificity of the promoted systems and the institutional issues related to their adoption.
- Keywords** CARE; crop production; external organisational arrangements; institutional development; journal article; Latin America; policy; sustainable development/ management; taungya systems; USAID

**Database** CABI

**A54**

**Author** Forster, N. and Stanfield, D.

**Title** Tenure regimes and forest management: case studies in Latin America.

**Source** *LTC Paper No. 147* 45 pp. (25 ref., ISSN 0084-0793), Land Tenure Centre, Wisconsin University, USA

**Year** 1993

**Language** English

**Abstract** A report is provided of the workshop on tenure issues in forest management in Latin America and the Caribbean held in Washington (USA), 30-31 July 1992. The workshop focused on specific geographic areas (called resource management areas or RMAs), which had been identified as important for the conservation and maintenance of forests. RMAs include parks, national forests, biosphere reserves, areas controlled by indigenous groups and other areas designated for sustainable forest resource use and protection. Guidelines for a sustainable utilisation of forest resources, and an action-research agenda are suggested. Ten case studies examining 3 types of primary forest managers are presented in the annexes.

**Keywords** case studies; environmental conservation; external organisational arrangements; internal regulations; Latin America; natural forest; paper; research requirements; sustainable development/ management

**Database** Tropag

**A55**

**Author** Fortmann, L.P. and Bruce, J.W.

**Title** *Whose trees? : proprietary dimensions of forestry*

**Source** 341 pp. Westview Press Inc, Boulder, Colorado, USA.

**Year** 1988

**Language** English

**Abstract** This book brings together theory and case studies, from many authors, on the relationship between tenure and trees in industrial and developing countries. Its production was driven by demands from applied social science and development to better understand existing relationships and the impacts of development on tenure rights and sustainability. There are nine chapters; I Why Land Tenure and Tree Tenure Matter - justification for the book, definitions of key concepts such as common property resources, and an outline on the impacts of tree tenure on ecosystems, standards of living, preservation, protection and planting of trees and beneficiaries and conflicts. ; II Tree Tenure, including its importance in agroforestry, its relationship to customary law and religion and property rights; III Tree and Tenure Interactions, of agricultural production and social organisation; IV Communities and Trees, existing rights and responsibilities of local communities to trees and forests and the impact of development programs; V Tenure and Deforestation examining issues affecting deforestation including development, cultural practices and the wood fuel crisis; VI Tenure and Afforestation, including the interpretations of planted trees under customary law, impacts on social organisation and participation; VII The Gender Division of Tenure, women's rights and interests in trees and the implications of agroforestry; VIII The State and the Forest, examples of forest ownership and relationships between forest users and the state; IX The Daily Struggle for Rights - concluding chapter. Case studies are from Africa (15), Asia (11), Caribbean (1), Europe (1) Latin America (5), North America (1), Oceania (1), geographically non-specific (4).

**Keywords** Africa; agroforestry; Asia; book; Caribbean; environmental conservation; external organisational arrangements; Europe; gender issues; indigenous knowledge; internal regulations; Latin America; North America; natural forest; Oceania; plantation; social organisation; tenural change and evolution; trees on farms.

**Database** NRI



Section A - Tenure Rights

**A56**

**Author** Fortmann, L.P. and Nhira, C.  
**Title** Local management of trees and woodland resources in Zimbabwe: a tenurial niche approach.  
**Source** *OFI-Occasional-Papers*. 1993, No. 43, 36 pp. (4 pp. of ref. ISBN 0-85074-127-0). Oxford Forestry Institute; Oxford; UK.  
**Year** 1993  
**Language** English  
**Abstract** The study begins from relatively new conceptual starting points: the social forest (which considers all trees used by local people regardless of their location, density, species or size) and the tenurial niche (which considers detailed property relations, including the complexities that tree tenure introduces). Based on interviews of key informants, literature, and rapid rural appraisal, the prevalence of 4 management mechanisms (sacred controls, pragmatic controls, civil contract, and new institutions and rules) are examined across various tenurial niches and strategies are proposed for improving management and reducing conflict in each niche.  
**Keywords** Africa; conflict resolution; external organisational arrangements; internal regulations; paper; rapid appraisal; social organisation; tenural change and evolution  
**Database** CABI

**A57**

**Author** Fortmann, L.P.  
**Title** The tree tenure factor in agroforestry with particular reference to Africa.  
**Source** *Agroforestry Systems* 2(4) 229-251 (86 ref.).  
**Year** 1985  
**Language** English  
**Abstract** A review of variation in rights relating to trees (ownership/inheritance, planting, utilization, etc.) and the people involved (state, groups, households, individuals).  
**Keywords** Africa; external organisational arrangements; internal regulations; journal article; social organisation; socioeconomic issues  
**Database** CABI

**A58**

**Author** Fortmann, L.P. and Raintree, J.B.  
**Title** Tree tenure: an analytical framework for agroforestry projects.  
**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.17-33 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya. A modified version of this paper has been published in: *Agroforestry Systems* (1985) 2, 229-251 (53 ref., ISBN 0-934519-01-3)  
**Year** 1987  
**Language** English  
**Abstract** A review, in which the major factors involved in tree tenure are analysed. (1) Its components. Four major categories are identified: the right to own or inherit; the right to plant; the right to use; and the right of disposal. (2) The classes of right holders involved: the state; groups - geographical groups, kin groups, or non-kin groups such as corporations or cooperatives; households; and individuals. (3) Factors affecting who may exercise rights: the nature of the land tenure system (right holders as tree planters, landowners, tenants, borrowers, squatters, pledgees or mortgagers, and women). Finally, the implications of tree tenure for agroforestry projects are examined with particular respect to avoidance of the following problems: loss of rights; protection of trees; ability to participate in a project; and the use of tree planting to establish rights to land.  
**Keywords** external organisational arrangements; gender issues; geographically non-specific; internal regulations; social organisation; socioeconomic issues; workshop proceedings  
**Database** CABI

A59

**Author** Francis, P.A.  
**Title** Land tenure systems and agricultural innovation: The case of alley farming in Nigeria.  
**Source** *Land Use Policy* 4(3):305-319.  
**Year** 1987  
**Language** English  
**Abstract** The paper takes the case of the Okwe area of Imo state, Nigeria. If trees are deliberately planted, they belong to the person who planted them. Self-sown trees on individual holdings are the exclusive property of the landholder. Economic trees growing wild on communal land belong to the land-holding group as a whole. An individual farming an area on which tree is growing, has exclusive rights over the tree during period of cultivation. There are three main categories of land: Around the compound: there is a multi-storey cropping system with kola, pawpaw, coconut, and citrus trees over annual crops. The compound area is intensely cultivated with household waste and animal manure. Near farms: here cassava, *Telfaria* and other vegetables are cultivated in alternate years. Some of the land may have palms and fruit trees. Distant land: grows cassava, maize, melon and bitter yam. There is a six year cropping cycle. Here too stands of raffia palms are preserved. Land ownership is predominantly individual but there are collective mechanisms for the management of the six year rotations on the distant land by adjacent subvillages.

**Keywords** Africa; alley farming; external organisational arrangements; farming systems; internal regulations; journal article

**Database** ODI

A60

**Author** Francis, P.A.  
**Title** Land tenure systems and agricultural innovation. The case of alley farming in Nigeria.  
**Source** *Land Use Policy*.4(3):305-319.  
**Year** 1987  
**Language** English  
**Abstract** Alley farming is an agroforestry technique which requires access to land and the rights to plant, own and utilize trees. This paper considers the implications of land tenure systems in south-west and south-east Nigeria for the acceptability and viability of alley farming. Considerable variation in the rules governing the use and control of land is seen to exist within and between the two regions, and any one tenure system may include a number of categories of land to which different patterns of use and tenure apply. Broadly speaking, tenants in parts of south-west Nigeria may be disadvantaged as their rights over hired land do not necessarily include the right to plant trees. In the south-east, the existence of communal systems of landownership and management on some categories of land undermines the ability to plant trees and the incentive to invest labour in the maintenance of soil fertility.

**Keywords** Africa; alley farming; external organisational arrangements; farming systems; internal regulations; journal article

**Database** CABI

A61

**Author** Francis, P.A. and Atta Krah, A.N.  
**Title** Sociological and ecological factors in technology adoption: fodder trees in southeast Nigeria.  
**Source** *Experimental Agriculture* 25(1): 1-10 (1 tab., 5 ref.) Farming Systems Series No. 18.  
**Year** 1989  
**Language** English  
**Abstract** Farmer-managed trials with browse trees were undertaken at two locations in southeast Nigeria. The fast-growing tree species *Leucaena leucocephala* and *Gliricidia sepium* were either interplanted with crops as alley farms or planted in pure stands as intensive feed gardens. At both locations, most of the trees established successfully under farmer management. However, the quality of establishment was uneven, and the rate of utilization generally poor, especially at one site. The limited success of the trials is traced

to a number of related sociological, institutional and edaphic factors. These include poor soil fertility; the incompatibility of established cropping patterns and rotation practices with the planting of trees on farms; the division of labour and organization of decision making within the household; and land and tree tenure rules. It is argued that farmer-managed trials are necessary to reveal the importance of sociological and institutional factors in farmers' decision making, and that such trials require a high level of farmer autonomy in their management.

**Keywords** Africa; alley farming; crop production; external organisational arrangements; internal regulations; journal article; social organisation; trees on farms  
**Database** CABI

**A62**

**Author** Francis, P.A. and Bulfeta, G.  
**Title** Land and tree tenure in humid West Africa: a bibliography.  
**Source** International Livestock Centre for Africa; Addis Ababa Ethiopia 33pp. (ISBN 92-9053-091-X)  
**Year** 1987  
**Language** English  
**Abstract** This bibliography covers land and tree tenure systems in countries all or part of which are in the humid zone of West Africa. A national, rather than strictly ecological approach was chosen to reflect the focus of much of the literature. Within the region diverse customary systems and land use modes have been affected by national policies of different ideologies and degrees of effectiveness. 510 references are listed alphabetically by author, and subject and geographical indexes are also provided.

**Keywords** Africa; bibliography; external organisational arrangements; farming systems; ILCA; internal regulations; policy  
**Database** CABI

**A63**

**Author** Galan, B.  
**Title** Agroforestry as a contribution to sustainable rural development in fragile ecosystems of Latin America and the Caribbean; legal and institutional implications.  
**Source** *Land-Reform,-Land-Settlement-and-Cooperatives.1-2(1-14)* (31 ref.) Food and Agriculture Organization (FAO); Rome; Italy.  
**Year** 1990  
**Language** Spanish  
**Abstract** In order to prevent environmental degradation occurring in fragile ecosystems in Latin America and the Caribbean, and to achieve sustainable rural development, the introduction of agroforestry practices plays an essential role. Agroforestry aims at establishing a balance between the exigencies of agricultural development and the conservation of the environment. The implementation of agroforestry programmes is based on technical knowledge concerning the soil, the climate, forest cover and various forestry activities, and requires an adequate socioeconomic and environmental system, the political recognition of its advantages, and frequently a reform of the legal system. As there is no established norm in the region to promote specifically agroforestry activities and land use planning, it is necessary to adjust existing legislation to recently adopted policies aimed at protecting natural resources. An important precondition for agroforestry is the provision of security of tenure. This could be resolved through policies which guarantee equal access to resources and the creation of efficient institutions for titling and cadastre. The establishment of a system which allows the separation of the ownership of land from the ownership of trees would open new perspectives for peasants without land. It also would give due recognition to the importance of trees in the cultivation system. In order to be effective, agroforestry requires that the peasants need clearly established rights to the land and to the trees they plant on it. The most important programme launched in recent years relevant to the field of agroforestry is the Tropical Forestry Action Plan. The role of this plan in agroforestry development in Latin America and the Caribbean is briefly discussed, and the role of the programme Technical

- Cooperation among Developing Countries (TCDC) in the exchange of experiences and knowledge in the field of agroforestry noted.
- Keywords** Caribbean; external organisational arrangements; institutional development; journal article; Latin America; policy; TCDC; tenural change and evolution; Tropical Forestry Action Plan
- Database** CABI
- A64**
- Author** Gayfer, J.
- Title** The success of Vanuatu's local supply plantation programme in meeting the needs of the nation and its communities.
- Source** *Social Forestry Network, Overseas Development Institute, UK. No. 2a, 24pp (14 ref.).*
- Year** 1986
- Language** English
- Abstract** The paper reviews the local supply plantation programme in Vanuatu the implications of customary land tenure which slowly emerged as it became clear that the inhabitants were more interested in making land-bids through the establishment of small plantations than in the resulting timber. Furthermore, inhabitants have continued to prefer cost-free housing materials over the sawn timber the plantations were designed to produce, so that demand has not grown at the pace expected. It is concluded that the programme must take local needs and interests more closely into account in planning the next phase.
- Keywords** external organisational arrangements; forestry; internal regulations; Oceania; organisational development; paper; plantation; social organisation; tenural change and evolution
- Database** CABI
- A65**
- Author** Gayfer, J. and Shanks, E.
- Title** Northern Vietnam: farmers, collectives and the rehabilitation of recently reallocated hill land
- Source** *Network Paper. Social Forestry Network Overseas Development Institute (UK). 1991, 12a, 30 pp. (tables, 13 ref.; summary (En))*
- Year** 1991
- Language** English
- Abstract** Following an outline of changes in land tenure in northern Vietnam, the experience of a social forestry programme undertaken by the joint Vietnam/Sweden Plantation and Soil Conservation Project in 3 provinces of the Red River delta in northern Vietnam is reported. The problems and potential of tree growing on this recently reallocated land are examined. Attention is given to the variety of users of forest and hill land and their tenure status, stressing the need for modification through land reform. Options for allocating land to individual farm households, cooperatives and state enterprises are discussed. Case studies of individual farmers and cooperatives involved in tree planting on hill land are presented. It is suggested that proper monitoring and evaluation of the social forestry activities are required in order to achieve the objective of rehabilitating vast areas of forest land in northern Vietnam.
- Keywords** Asia; case studies; external organisational arrangements; organisational development; paper; plantation; reforestation; social organisation; Vietnam/Sweden Plantation and Soil Conservation
- Database** TROPAG
- A66**
- Author** Godoy, R.A.
- Title** Determinants of smallholder commercial tree cultivation.
- Source** *World Development Oxford* 20(5):713-725.
- Year** 1992
- Language** English

**Abstract** In recent years, developing countries and donor organizations have tried to arrest smallholder deforestation and rural poverty by promoting tree cultivation. This article uses data from over 13 countries to ascertain how output prices, tenure, information, credit, technology, government policies, and labour viability affect smallholder commercial tree cultivation. Data and comments from a variety of references on Africa, Latin America and Asia suggest that output prices play the key role in smallholder commercial tree cultivation, even in the face of insecure tenure. Output prices, however, are a necessary but not a sufficient condition to induce smallholders to undertake commercial fuelwood cultivation. It is therefore concluded, that smallholders, on their own, have taken up commercial tree cultivation by adopting and fitting new technology into their established farming practices, for reasons other than output prices. Tenure may be another influential factor.

**Keywords Database** Africa; Asia; economics; forestry; journal article; Latin America; trees on farms  
CABI

**A67**

**Author** Gold, M.A., Sheng, T.C., Avery, M.E., Malmgren, R.C., Fiedler, L., Wilken, G.C., Bentley, W.R., Betters, D.R., Schmehl, W.R., Budowski, G., Lynch, D.L., Weber, F., Eitemiller, D.R. (ed.) and Lynch, D.L. (ed.)

**Title** Proceedings of the 1986 International Agroforestry Shortcourse. Selected papers and abstracts from the shortcourse conducted August 10-23, 1986, at Colorado State University, USA.

**Source** 178 pp. Colorado State University; Fort Collins, Colorado 80523; USA. (192 ref.)

**Year** 1986

**Language** English

**Abstract** The development of this shortcourse was sponsored and carried out by the International School of Forestry and Natural Resources and the Department of Forestry, College of Forestry and Natural Resources, Colorado State University. The publication resulting from it contains a selection of the major course themes. There are 11 papers: The role of trees in agroforestry, Gold, M.A.; Watershed concerns in agroforestry, Sheng, T.C.; Legumes and nitrogen fixation, Gold, M.A.; Soil fertility and conservation in agroforestry systems, Avery, M.E.; Soil properties for agroforestry, Malmgren, R.C.; Pest control in agroforestry systems, Fiedler, L.; Tenure in agroforestry systems, Wilken, G.C.; Social factors that affect agroforestry: some lessons from rural development, Bentley, W.R.; Economic factors affecting agroforestry, Betters, D.R.; The farming systems approach to developing appropriate technologies for agroforestry systems, Schmehl, W.R.; and Agroforestry research design, Bentley, W.R. Five papers are presented only as abstracts: Agroforestry defined, Budowski, G.; Beekeeping in agroforestry systems, Lynch, D.L.; The taungya system of agroforestry, Budowski, G.; Site preparation within agroforestry projects, Weber, F.; and Extension and communication in agroforestry, Lynch, D.L.

**Keywords** agroforestry; economics; farming systems; geographically non-specific; workshop proceedings

**Database** CABI

**A68**

**Author** Greif, F.

**Title** Forest grazing in Austria from the agricultural, forestry and economic standpoints.

**Source** *Monatsberichte uber die Osterreichische Landwirtschaft* 39(7): 515-526; (11 ref.).

**Year** 1992

**Language** German

**Abstract** An account of definitions of (forest) pasture and the various legal traditional forms of pasturage in Austria. Aspects of forest pasturage on one's own land, on other people's land, and on community land are outlined and the relevance and appropriateness of forest grazing in today's conditions are discussed from the agricultural, forestry and economic standpoints. Some tentative proposals are made for reconciling the conflicts which exist in the present situation of grazing rights in mountain forests in Austria.

**Keywords** animal production; conflict resolution; Europe; forestry; journal article; natural forest; plantation

**Database** CABI

**A69**

**Author** Gujral, R.S., Wiersum, K.F., Khemnark, C., Kartasubrata, J., Thomas, T.H., Sangkul, S., Willis, R.W., Chaturvedi, A.N., Sumitro, A., Hoang, H.o.e., Petmak, P., Mellink, W., Rao, Y.S. and MacDicken, K.G.

**Title** Agroforestry in Asia and the Pacific.

**Source** *RAPA-Publication.*, No. 1991-5, 304 pp. Joint publication with Winrock International Institute for Agricultural Development and FAO Regional Office for Asia and the Pacific, Bangkok, Thailand.

**Year** 1991

**Language** English

**Abstract** A report and 22 papers are presented from a meeting held at the FAO Regional Office, Bangkok, from 15 to 18 May 1990, and convened to discuss agroforestry in the Asian-Pacific region. Some 50 professionals were present from 12 countries. The consultation discussed the following substantive agenda items: strategies for agroforestry promotion; agroforestry systems and technologies practised in the Developing Countries of the Asia-Pacific region (including new and non-traditional systems); problems and constraints; research needs; and economic modelling. The points raised on these subjects are set out briefly. The papers presented are in 3 groups. The first group, 'Status of agroforestry', contains 13 papers on agroforestry in Bangladesh (with particular reference to economics and tenurial issues), China, India (scope and strategies), Indonesia (development and practices), Lao (the agroforestry development programme), Nepal, Pakistan, Papua New Guinea, Philippines, Sri Lanka, Thailand and Vietnam. The second group, of 6 papers, is entitled 'Agroforestry development'. The papers are: (1) Types of agroforestry systems in Asia-Pacific region (Gujral, R. S.); Promoting agroforestry: framework for a national plan (Wiersum, K. F.); Multipurpose tree species in agroforestry: what do we really know? (MacDicken, K. G.; Khemnark, C.); Planning and implementation aspects based on some successful agroforestry projects in Indonesia (Kartasubrata, J.); Assessing the economic potential of agroforestry systems (Thomas, T. H.; Sangkul, S.; Willis, R. W.); and Agroforestry in India with particular reference to economic factors (Chaturvedi, A. N.). The last group of papers consists of 3 'Case studies': Economic evaluation of two agroforestry projects in Indonesia (Sumitro, A.); Experimental agroforestry models in Vietnam (Hoang Hoe); and Effects of intercropping on tree and crop production in Sisaket, Thailand (Petmak, P.).

**Keywords** agroforestry; Asia; conference proceedings; economics; FAO; Oceania

**Database** CABI

**A70**

**Author** Hafner, J.A. and Apichatvullop, Y.

**Title** Farming the forest: managing people and trees in reserved forests in Thailand.

**Source** *Geoforum* 21(3): 331-346; (4 fig., 2 tab., 26 ref.).

**Year** 1990

**Language** English

**Abstract** The accelerated rate of global forest depletion poses a series of complex problems for development planners and resource managers in many developing nations. Among the issues being confronted are the need for foresters to gain new skills in managing human resources, to design forest use systems which are both productive and sustainable, and to ensure that the benefits of these systems are distributed more equitably. In the last 25 years reserved forest lands in Thailand have been seriously degraded through deforestation, overcutting, and the illegal encroachment of poor and landless farmers. To counter these forces the government proposed two new forest management programmes in 1975 which would grant certificates of use or limited land use rights to some degraded forest land in areas of national reserved forest. The paper examines the use of this policy in the Forest Village Project [which uses a taungya system] and the National Forest Land Allotment Project in northeast Thailand. Since their implementation

in the Dong Mun National Reserved Forest 8 years ago, these projects have been plagued with conflicts over de jure and de facto land rights. It is argued that various problems which have arisen are caused by government failures correctly to assess population pressures on land in the northeast and to modify programme design better to fit community needs and capabilities, and ensure equitability in the distribution of benefits.

**Keywords** Asia; conflict resolution; external organisational arrangements; institutional development; journal article; natural forest; policy; socioeconomic issues; sustainable development/management; tenural change and evolution

**Database** CABI

**A71**

**Author** Hammer, T.

**Title** Wood for Fuel - Energy Crisis Implying Desertification: The case of Bara, Sudan

**Source** In: *Whose Trees? Proprietary Dimensions in Forestry* pp. 176-181 (Eds. Fortmann, L & Bruce, J) US: Westview Press.

**Year** 1988

**Language** English

**Abstract** The study concerns Bara, in Kordofan, Sudan. Here, *Acacia senegal* constitutes the main tree cover. The inhabitants are sedentary cultivators based in village settlements. The general land distribution practice sees the allocation of three to four plots of land per household, with the reserve remaining under the village head's control, to be allocated to new arrivals, or otherwise designated as common property. Family plots pass from father to son and deserted plots revert to common property. In practice, village heads are now reluctant to give newcomers plots. When they do so, they do not give the newcomers rights over the gum trees present on their plots, but appropriate the profit from the trees for themselves. They also lay claim to gum trees on open or government land. Each long-established household retains the right to tap its own gum trees, and to prosecute trespassers. Originally, the cultivation-fallow-gum tapping-charcoal burning system was strictly enforced, with long swidden-fallow periods maintained. Forest laws, implemented by the Forest Office in Bara, dictated that no trees should be cut except for the purpose of cultivation and with the Office's permission. However, many trees are now cut daily on forest land, without permission. The complete cycle has halved from around 18-20 years to only 8-10, and the swidden-fallow period has contracted from 10-15, to 1-3 years. The shortened swidden-fallow period is both a response to and a cause of worsening ecological conditions. It interacts with a complicated set of factors, resulting from both climatic and human conditions. Diminished rainfall (1968-76) caused a decline in gum yields, so cultivators cut down the trees and began growing crops early in order to make up for lost income.

**Keywords** Africa; charcoal production; environmental degradation; external organisational arrangements; fallow systems; internal regulations; non-timber products; social organisation

**Database** ODI

**A72**

**Author** Hardin, G.

**Title** The tragedy of the commons

**Source** *Science* 162: 1243-1248

**Year** 1968

**Language** English

**Abstract** This article follows the Malthusian philosophical argument and predicts impending disaster for communally used resources as demand for these resources increases. The tragedy of the commons is referred to with the example of the potential benefit an individual has to gain from increasing their herd on a common (in an open access situation). This is shown to outweigh any loss incurred from overgrazing which would be shared by all users, not just the individual. It is argued that there are no technical solutions to some problems, and that the problems inherent in management of use of the commons are similar to those faced in management of pollution and population growth.

The article goes on to infer the necessity for either private ownership, or state control of resources for successful management. In the case of communally used resources the inference is that only state control measures can ensure sustainable management of the resource.

**Keywords** environmental degradation; geographically non-specific; internal regulations; journal article; social organisation; tenural change and evolution

**Database** NRI

**A73**

**Author** Hoekstra, D.A.

**Title** The use of economics in diagnosis and design of agroforestry systems.

**Source** *ICRAF. Feb 1985.* 85 p. International Council for Research in Agroforestry, Nairobi (Kenya).

**Year** 1985

**Language** English

**Abstract** The paper highlights on the diagnosis of existing land management systems and design of agroforestry options. It is divided into three sections. The role of economics in the diagnosis and design process. This section looks at macro and micro level socio-economic information requirements as well as the analysis of the information. Cost benefit analysis of agroforestry technologies is discussed in detail. The last section deals with decision making in the absence of numerical data. It attempts to rationalize the choice of technologies to be researched or to be disseminated for development.

**Keywords** agroforestry; economics; external organisational arrangements; geographically non-specific; ICRAF; report; technical methods

**Database** AGRIS

**A74**

**Author** Holmgren, P., Masakha, E.J. and Sjöholm, H.

**Title** Not all African land is being degraded: a recent survey of trees on farms in Kenya reveals rapidly increasing forest resources

**Source** *Ambio (Sweden)* 23(7): 390-395; (figs, photos (most in colour), tables, 23 ref.; summary (En), ISSN 0044-7447). Department of Forest Soils, Swedish Univ. of Agricultural Sciences, Uppsala, Sweden.

**Year** 1994

**Language** English

**Abstract** A survey of woody biomass on farmland in Kenya was conducted in 1991 and 1992. The survey covered the 10 million ha of high-potential land, where 80% of the country's population lives. Contrary to prevailing beliefs, a rapid increase of planted woody biomass between the years 1986-1992 was discovered. The annual increase was estimated at 4.7%. Wood on farmlands can become a major source of raw materials for the wood industry, since the standing volume is larger than that found in conventional forests. Previous conclusions, i.e. that the human population density is positively correlated with the volume of planted woody biomass, were confirmed by the survey which found a high correlation at the district level. Some pessimistic opinions on land use development in Kenya are false. An increase in the fuelwood deficit and land degradation due to rapid population growth was not observed, and Kenyan farmers seem to apply wise and sustainable management practices, including tree growing. Most high-potential agricultural land in Kenya is privately owned. It is suggested that the land-tenure system is a significant reason for the recent development. Authors' summary.

**Keywords** Africa; external organisational arrangements; journal article; reforestation; sustainable development/ management; trees on farms

**Database** TROPAG

**A75**

**Author** Huntingford, G.W.B.

**Title** The Galla of Ethiopia. The Kingdoms of Kafa and Janjero.

**Source** *Ethnographic Survey of Africa, North Eastern Africa, part 2*, (Ed. D. Forde) International African Institute, London.



**Year** 1955  
**Language** English  
**Abstract** The Galla live on the Ethiopian plateau, and enjoy heavy seasonal rain. They are primarily growers of cereals and legumes. For the Galla, land in theory belongs to the tribe. However, some degree of rights to land and forest can be obtained through occupation 'accompanied by the hanging of honey-barrels in the forest; but no man may enclose for himself more than he can cover with a spear-throw or stone's throw'. The Galla have a great reverence for Nature and 'groves of trees, and individual trees, especially *Ficus sycamorus*, near huts and villages are indeed sacred'. These are often planted for spirits as an act of piety.  
**Keywords** Africa; environmental conservation; internal regulations; natural forest; report; sacred sites; social organisation  
**Database** ODI

**A76**

**Author** Jackson, J.K. (ed.)  
**Title** Social, economic and institutional aspects of agro-forestry.  
**Source** *Information Referral Bulletin No. 1* 97pp. United Nations University; Tokyo; Japan (ISBN 92-808-0502-9).  
**Year** 1986  
**Language** English  
**Abstract** The transfer of agroforestry techniques to areas that appear biologically suitable may still be hindered by social, economic, or institutional problems. These collected papers examine issues relating to the adoption of agroforestry systems: economic aspects; the role of community and governmental organizations; land tenure and land use planning; legal aspects; educational requirements. Case studies from several tropical countries are included. Contents include: economic constraints and incentives in agroforestry; agroforestry, the rural poor and institutional structures; some tenurial and legal aspects of agroforestry; the dynamics of the shifting cultivation, rural poor, cattle complex on marginal lands in the humid tropics; constraints on the introduction of an agroforestry element into traditional forms of shifting cultivation; forestry and the rural community; and problems of agroforestry in land use planning.  
**Keywords** book; case studies; economics; external organisational arrangements; farming systems; geographically non-specific; institutional development; social organisation; socioeconomic issues  
**Database** CABI

**A77**

**Author** Kamugisha, J.R.  
**Title** Management of natural resources and environment in Uganda. Policy and legislation landmarks, 1890-1990.  
**Source** *Report Regional Soil Conservation Unit. 1993, No. 11*, (100 pp., 10 app., 12 map, 7 tab., 23 ref. ISBN 9966-896-17-1). Nairobi; Kenya.  
**Year** 1993  
**Language** English  
**Abstract** The report concentrates on the laws regarding resource and environmental management as they exist on the statute books of Uganda at present; the reviews are broadly theoretical and little attempt has been made at comparing the laws with their actual implementation. The study spans the period from 1887 to 1990, because of the nature in which the various policies and laws have evolved. The review unveils strengths, weaknesses and bottlenecks in the past provisions, and provides some useful lessons for future initiatives. There is a brief general discussion at the end with structured commentaries where necessary, after every summary of policy or law. The introduction is followed by four chapters: (1) evolution of policy (the pre-colonial era, the role of policy); (2) evolution of legislation (forestry, wildlife and land resources); (3) current initiatives (environment, the National Soils Policy, land tenure and use, forestry, wetlands, agriculture, wildlife resources); (4) summary and conclusions (soils, forests, water,

wetlands, fisheries, wildlife, agriculture, land tenure and use, general recommendations and conclusions).

**Keywords Database** Africa; external organisational arrangements; institutional development; policy; report CABI

**A78**

**Author** Keck, A., Sharma, N.P. and Feder, G.

**Title** Population growth, shifting cultivation, and unsustainable agricultural development. A case study in Madagascar.

**Source** *World Bank Discussion Papers*. 1994, No. 234. 63pp. (2 app., 2 maps, 9 tab., 61 ref. ISBN 0-8213-2793-3). Washington, D.C.; USA.

**Year** 1994

**Language** English

**Abstract** This study of a microregion in Madagascar illustrates important linkages and synergies between population growth, unsustainable agriculture, and natural resource decline. Further the study shows that agricultural development has been hampered by the lack of adequate marketing, road infrastructure, extension services, credit, and inputs. Efforts to promote agricultural intensification and diversification will depend on how effectively the country can address these constraints. A review of the tenure regime in the microregion indicates that the traditional system still prevails and is generally being enforced through customary procedures. The study cannot conclusively state that traditional land tenure systems in this microregion have created widespread insecurity and conflict over land, which is often blamed for the excessive rates of forest clearing. This suggests that the traditional property rights system may not be the most immediate obstacle to sustainable land use patterns in the short-term. However, the study does indicate that the local management of public lands is poor, fallow lengths are below sustainable levels for slash-and-burn agriculture, and land shortages exist in some communities. The study suggests that, in the short run, the government should place a high priority on measures that will improve factor and product markets, promote the use of improved technology and inputs, and expand infrastructure. These measures need to be complemented by a longer term perspective of the issues related to tenure security and conflict over land rights which are likely to emerge as the population increases. An important priority in the microregion is the minimization of the irreversible degradation of soils and forests and the promotion of sustainable agriculture.

**Keywords** Africa; case studies; conflict resolution; enriched forest areas; environmental degradation; external organisational arrangements; fallow systems; farming systems; internal regulations; paper; sustainable development/ management

**Database** CABI

**A79**

**Author** Kruger, F.J., Everard, D.A. and Manders, P.T.

**Title** Forestry and environmentally sustainable development in South Africa.

**Source** *Special issue: Forestry and nature conservation. Commonwealth Forestry Review*. 74(1): 71- 75, 85-88; (14 ref.).

**Year** 1995

**Language** English

**Abstract** Forestry in South Africa occurs either through commercial plantation forestry or by commercial and subsistence utilization of natural forests and woodlands. Commercial plantation forestry occurs in high rainfall areas which are diverse and scenic and therefore affects biodiversity, water resources and soils of these areas. Natural forests are fragmented and cover a relatively small area. They, however, have a high conservation value and most are adequately conserved. Savanna woodlands are extensive and although significant fractions are conserved, much of them are degraded from excessive utilization. Recent constitutional and political changes in South Africa have affected forest policy which is at present being redrawn to incorporate newly established constitutional rights of South Africans especially over land tenure and participation of all interested and affected parties in adoption of managerial systems.

Section A - Tenure Rights

**Keywords** Africa; environmental conservation; external organisational arrangements; forestry; journal article; natural forest; plantation; policy; savanna woodland; sustainable development/ management; tenural change and evolution

**Database** CABI

**A80**

**Author** Laurent, P.J. and Mathieu,

**Title** Authority and conflict in management of natural resources - a story about trees and immigrants in southern Burkina Faso.

**Source** *Forests, Trees and People Newsletter*. 1994, No. 25: 37-44.

**Year** 1994

**Language** English

**Abstract** An action to plant trees initiated by a local non-government organization in a small village in Burkina Faso gave rise to open violent conflict between the local Nuni inhabitants and Mossi migrants. The conflict appeared to be about the organization and tenure conditions surrounding the planting of trees on a community woodlot.

**Keywords** Africa; community woodlot; conflict resolution; forestry; journal article; NGO; social organisation; socioeconomic issues; tenural change and evolution

**Database** CABI

**A81**

**Author** Lawry, S.W., Stienbarger, D.M. and Jabbar, M.A.

**Title** Land tenure and the potential for the adoption of alley farming in West Africa

**Source** *Outlook on Agriculture (UK)* 23(3): 183-187 (tables, 12 ref.; ISSN 0030-7270). Land Tenure Center, University of Wisconsin, Madison, Wisconsin, USA.

**Year** 1994

**Language** English

**Abstract** Alley farming was developed as a means of maintaining soil fertility in fields under permanent cultivation in Africa, as population pressure makes the traditional practice of slash-and-burn combined with fallowing unsustainable. It is an agroforestry system under which food crops are grown in alleys formed by hedgerows of leguminous trees and shrubs. Studies have shown that it works, but farmers are only taking it up very slowly. Recent work suggests that land tenure might be a factor in the spread of alley cropping. This is illustrated with examples from Nigeria, Cameroon and Togo. From authors' summary.

**Keywords** Africa; alley farming; external organisational arrangements; farming systems; journal article; sustainable development/ management; trees on farms

**Database** TROPAG

**A82**

**Author** Li, T.M.

**Title** Tenure issues in rural development planning: a case study from Central Sulawesi.

**Source** *Discussion Papers Sulawesi Regional Development Project, University of Guelph*. 1993, No. 3, 41 pp.(12 ref., ISBN 0-88955-324-4). Guelph, Ontario, Canada.

**Year** 1993

**Language** English

**Abstract** This paper provides background information on access to natural resources in the TTM Sustainable Development Site, Sulawesi, Indonesia. The area is the homeland of the Lauje people, who live and farm predominantly in the hills. Part One discusses the traditional system of access to agricultural land, which is subject to strong individual rights. A transition in resource use and access is taking place in response to population pressure and the opportunity to intensify agriculture through planting commercial tree crops. People with few inherited land resources and women could be adversely affected by these changes. Part Two discusses the impact of government programmes such as commercial tree planting, agroforestry, garden development schemes, new roads and property taxation on the tenure situation. It is argued that government initiatives entail risks as well as benefits for the traditional land users. Part Three provides initial recommendations of alternative legal frameworks which could increase the tenure

security of the traditional land users while encouraging sustainable economic development. It also discusses practical approaches to incorporating tenure concerns in the design of agroforestry, garden development and road projects. Addressing tenure issues in project design maximizes the potential benefits to the local population, and minimizes the risk that they will be displaced from land and resources upon which they depend.

**Keywords** Asia; case studies; external organisational arrangements; gender issues; internal regulations; paper; plantation; policy; socioeconomic issues; sustainable development/management

**Database** CABI

### A83

**Author** Lumpungu, K. and Raintree, J.B.

**Title** Possibilities of introducing agroforestry in Zaire.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.181-185 ((Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English

**Abstract** Aspects discussed include: land ownership and the adoption of agroforestry innovations; the use of agroforestry systems to solve or mitigate existing problems of land users; the land use rights of outsiders; and research needed. Traditional land tenure in Zaire is based on the same fundamental principles in all parts, viz. each traditional community holds the land in collective ownership, and the acquisition of individual rights is by use, with such rights only being transferred or inherited within a local group. The introduction of agroforestry requires research on: the customary political and administrative institutions of the traditional groups (which persist independently of state policy); the tenurial systems of the distinct traditional groups; the best crop selection for a particular site; and training, extension and demonstration work.

**Keywords** Africa; internal regulations; plantation; savanna woodland; social organisation; training/extension/technology transfer; workshop proceedings

**Database** CABI

### A84

**Author** Malcolm, D.W.

**Title** Sukumaland, an African people and their country: a study of land use in Tanganyika.

**Source** International African Institute, Oxford University Press, London.

**Year** 1953

**Language** English

**Abstract** The Sukuma are settled agro-pastoralists, using grain as currency, and cattle as capital. About half the area is under cultivation and the rest under bushland, in which *Acacia spp.* dominate in the eastern areas, and *Terminalia spp.* in the North West. The rainfall is about 750mm per annum. The chief is the owner of land, but he delegates right allocation to the village headman. Individual rights are limited to the period of effective occupation, and lapse after the harvest of the annual crop; however, planted trees perpetuate the right to a return because of the labour expended. When a village moves to a new site, the headman gives permission for bush to be cleared, and allocates plots. Honey and beeswax are collected in the bush. The individual lays claim to them by the expenditure of labour e.g. by driving in pegs to climb the tree. Indigenous trees are used for building poles, bark rope, wooden utensils, house-wall uprights, string, baskets, tooth-brushes and hafts for hoes. Access to the resource is limited by the residence of the user.

**Keywords** Africa; book; internal regulations; non-timber products; savanna woodland; social organisation; timber/ pole products

**Database** ODI

Section A - Tenure Rights

**A85**

**Author** Manoukian, M.  
**Title** Akan and Ga-Adangme Peoples of the Gold Coast  
**Source** *Ethnographic Survey of Africa Western Africa, part 1* (Ed. Forde D) International African Institute, Oxford University Press, London.  
**Year** 1950  
**Language** English  
**Abstract** The article focuses on some of the sedentary matrilineal agriculturalists of southern Ghana, who derive a cash-crop income from trees. The lineage as a whole owns trees (such as oil palms) which are already growing on family land, with ownership being vested in the head of the lineage. Early in the century, family-owned land used in shifting cultivation was the general rule, with individual ownership very uncommon. However the introduction of tree crops changed this. Land can come to be 'individually owned' in four ways, by a person clearing bush of forest land for the first time, by a man planting economic trees (generally a cocoa farm), by mortgage or purchase, or by inheritance.  
**Keywords** Africa; crop production; internal regulations; plantation; report; social organisation; trees on farms  
**Database** ODI

**A86**

**Author** Marchal, J.Y.  
**Title** 'Yatenga, nord Haute-Volta: la dynamique d'un espace rural soudano-sahélien', [Yatenga, northern Burkina Faso: the dynamics of a Sudano-Saharan rural area]  
**Source** *ORSTOM, Travaux et Documents No. 167*, ORSTOM, Paris, pp 170-175.  
**Year** 1983  
**Language** French  
**Abstract** This is a study of Tugu village in Burkina Faso, with its parkland. Mango trees are planted over 1.5ha and are located along the outer edge of the 'parkland' under study., which covers an area of 97 ha. Millet and sorghum are cultivated in association with *Faidherbia albida* (55% of 'park' area), *Balanites aegyptiaca* (15%), *Sclerocarya birrea* (plum tree, 10%), *Tamarindus indica* (4%), *Lannea macroptera* (raisin tree, 3.5%), *A. tortilis* (14.2%), *A. scorpioides* (3%), *Ficus gnaphalocarpa* (fig tree, 14.2%), and 6 other species. These trees originate from natural regeneration and are maintained and protected from grazing even during the dry season. Also, *Balanites* and *Mimosaceae* are removed by local people and replaced with *Butyrospermum parkii* and *Parkia biglobosa* even though these are at their ecological limits. Transhumant Fulbe herders are only allowed to let their animals graze while the farmers who are the tree owners do not hesitate to cut branches for their sheep and goats.  
**Keywords** Africa; agroforestry; crop production; farming systems; internal regulations; journal article; trees on farms  
**Database** ODI

**A87**

**Author** Mary, F. and Michon, G.  
**Title** When agroforests drive back natural forests: a socio-economic analysis of a rice-agroforest system in Sumatra.  
**Source** *Agroforestry Systems*.5(1): 27-55 (4 ref.).  
**Year** 1987  
**Language** English  
**Abstract** A description of the Krui area of South Sumatra, the land-use system in the subdistrict of Central Pesisir, the functioning of the ladang cropping system (a swidden system in which a plot of cleared forest is planted initially with rainfed rice and later with perennial plants - coffee and/or clove, and then damar, *Shorea javanica*), farming systems of the village of Penengahan, land tenure system and inheritance law, and factors in the change and evolution of farming systems.  
**Keywords** Asia; fallow systems; farming systems; internal regulations; journal article; social organisation  
**Database** CABI

A88

**Author** May, P.H.  
**Title** A modern tragedy of the non-commons: agro-industrial change and equity in Brazil's babassu palm zone.  
**Source** *Dissertation Series, Latin American Studies Program, Cornell University. 1986, No. 91, 432pp. (275 ref.).*  
**Year** 1986  
**Language** English  
**Abstract** Agrarian change and industrial innovation jointly affected the economic role of successional babassu palm (*Orbignya*) forests that cover a large part of Maranhao, North East Brazil. Over 300 000 landless peasant households derive one third of their cash incomes from the palm kernels; and virtually all parts of the palm are useful to the subsistence economy for food, fuel and shelter. The thesis focuses on social equity effects of property rights alterations, studied during 15 months of field research. Land use conversion to pasture and technical change in both agriculture and babassu industries are shown to have redefined property rights. Rural employment contraction is the primary impact. Further, the study compares babassu's importance to rural producers differentiated by enterprise scale and organization between two agroecological subregions. Palm exploitation rates are shown to vary considerably between the areas studied. It is contended that if agropastoral development is combined with industrial innovation in areas where peasants already exploit a high number of palms, employment will be curtailed. However, where babassu exploitation rates and agropastoral development potential are low, industrial innovation may generate new employment.  
**Keywords** farming systems; Latin America; natural forest; socioeconomic issues; thesis  
**Database** CABI

A89

**Author** Mbogoh, S.G., Oluoch Kosura, W., Rocheleau, D.E., Barrow, E.G.C., Okoth Owiro, A. and van Doorne, J.H.  
**Title** Session 5 - Socioeconomic aspects of agroforestry development.  
**Source** *Agroforestry development in Kenya. Proceedings of the Second Kenya National Seminar on Agroforestry held in Nairobi, Kenya, 7-16 November 1988. pp.215-282 (Eds. Kilewe-AM, Kealey-KM, and Kebaara-KK, ISBN 92-9059-068-8). International Council for Agroforestry (ICRAF); Nairobi; Kenya.*  
**Year** 1989  
**Language** English  
**Abstract** Six papers: Agroforestry: a tool for socioeconomic advancement of the rural people (Mbogoh); Appropriate incentives for agroforestry production systems (Oluoch-Kosura); Gender division of work, resources, and rewards in agroforestry systems (Rocheleau); Trees, people, and, the dry lands: the role of local knowledge (Barrow); Land-tenure and land-use legislation issues in agroforestry development (Okoth-Owiro); and Agroforestry in arid lands: range and catchment management (Doorne).  
**Keywords** economics; external organisational arrangements; farming systems; gender issues; geographically non-specific; internal regulations; seminar proceedings; social organisation  
**Database** CABI

A90

**Author** McLain, R.J.  
**Title** Recommendations for a new Malian forest code: observations from the land tenure center's study of land and tree tenure in Mali's Fifth Region  
**Source** *Research Paper Land Tenure Center, University of Wisconsin Madison (USA) no 109, 55 p. (fig, tables; bibliography, ISSN 0084-0815).*  
**Year** 1992  
**Language** English

**Abstract** A study was conducted in Mali's Fifth Region to obtain information on tenure and tree management practices. Indigenous rules governing rights to land and trees, and the constraints these rules pose to the extension of agroforestry practices are briefly discussed. State rules governing use of forest resources are described and major inconsistencies between indigenous and state tenure rules are identified. The crucial shortcoming of the Malian forest policy is identified as its failure to assign clear rights over trees to individuals and local communities. Recommendations for changes in Mali's forest policy are made, focusing primarily on changes in national forest legislation which will permit rural residents to become more actively involved in resources management. Specific research and extension activities that should be incorporated into a policy reform programme are suggested.

**Keywords** Africa; external organisational arrangements; forestry; institutional development; internal regulations; LTC; paper; policy; social organisation; tenural change and evolution; trees on farms

**Database** TROPAG

**A91**

**Author** Monuta, J.B.

**Title** Tenurial arrangements and forest resource management in Haliap, Kiangang, Ifugao, Northern Philippines.

**Source** In: *College, Laguna (Philippines). April 1993* 165 leaves. Philippines Univ., Los Banos, College, Laguna (Philippines)

**Year** 1993

**Language** English

**Abstract** Results indicate that there are two conflicting tenurial arrangements operating in the village, namely: the statutory and the customary. The syncretic co-existence of the two is manifested in the manner by which different users (state, Haliap residents, non-Haliap residents, and speculators/outside) of village forest resources enforce their claim/exclude other users. At the village level, the customary laws, procedure and processes continue to operate. In dealing with non-Haliap users, the people utilize tax declarations issued by the state to protect their claim and property rights to resources. Certainty of the observance of property rights and the implementation and enforcement of state laws are however not clear as far as the speculators are concerned. The inability of the villagers to enforce their customary claims and the inability of the local government to protect the indigenous communities nor to enforce the laws led to the eventual breakdown of institutions that govern the utilization of forest resources in the village. This results to institutional limbo which undermine the assurance and of protecting their access and property rights thus eroding motivations to protect and maintain their agroforestry system (muyong/pinusio). The lack of market, infrastructure and credit and technical assistance further lessen the economic/ecological viability of the indigenous agroforestry system.

**Keywords** Asia; economics; enriched forest areas; environmental degradation; external organisational arrangements; internal regulations; report; social organisation; socioeconomic issues

**Database** AGRIS

**A92**

**Author** Moser, C.O.N.

**Title** Gender planning and development. Theory, practice and training.

**Source** 285pp. Routledge Publishers, London, UK

**Year** 1993

**Language** English

**Abstract** Gender planning is a new tradition whose goal is to ensure that women, through empowering themselves, achieve equality and equity with men in developing societies. This book explores the relationship between gender and development, and provides a comprehensive introduction to the Third World gender policy and planning practice. It describes the conceptual rationale for a new planning tradition based on gender roles and needs, and identifies methodological procedures, tools and techniques to integrate

gender into planning processes. It emphasises the role training plays in creating gender awareness, and highlights entry points for women's organisations to negotiate for women's needs at household, civil society, the state and global levels (from book cover summary).

**Keywords** book; gender issues; geographically non-specific; policy; social organisation; training/ extension/ technology transfer

**Database** NRI

**A93**

**Author** Murray, G.F. and Raintree, J.B.

**Title** Land tenure and agroforestry in Haiti: a case study in anthropological project design.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.323-328 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English

**Abstract** The problem diagnoses and concepts behind the development of the Haiti Agroforestry Project [Agroforestry Outreach Project] (for which the major funder was USAID) are described. The basic themes were to: emphasize peasant economy rather than taking an ecological approach; try to link the existing anthropological patterns of cash cropping and wood selling so that wood was grown as a cash crop; and use pre-existing land- and crop-tenure patterns by developing agroforestry on individually owned plots rather than common or state-owned land. The technical measures adopted were: to grow timber trees rather than fruit trees; to use fast growing species; to teach border planting and intercropping techniques; and to supply seedlings in containers rather than bags (for ease of transport of large numbers). A contract was made with the peasants to plant a specified number of trees (a minimum of 500, at spacings to allow intercropping) on their own holdings; seedlings were free and the trees and their products would be fully owned by the peasants. No links were established between the project and the government, instead arrangements were made through localized NGOs. The results of the project, which agreed to plant 3 million trees between Sep. 1981 and Sep. 1985, are encouraging. To May 1985, >15 million trees have been planted; survival rates are high in moist areas, but low in arid areas (because of the conditions). Final planting decisions were left to the peasants, who have planted on borders, or in plots (as intercrops) rather than on marginal land. NGOs have responded to the different approaches of this project although public sector institutions have not. Former ideas that land tenure insecurity was the major cause of tree planting failure have been shown to be untenable.

**Keywords** Caribbean; economics; Haiti Agroforestry Programme; internal regulations; NGO; social organisation; technical methods; trees on farms; USAID; workshop proceedings

**Database** CABI

**A94**

**Author** Nautiyal, J.C. and Rawat, J.K.

**Title** Role of forest tenure in the investment behaviour of integrated Canadian forestry firms.

**Source** *Canadian Journal of Forest Research* 16(3) 456-463 (30 ref).

**Year** 1986

**Language** English

**Abstract** Features common to forest tenure systems currently prevalent in different provinces of Canada were noted. Length of tenure and the likelihood of its extension were the crucial elements of tenure for investment purposes. Tenure was important in the investment decisions of firms with 'site-specific' processing plants, i.e. plants with buildings, roads and heavy equipment. Such firms would seek to overcome tenure insecurity by negotiating a tenure as long as the economic life of the processing plants. It is concluded that governments could employ tenure as an instrument to regulate capital investment by large forestry firms.

**Keywords** economics; external organisational arrangements; journal article; natural forest; North America; plantation; tenural change and evolution



**Database** CABI

**A95**

**Author** Niamir Maryam,  
**Title** Herders' decision making in natural resource management in arid and semi-arid Africa.  
**Source** *Community Forestry Note 4*. FAO-SIDA Forests, Trees and People Programme, FAO, Rome.

**Year** 1990

**Language** English

**Abstract** Niamir notes that the most common form of tenure in these areas is through the area-management mechanism of the tribe/ clan/ lineage/ household nesting degrees of ownership, relating to progressively more subdivided portions of the range. Trees are vital for forage, building materials, carpentry and carving and, to a lesser extent, fuelwood. She observes that, though there are numerous descriptions of the management of range, there are far fewer published details of the management of the tree itself, or how products are harvested. What she has found, are references to: the policing of how trees are lopped; prohibitions on the use of certain species for certain purposes; prohibitions on use at certain times of year; or in a few cases, ever. She also observes that pastoralists are far more careful of trees on their home range, than they are when passing through the lands of others. Many of her sources note the collapse of pastoral management systems.

**Keywords** Africa; fuel wood; internal regulations; report; savanna woodland; social organisation; timber/ pole products

**Database** ODI

**A96**

**Author** Norton, A.  
**Title** Participatory Forest Management in Ghana,  
**Source** ODA. m.s.  
**Year** 1988

**Language** English

**Abstract** The article deals with southern Ghana and with sedentary bush swidden-fallow cultivators. Since the Local Government Ordinance of 1951, most southern Ghanaian chiefs hold the allodial title to land on behalf of the people. Hence they hold rights to all 'natural' land assets which are not the product of identifiable human labour, eg mineral rights and trees (this idea about the 'naturalness' of trees stems from the colonial period). This assignation of timber rights was an attempt to create a land-based revenue system to support the chiefly bureaucracy. This separation of tree and land tenure therefore militates, in the present day, against the successful combination of trees and crops on land. For chiefs make over their rights to timber contractors who, in exchange for royalties, are then entitled to fell any tree on farmers' properties. The timber merchants are exempt from paying damages for any crop injured in the felling, hence the farmers perceive the presence of trees among their crop as a threat. Land and tree tenure systems must be reintegrated if agroforestry projects are to be successful.

**Keywords** Africa; external organisational arrangements; fallow systems; forestry; institutional development; internal regulations; ODA; paper

**Database** ODI

**A97**

**Author** O'Ktingati, A.  
**Title** Impact of land tenure under agroforestry on natural vegetation.  
**Source** *Journal of the Tanzania Association of Foresters* 6: 30-36, (6 ref.).  
**Year** 1988

**Language** English

**Abstract** The results are presented and discussed of a questionnaire survey carried out on 96 farmers randomly selected from the coffee, banana and livestock agroforestry system extending from 700 to 2000 m alt. on the slopes of Mt. Kilimanjaro, Tanzania. The objective of the survey was to find out how the agroforestry farms were acquired and

developed, and what impacts they had had on the original natural forests of the area. Some of the farmers acquired their farms as long ago as 1922. Only 32.3% of the farmers had acquired land which was totally under natural vegetation, and of this 7.3% was forest, 16.7% forest and grassland (pasture), and 8.3% grassland. The rest of the farmers had acquired land which had been wholly or partly developed into agroforestry. No farmer born before World War I acquired his farm plot by buying; acquisition in these cases was mostly by inheritance, or by usurping communal land. Farmers born after World War II (1945) either inherited land or bought it, indicating that most land was in formal ownership by the mid 1950s. The tropical forests had disappeared by the early 1960s into agroforestry farms.

**Keywords** Africa; agroforestry; animal production; crop production; forest margins; journal article; survey/ questionnaire; tenural change and evolution; trees on farms

**Database** CABI

**A98**

**Author** Okoth Ogendo, H.W.O. and Raintree, J.B.

**Title** Tenure of trees or tenure of lands?

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.225-229 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English

**Abstract** The question of whether or not there can be tenure of trees apart from the land on which they stand is discussed with respect to African property law (which answers the question in the affirmative) and imposed English property law (which answers it in the negative). The problem of what happens when the 2 systems of law intersect or when the African system is replaced by the English one through some variant of a tenure reform programme is addressed and some of the implications for agroforestry noted.

**Keywords** Africa; external organisational arrangements; institutional development; tenural change and evolution; workshop proceedings

**Database** CABI

**A99**

**Author** Ostrom, V. (ed.), Feeny, D.H. (ed.) and Picht, H. (ed.)

**Title** Rethinking institutional analysis and development: issues, alternatives and choices.

**Source** 472 pp. International Centre for Economic Growth, San Francisco, California, USA.

**Year** 1988

**Language** English

**Abstract** This book consists of 15 chapters from a range of authors, including the editors. The process of institutional development is regarded as: the interaction of public and private choice; how the process of public choice can expand or diminish private choice; and how the political process will structure private choices through its influence on key economic institutions. Included are chapters about the commons, case-studies from Botswana, Liberia and Hawaii, market systems and currency. The information in this book is aimed at improving policy and institutional innovation.

**Keywords** book; economics; external organisational arrangements; geographically non-specific; institutional development; policy; social organisation

**Database** NRI

**A100**

**Author** Panday, K. and Raintree, J.B.

**Title** Some tenurial aspects of environmental problems in Nepal.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.239-243 (Ed. Raintree JB, 5 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English  
**Abstract** An account of the history and pattern of forest use and deforestation in Nepal is provided, with emphasis on the political changes that have occurred since 1947 when the new government instituted changes leading to the nationalization of the forests in 1956. The Nationalization Act had the effect of increasing deforestation. New community and conservation regulations effected in 1978 were supposed to motivate tree planting by providing for private or community ownership of forests, but there has been little positive reaction to them and forest damage has continued. It is noted that farm holdings are too small for afforestation plots and that there is no income incentive for tree planting as there is no timber market in the hills. A suggested solution is the planting of traditional fodder tree species, especially in non-competitive agroforestry arrangements. Tenure concerns may be an incentive to this type of planting.  
**Keywords** Asia; deforestation; economics; external organisational arrangements; farming systems; natural forest; technical methods; tenural change and evolution; trees on farms; workshop proceedings  
**Database** CABI

A101

**Author** Paris, R., Ruzicka, I. and Speechly, H.  
**Title** Performance guarantee bonds for commercial management of natural forests: early experience from the Philippines  
**Source** *Commonwealth Forestry Review (UK)* 233:106-112 (table, 8 ref.; summary (En) ISSN 0010-3381) Asian Development Bank, Manila, Philippines.  
**Year** 1994  
**Language** English  
**Abstract** The current economic orthodoxy that advocates the use of increased royalties on timber volume harvested as a means of improving natural forest management by concessionaires is challenged. An alternative scheme, which assigns both long-term cutting rights and responsibility for forest management through competitive public bidding on the value of performance guarantee bonds, is proposed. The implementation of such a scheme in the Philippines through a new type of forest lease instrument, the Industrial Forest Management Agreement, is described. This incorporates a performance guarantee bond but, due to constitutional provisions, retains both high volume-based timber royalties and a 50-year limit on tenure. Experience with the scheme after 2 years' implementation is summarized and possible improvements are suggested. Authors' summary.  
**Keywords** Asia; concession management; external organisational arrangements; forestry; internal regulations; journal article; natural forest; policy  
**Database** TROPAG

A102

**Author** Petrasova, V.  
**Title** Rent relations and policy of subsidies.  
**Source** In: *Ekonomika-a-Riadenie-Lesneho-Hospodarstva (CSFR) No.21* pp. 49-59. (ISBN 80-07-00529-3).  
**Year** 1992  
**Language** Slovak  
**Abstract** With the research in rent relations, possibilities to affect in a more optimal way the utilization of forest natural resource for the benefit of the whole society are opening. The paper is aimed especially at quantification of differential rent which helps to determine objective basis of a system of economic tools for the elimination of its effect through state policy of subsidies. Analysis of differential rent impact in forestry results in a proposal of quantification of differential rent.  
**Keywords** economics; external organisational arrangements; geographically non-specific; journal article; natural forest; policy  
**Database** AGRIS

A103

**Author** Poschen-Eiche, P.  
**Title** The application of farming systems research to community forestry: A case study in the Hararge Highlands, Eastern Ethiopia  
**Source** *Tropical Agriculture* [1] TRIOPS Verlag Tropical Scientific Books, Langen: Germany, 1987.  
**Year** 1987  
**Language** English  
**Abstract** The area studied lies at an altitude of 1800-2500m. with rainfall of 700-1000mm/year. The area used to be covered by highland forest, with some mountain savannah, and tree-cover predominantly composed of *Podocarpus gracilor* below 2200m and *Juniperus procera* above 2200m. Sorghum is the main crop - intercropped with maize and beans. Grain is used as food, with the leaves, thin stalks and thinnings used as livestock feed, and thick stalks and stubble used for fuel. Wheat and barley are grown at higher altitudes (above 2500m), and the most important livestock are cattle, goats, sheep and donkeys. Amhara kings from north-central Ethiopia originally conquered and introduced the feudal system; 25-50% of the harvest was claimed by the landlord; tenancy was insecure, expulsion common. 'Decisions about the use of trees and shrubs were the landlord's privilege'. In 1975, the Public Ownership of Rural Lands was proclaimed. All rural lands were expropriated, and private ownership and landlord-tenant relationships were abolished. Land was distributed to whosoever wanted to cultivate it and peasant associations were formed to administrate the process.  
**Keywords** Africa; case studies; farming systems; forest margins; savanna woodland; social organisation; tenural change and evolution  
**Database** ODI

A104

**Author** Postma, M.  
**Title** Land and tree tenure in the Wolof village M'borine, Senegal.  
**Source** Doctoral report for the Section of Forest Management, Department of Forestry, Wageningen Agricultural University, Netherlands.  
**Year** 1990  
**Language** English  
**Abstract** The research took place in the peanut basin of Senegal. The people cultivate peanuts and manioc for sale, and millet for subsistence. The wealthy own cattle, and the rest have goats, sheep and chickens. Land near the village is permanently cultivated, and land further out is alternately fallowed and grazed for three years, and cultivated. The introduction of animal traction, and artificial fertilisers have greatly changed original swidden-fallowing practices. There are now too many residents for a return to older style fallowing, although fertilisers are again becoming harder to obtain. The only adaptation open is out-migration. Originally, the first clearer of land (by fire) was its owner. He in turn, might grant 'rights of the axe' to individuals who wanted to use some of the land. Such rights were strong, and heritable so long as the land was never left uncultivated for more than ten years. The Wolof monarchy followed customary land usage. However, since 1964, all land has officially belonged to the state. The local Rural Council allotted land to the tillers they found in place at the time, and it is legally impossible to buy and sell land. Husbands allocate land annually to their wives and dependant sons, but not necessarily the same piece each year. Wives may take minor products from their husbands' fields in the rainy season, and in the dry season dead wood and shrubs from any part of the village's fields, as they may from the common area under swidden-fallow. Larger branches may only be taken from a field tree by the owner of that field, however, regardless of the season. Indigenous tree-management in the area follows the typical pattern of the farmed parkland described by Raison (1988) with a densely settled population felling many trees, but preserving *F. albida*, *Balanites aegyptiaca*, and *Adansonia digitata*. Nowadays, however, a Government licence must be obtained for the felling of construction timber, and such licences are never granted for the felling of planted trees, exotic trees or *Faidherbia albida* trees. Tree stocks have fallen to only about 5 trees per ha. partly as a result of this stifling of indigenous fallowing methods, and

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partly in response to the introduction of groundnuts as a short fallow cash crop. Unfortunately, tree-protection cannot develop into tree-planting here for two reasons. Firstly, annual land allocation practices deter individuals from planting trees. Secondly, government rules banning the felling of planted trees provide no incentive to plant.

**Keywords** Africa; agroforestry; fallow systems; institutional development; report; social organisation; tenural change and evolution; trees on farms

**Database** ODI

**A105**

**Author** Pragtong, K. and Raintree, J.B.

**Title** Land tenure and agroforestry in forest land in Thailand.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.245-251 (Ed. Raintree JB, 11 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English

**Abstract** Land tenure issues in reserved forest land in Thailand are discussed, and brief accounts given of the Forest Village System programmes for establishing plantations, and the S.T.K. (Sit Thi Thamkin or 'Right to Harvest') Land Certificate tree planting programme. Crop cultivation and land, tree and crop tenure aspects of the programmes are discussed, including the use of agrosilvicultural and silvopastoral practices in forest plantations and farmer home gardens. An extension and training programme is advocated for communication of the results of research on agroforestry which has already been carried out in upland government forest plantations, and various suggestions made on the organization and development of the research.

**Keywords** Asia; crop production; forestry; natural forest; plantation; STK; technical methods; tenural change and evolution; training/ extension/ technology transfer; workshop proceedings

**Database** CABI

**A106**

**Author** Quak, W. and Treacy, M.

**Title** Vietnamese cooperative mobilizes for agroforestry.

**Source** *NFTA News No. 8*(1).

**Year** 1989

**Language** English

**Abstract** A short paper based on letters and a report by Quak, W. of the Dutch agency KWT (Committee for Science and Technology). Agroforestry (intercropping and taungya) and species trials set up at Bac Son village in N. Vietnam are briefly described. The village is in an area with timber, fuelwood, fodder and food shortages, and with degraded soils. A recent change in government policy has made it possible for private individuals to obtain land rights for 20 yr for tree growing. The Ban Soc cooperative has acquired 150 ha for the agroforestry trials and KWT is providing nursery materials, seeds and technical support. Expansion is intended into another 700 ha of surrounding hills over the next few years, although the requirement for tree cover extends to 6500 ha.

**Keywords** Asia; forestry; journal article; KWT; LVO; taungya systems; tenural change and evolution

**Database** CABI

**A107**

**Author** Raintree, J.B.

**Title** Agroforestry pathways: land tenure, shifting cultivation and sustainable agriculture

**Source** *Unasylva (FAO) 38*(154): 2-15 (figs, photos; bibliography (73 ref.) ISSN 0641-6436). International Council for Research in Agroforestry (ICRAF), Nairobi, Kenya.

**Year** 1986

**Language** English

**Abstract** The purpose of this article is to provide some images of the scope and potential role of agroforestry to serve as a background to the discussion of tenure issues. Attention is focused on some of the major changes in tenure that arise in conjunction with the main

developmental trends in tropical land use. From a project point of view there are 2 fundamental ways of arriving at agroforestry: by integrating trees into farming systems or by integrating farmers into forests. Different aspects of the most promising agroforestry approaches, from shifting to permanent cultivation, are discussed, such as enriched fallows, alley cropping, interstitial tree planting, the effect of agropastoral interactions, and mixed farming systems.

**Keywords** agroforestry; alley farming; crop production; enriched forest areas; fallow systems; farming systems; geographically non-specific; intercropping; journal article; taungya systems; trees on farms

**Database** TROPAG

#### A108

**Author** Raintree, J.B.

**Title** Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985.

**Source** Joint publication with Land Tenure Center, Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya (ISBN 0-934519-01-3)

**Year** 1987

**Language** English

**Abstract** This workshop represents the second in a series of collaborative activities undertaken by ICRAF and LTC. The first resulted in an annotated bibliography on trees and tenure; the third will involve applied research projects in AFRENA (ICRAF's Agroforestry Research Network for Africa). The workshop was sponsored by the Ford Foundation. The proceedings are presented in 4 parts. Part 1 (pp. 1-160) contains 5 general background papers. Part 2 (pp. 161-331) consists of regional position papers reflecting experience with tenure issues in agroforestry in Africa (10 papers), Asia (8) and Latin America (5). Part 2 (pp. 333-384) presents working group reports: 3 on regional issues (from Africa, Asia, and Latin America) together with a plenary session; and 3 on 'crosscutting issues' (Technology- tenure interactions; Women, tenure and agroforestry; and Agroforestry project design), together with a plenary discussion. Part 4 (pp. 385-400) presents a summary 'postscript' paper on the main research priorities identified by the workshop. There is a subject index.

**Keywords** Africa; agroforestry; Asia; ICRAF; Latin America; LTC; workshop proceedings

**Database** CABI

#### A109

**Author** Raintree, J.B.

**Title** Agroforestry pathways. Land tenure, shifting cultivation and sustainable agriculture.

**Source** *Unasylva* 38(4): 2-15 (73 ref.).

**Year** 1986

**Language** English

**Abstract** A background paper presented at a workshop in 1985 on land tenure issues in agroforestry briefly describing the scope and potential role of agroforestry. Stages in intensification in the development of tropical agriculture from shifting to permanent cultivation are outlined (including integral taungya, enriched fallows, alley cropping, intercropping, tree crop alternatives, and interstitial tree planting).

**Keywords** agroforestry; alley farming; fallow systems; geographically non-specific; intercropping; journal article; taungya systems

**Database** CABI

#### A110

**Author** Rashford, J.H.

**Title** Social impediments to the cultivation of trees in Jamaica.

**Source** In: *CFCS 1985* p.249-250. Caribbean Food Crops Society. Small farm systems in the Caribbean 21-26 Oct 1984. Eastern Caribbean Center, College of the Virgin Islands; 20. St. Croix, U.S. Virgin Islands (USA).

**Year** 1985

**Language** English

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**Abstract** The author suggests that although trees are of great commercial and domestic value to Jamaicans, tenant farmers choose not to plant them, and destroy self-seeded seedlings on their land because proprietors prevent them from harvesting the fruit.

**Keywords** Caribbean; external organisational arrangements; report; social organisation; socioeconomic issues; trees on farms

**Database** AGRIS

**A111**

**Author** Reilly, P. (comp)

**Title** Solomon Islands bibliography of agriculture and forestry

**Source** Land Resources Development Centre, Tolworth, Surrey, UK. 339 p. (bibliography, author index and subject index only, ISBN 0-86182-006-1).

**Year** 1985

**Language** English

**Abstract** This bibliography, prepared at the request of the Agricultural Division of the Ministry of Industries, Commerce and National Development of the Solomon Islands (now Ministry of Agriculture and Lands), contains 1700 entries which have been divided into the following subject categories: agriculture, animal science, botany, climatology, crops, economics, entomology, forestry, land tenure and reform, maps, miscellaneous, soil science and water resources. The "crops" section has been divided into specific crops.

**Keywords** animal production; bibliography; crop production; economics; forestry; Oceania

**Database** TROPAG

**A112**

**Author** Richards, E.M.

**Title** Commercialization of non-timber forest products in Amazonia.

**Source** *NRI Socio-economic Series No. 2*. 26 pp. (56 ref.). Natural Resources Institute (NRI), Chatham, UK.

**Year** 1993

**Language** English

**Abstract** The effects of the development of the principal extractive [non wood] products of the Amazon region are examined and the main factors affecting sustainable welfare benefits for extractors are identified. These factors include tenure instability, policies favouring alternative land uses, aviamento [a credit and marketing system in which market goods are supplied on credit at inflated prices and paid for in non-wood products, mainly rubber and Brazil nuts (from *Bertholletia excelsa*)], commercialization systems, commercial pressures resulting in resource depletion where the extraction method is destructive, and the 'boom-bust' nature of export markets that leads to substitution by synthetic or planted products. The future of extractivism depends on better remuneration for extractors, tenure and institutional reforms and successful diversification through integrated natural forest management. The cultivation of formerly wild plants in agroforestry systems should also be given high priority.

**Keywords** economics; external organisational arrangements; Latin America; natural forest; non-timber products; report; socioeconomic issues

**Database** CABI

**A113**

**Author** Riddell, J.C. and Fortmann, L.P.

**Title** Trees and tenure. An annotated bibliography for agroforesters and others.

**Source** Land Tenure Center, University of Wisconsin; Madison; USA. 135 pp.

**Year** 1985

**Language** English

**Abstract** After an introduction, 414 publications are listed in 5 sections (General, Africa, Asia, Latin America, and Oceania) and indexed under country and tree species as well as subject. Major works on land tenure and agrarian reform are also briefly described.

**Keywords** Africa; agroforestry; Asia; bibliography; geographically non-specific; Latin America; Oceania

**Database** CABI

**A114**

**Author** Riddell, J.C. and Raintree, J.B.  
**Title** Land tenure and agroforestry: a regional overview.  
**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.1-16 (Ed. Raintree JB, 51 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.  
**Year** 1987  
**Language** English  
**Abstract** The concept of land tenure as a 'bundle of rights' which can be re-assorted is discussed. Each of the rights is described as having 3 dimensions (people, time and space) and these are examined in relation to trees. The different views of transfer of these rights in different societies are discussed. Brief overviews of the land tenure situation (with particular respect to trees and agroforestry) are given for Africa, Latin America, Oceania and Asia, and general trends and conclusions noted.  
**Keywords** Africa; agroforestry; Asia; Latin America; Oceania; tenural change and evolution; workshop proceedings  
**Database** CABI

**A115**

**Author** Roberts, A. *et al*  
**Title** The Maletle law of family relations, land and succession to property  
**Source** Gaborone, Government Printer.  
**Year**  
**Language** English  
**Abstract** Trees situated on land which has been allotted for residential or agricultural purposes belong to the holder. Others must ask his permission before taking firewood or fruit from trees on his allocated land. He may cut them down or harvest their fruits except in the following cases: no shade tree in a residential area may be cut down except with the Chief's permission; no living tree may be cut for firewood; from the start of the ploughing season to the end of harvest, some species may not be cut at all, and others may only be cut at certain limited times. Disobedience, it was believed, would cause hail to fall on the crops.  
**Keywords** Africa; agroforestry; internal regulations; paper; social organisation  
**Database** ODI

**A116**

**Author** Rocheleau, D.E.  
**Title** Criteria for re-appraisal and re-design: intra-household and between-household aspects of FSRE in three Kenyan agroforestry projects.  
**Source** In: *Farming Systems Research Paper Series, Kansas State University No. 9* p.456-502 (14 fig. 9 tab., OAE). Also available as *Working Paper, International Council for Research in Agroforestry (ICRAF), Kenya No. 37(1985)* .  
**Year** 1986  
**Language** English  
**Abstract** Three case studies of agroforestry projects in Kenya are examined to provide the empirical and practical basis for the methodological conclusions. Kathama is treated first, Kakuyuni second, and Siaya third, reflecting chronological order as well as a progression from exploratory research carried out by ICRAF, to testing/application of methodology in a collaborative role, to application/modification of the approach by an independent project with ICRAF as an interested observer/consultant. All three projects demonstrate the empirical and practical basis for the inclusion of social science theory, methodology and practice in agroforestry research and extension in Machakos and Siaya Districts. The observation and analysis of these projects has raised procedural questions about participation and nested client groups, as well as substantive questions on the adaptation of agroforestry designs to tree tenure, tree rights, grazing rights, water rights, gathering rights, and distribution and subdivision of land, within and between households.



**Keywords** Africa; ICRAF; journal article; paper; project methodology; social organisation; technical methods; tenural change and evolution; training/ extension/ technology transfer  
**Database** CABI

**A117**

**Author** Rocheleau, D.E. and Raintree, J.B.

**Title** Women, trees and tenure: implications for agroforestry research and development.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.79-120 (Ed. Raintree JB, 145 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English

**Abstract** Some sectors of the rural development community have recognized the need to improve women's access to and control of productive resources (land, water, capital, information) to enable them to increase and/or stabilize production on their own behalf. Where women already have access to such resources, development efforts are required to help safeguard their customary rights rather than erode them through external intervention. In either case actual progress has been slow and irregular, primarily due to lack of political will and/or lack of information and understanding about women's past, present and potential access to, and control over, the means and fruits of production in rural areas. This paper directly addresses the information gap, in both technical and policy sectors, by discussing the real and possible situation with regard to women, tenure, and agroforestry.

**Keywords** external organisational arrangements; gender issues; geographically non-specific; internal regulations; policy; social organisation; tenural change and evolution; workshop proceedings

**Database** CABI

**A118**

**Author** Sajise, P.E. and Raintree, J.B.

**Title** Agroforestry and land tenure issues in the Philippines.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.273-276 (Ed. Raintree JB, 5 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English

**Abstract** A basic premise concerning the relationship of agroforestry (or any other form of resource use) and land tenure is that a stable, sustainable, productive and socially acceptable form of agroforestry will evolve under a favourable land tenurial system. If this premise is correct then understanding this relationship will be important in identifying intervention strategies to promote agroforestry programmes. The relationship is discussed with respect to some traditional and non-traditional agroforestry systems in the Philippines. The former are represented by 2 upland communities: the Bontocs of Cordillera, northern Luzon, who have been able to maintain their customary laws and control and maintain their territorial boundaries; and the Palawanons of Palawan province in the SW, who have been eased out of their original territorial boundaries by lowland Christian migrants. Non-traditional systems are represented by various groups of Christian settlers and include a Leucaena based fallow system, and an indigenous scheme evolved by migrants from a neighbouring province.

**Keywords** Asia; enriched forest areas; external organisational arrangements; fallow systems; indigenous knowledge; internal regulations; social organisation; tenural change and evolution; workshop proceedings

**Database** CABI

- A119**  
**Author** Sather, C.  
**Title** Trees and tree tenure in Paku Iban society: the management of secondary forest resources in a long- established Iban community.  
**Source** *Borneo Review* 1(1): 16-40 (19 ref.).  
**Year** 1990  
**Language** English  
**Abstract** Iban methods of land use in Sarawak have been represented in the past as an example of 'manger la foret', i.e. progressive (expansive) exploitation of the forest for food and other necessities, without any consideration of sustainable land use. Recent studies, however, dispute this view and the present paper is intended as a contribution to this critique. In the Paku River region of the Second Division of Sarawak, the Ibans have remained in continuous occupation of the same area for more than fourteen generations, practising a sustained form of swidden cultivation and managing the resources of the secondary forest by means of an established system of silvi-tenure rights. The basic features of this system of indigenous forest management are examined. The longhouse is the primary unit of forest resource management. In the upper and middle Paku, tracks of land are set aside from felling for joint forest exploitation by longhouse members, as cemetery sites, fruit-tree reserves marking former longhouse sites, river corridors, and forest 'islets' under ritual interdiction. In addition, temporary bans on felling are observed, particularly around working rice fields. Finally, independent of land-use rights, heritable rights are also acknowledged over individual trees and other useful plant species. These rights, particularly in fruit and honey trees, have important links to oral history, being traced through as many as eleven generations. Their recognition thus transcends the primary units of everyday social experience, contributes to the maintenance of intra-regional relations, and historicizes the landscape that surrounds each local community.
- Keywords** Asia; fallow systems; generational equity; indigenous knowledge; internal regulations; journal article; natural forest; social organisation
- Database** CABI
- A120**  
**Author** de Saussay, C.  
**Title** Land tenure systems and forest policy.  
**Source** *FAO-Legislative-Study*. 1987, No. 41, 76 pp. (ISBN 92-5-102511-8).  
**Year** 1987  
**Language** English  
**Abstract** A discussion of the effects of different types of land ownership on forest and forest management. Chapter I deals with forest policy and private ownership with separate sections for simple land tenure systems (management objectives - conservation, reforestation, protection forests; and the role of authorities) and complex land tenure situations (minifundia - stopping subdivision, re-establishing viable-sized parcels, legal framework for cooperation; and ownership by traditional social groups). Chapter II on forest policy and public ownership has sections for state forests and communal forests.
- Keywords** enriched forest areas; environmental conservation; external organisational arrangements; forestry; geographically non-specific; internal regulations; plantation; review
- Database** CABI
- A121**  
**Author** Sawyer, J.  
**Title** Plantations in the tropics: environmental concerns  
**Source** Gland (Switzerland), IUCN, 97 pp. (fig, tables; bibliography ISBN 2-8317-0139-2).  
**Year** 1993  
**Language** English  
**Abstract** Concern about the environmental effects, particularly of large-scale plantations, prompted UNEP to initiate a study to clarify some of the issues involved. The resultant report illustrates both the potential of plantations and the problems which might arise if the massive tree plantations currently being suggested for the tropics were to be established. The first issue covered is species selection. This is discussed in relation to

plantation objectives and environmental site conditions. Various land tenure and social issues linked to large-scale plantations are analysed. Finally, some consideration is given to the economics of plantations, one of the areas of debate where most distortion has occurred. One of the main conclusions is that problems, when they do appear, tend to be linked not to the plantations per se but to the ways in which they have been designed and managed. IUCN therefore believes that drawing attention to the risks of poor planning and management practices may contribute to the improvement of existing and future plantations. A direct recommendation is that in-depth environmental and socioeconomic assessments should be carried out prior to planting.

**Keywords** environmental conservation; forestry; geographically non-specific; IUCN; plantation; report; technical methods; UNEP

**Database** TROPAG

**A122**

**Author** Sepulveda, S. and Raintree, J.B.

**Title** Land tenure and agroforestry in Central America: the case of Honduras.

**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.293-300 (Ed. Raintree JB, 5 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.

**Year** 1987

**Language** English

**Abstract** The development is described of a dynamic agroforestry alternative in the Comayagua Valley, Honduras, based on the working hypothesis that an appropriate agroforestry system can facilitate changes in land tenure at the farm level, or at least strengthen existing property rights. The land tenure situation was the first determinant of the type of system developed. The project area consisted of small (mostly 5-20 ha) privately owned farms in a region with a prolonged dry season. Other factors which defined the system to be developed were requirements for increased productivity, income stabilization, risk minimization through an increase in production diversity, simplicity and low cost, and maximization of component interactions. The traditional system in operation involved part allocation of the farm to maize and sorghum and part to natural cattle pasture; the cattle needed to be moved to collective or government land in the dry season, and lost weight and milk production because of overgrazing. The new system first involved planting of *Leucaena leucocephala* and sugar cane on some of the maize/sorghum land to provide dry season feed. This allowed more marginal land to enter production and consequently reduced pressure on the collective land. The next phase involved planting *Erythrina poeppigiana* as live fences and fruit trees to enrich the garden plot. The last phase involved commercial tree planting (e.g. of *Cordia alliodora*) on unused or marginal land. Time between phases was variable, an example is 2 yr. The scheme strengthened farmers' property rights.

**Keywords** animal production; crop production; farming systems; Latin America; sustainable development/ management; technical methods; trees on farms; workshop proceedings

**Database** CABI

**A123**

**Author** Sheehan, N. (Coordinator)

**Title** Workshop proceedings for gender and natural resource tenure research. A workshop sponsored by the Land Tenure Center of the University of Wisconsin-Madison, 3-4 October 1991.

**Source** *LTC Paper, Land Tenure Center, University of Wisconsin Madison. 1992, No. 144, 114pp. (11 tab., 2 fig., 4 app.)* Madison, Wisconsin USA.

**Year** 1992

**Language** English

**Abstract** An account is given of the presentations and discussions of the workshop which was attended by Land Tenure Center (LTC) research staff and selected University of Wisconsin-Madison faculty and graduate students. The workshop had three objectives: (1) to explore the question of how social relations between and among men and women

structure or determine the multitude of natural resource tenure regimes and land use patterns found around the world; (2) to provide information on a variety of research methods useful in assessing and gaining a better understanding of resource use and tenure patterns resulting from these social relations; and (3) to discuss theoretical and methodological issues in terms of LTC research mandates, that is, to identify present research gaps and future research priorities. Both the Gender Roles framework and a more recently adapted arrangement by farming systems research and extension (FSR/E) researchers were used to analyse two case studies which were designed to stimulate discussion on methodological issues, policy implications and research priorities. The first case study concerned the design and implementation of three development projects in Sri Lanka while the second dealt with the planning of an agroforestry research and extension project in Kenya.

**Keywords** Africa; Asia; case studies; gender issues; land use patterns/ mapping; LTC; research requirements; workshop proceedings

**Database** CABI

**A124**

**Author** Shepherd, G.

**Title** Forest Policies, Forest Politics

**Source** *ODI Social Forestry Network Papers, 3a.*

**Year** 1986

**Language** English

**Abstract** Customary tenure is flexible, administered by local leaders regarded as legitimate, and with a certain degree of discretion. Nationally imposed tenure systems are homogeneous throughout the country regardless of rainfall and land-use system, are fixed at one moment in time and adapt very slowly to longer-term change. A local relatively sensitive political authority is exchanged for remote, locally ignorant government. Customary tenure states that : •those who live nearest to natural resources have stronger rights to it than outsiders. •self-sown trees are common property and rules governing their use are evolved locally. •planted or preserved trees belong to the individual who has gone to the trouble to plant or protect them, and are likely to strengthen that individual's rights to the land on which the trees are found. •the clearing of trees in heavily forested areas (i.e. the investment of labour in the creation of agricultural land) will confer tenure rights. Modern state tenure has been able to recognise the acts of land-clearance, and planting, as acts which fit with European ideas of land title. But tree-usufruct and tree-preservation activities practised communally have been far more invisible to them, and it has followed that those who use an existing forest resource, rather than planting it or clearing it, will have weak rights. Thus the weak position today of forest dwellers. The State also, not surprisingly, finds it difficult to concede that the strongest forest rights belong to those who live nearest. The paper highlights the present-day competition over land use which is inherent in forest problems. Conflicts over the role of trees - and hence their management - occur between local subsistence needs and State revenue demand; between rural and urban demand; and between the poor and the rich. Once forests are under pressure, what roles must they satisfy? Dwindling forests mean that not all the functions the forest previously served can continue. What changes must be made and what can continue? Management strategies are likely to need radical revision, but the more powerful party - the State - is likely to try to maintain State functions for the forest and cancel local use-rights, though this can never work. One solution is to allow local people to strengthen their rights in a way understood by modern state tenure systems - by planting, by land-leases, and by increasing political rights over the area they administer.

**Keywords** conflict resolution; external organisational arrangements; forestry; geographically non-specific; institutional development; internal regulations; natural forest; paper; plantation; tenural change and evolution

**Database** ODI

Section A - Tenure Rights

**A125**

**Author** Shepherd, G.  
**Title** The communal management of forests in the semi-arid and sub-humid regions of Africa: past practice and prospects for the future.  
**Source** *Development Policy Review* 9(2): 151-176 (57 ref.).  
**Year** 1991  
**Language** English  
**Abstract** An analysis of indigenous forest management practices in dryland Africa, based on an extensive literature search. It is argued that ownership and management are closely related and that, in many cases, management of trees in farmland/rangeland and in woodland cannot usefully be separated. Ownership is discussed in relation to inheritance, residence and the rights of primary and secondary users. Indigenous management methods include: long and short fallow systems; reservation, sacred groves and religious sanction; and management of individual trees. Effects on woodland management are outlined for state action, changes in tenure and land-use, loss of authority by local leaders, population growth, shortening of fallows, growth of towns and climate. Four projects (in Niger, Sudan, Somalia and Kenya) are used as case examples.  
**Keywords** Africa; fallow systems; indigenous knowledge; internal regulations; journal article; natural forest; population pressure; sacred sites; social organisation  
**Database** CABI

**A126**

**Author** Soetrisno, L. and Raintree, J.B.  
**Title** Notes on agroforestry projects in Developing Countries.  
**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp. 261-263 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.  
**Year** 1987  
**Language** English  
**Abstract** It is argued that agroforestry projects in Developing Countries cannot be successful without drastic changes in the nature of the existing relationship of conflict between government forest departments and poor members of the forest based community. Ideally, projects should be preceded by an effective land reform programme which would allow the poor to own their own land, and which should provide them with an alternative stable source of income, thus making them independent of forest land as an income source.  
**Keywords** external organisational arrangements; geographically non-specific; institutional development; natural forest; policy; tenural change and evolution; trees on farms; workshop proceedings  
**Database** CABI

**A127**

**Author** Sollart, K.M.  
**Title** Traditional Tree Management and Conservation Methods in the Sahel  
**Source** *BOS Document No. 4*, Wageningen.  
**Year** 1986  
**Language** English  
**Abstract** In the Sahel, rainfall varies between 100-600mm per annum, and the ground cover comprises, among other species, *Acacia senegal*, *F. albida*, *Panicum turgidum*, *Cyperus conglomeratus*, *Echinochlea colona*, *Maercia crassifolia*, *Balanites aegyptiaca*. Soils are fairly arid in the north, but as one moves south ferruginous soils on sands, and clay-loam soils are found. Nomads in the north and settled farmers in the south are united in the middle by a transitional belt involving both stock-raising and farming. In all systems, trees are an important component of the production base. However, according to this author, farmers are more experienced tree managers than herders are. In much of the Sahel, tree and land ownership is distinct, which leads to conflict if the landowner regards the

presence of trees as an inhibiting factor in the development of his/her crop. Thus long-term investment in planting trees is often limited to those with secure title to the land involved. Nevertheless, tree-use is vital. Shea nuts are needed for cooking oil; bark is woven and dyed; trees produce fuelwood, fruit and fibres, medicines and construction materials. Trees offer a fall-back resource in times of drought, and tree exudates (latex, resin, gum) are important. In many agro-silvo-pastoral systems, *Acacia senegal* seedlings are protected. In several settled farming communities, planting of trees has long been practised (e.g the gum arabic tree-swidden-fallow system). Likewise, indigenous plantations of fuelwood and fruit trees, such as *Adansonia digitata* gardens, may be found in much of the Sahel. Trees are planted for shade, fencing or religious reasons (on graves and tombs). Pruning, as a systematic management method is rarely found. Where it is, the trees are usually heavily lopped in order to provide browse. Fire is also used for management purposes. Local taboos on certain species and activities may be deeply rooted beliefs based on historical observation and an understanding of the local ecosystem. In the case of *Faidherbia albida*, lopping is prohibited or regulated and the tree is described in proverbs and sayings as the protector of farm fields and soils. However, in Burkina Faso, there are also taboos placed on the practice of planting trees, which are connected to perceived threats to the socio-economic system. Resource management strategies have deteriorated during the post-colonial period. Among nomads and cultivators, land designated as common property has become seriously depleted as individuals and/or tribes have competitively over-exploited common lands instead of applying regulatory and conservational measures.

**Keywords** Africa; environmental degradation; farming systems; indigenous knowledge; internal regulations; report; savanna woodland; socioeconomic issues; trees on farms

**Database** ODI

**A128**

**Author** Somanathan, E.

**Title** Deforestation, property rights and incentives in Central Himalaya.

**Source** *Economic and Political Weekly* 26(4): 37-46 (2 tab., BLDSC, 35 ref.)

**Year** 1991

**Language** English

**Abstract** This paper analyses the problem of deforestation and ecological degradation in a central Himalayan region of India, and outlines a policy for combating it. It is shown that the fundamental reason for deforestation is the prevailing system of property rights, which denies the local people certainty about the future benefits from forests. This has destroyed the incentive to use forests sustainably. It is therefore suggested that the present structure of rights of use and control over forest lands be changed. Specifically, joint management of all but the inaccessible forests by van (i.e. forest) panchayats and the forest department is proposed, with a division of powers between them that is designed to resolve the incentive problem. The dependence of the hill population on forests is described in section 2. Section 3 assesses the variety of means traditionally used to resolve the commons problem. Section 4 describes how the traditional institutions were undermined by the new property rights in forest lands that were created with the coming of state-sponsored commercial forestry. The resulting incentive problems are analysed in section 5 whereas section 6 suggests a reform of property rights in forests. This is needed if ecological deterioration in the Uttar Pradesh Himalaya is to be halted.

**Keywords** Asia; conflict resolution; deforestation; environmental degradation; external organisational arrangements; internal regulations; journal article; natural forest; sustainable development/ management; tenural change and evolution

**Database** CABI

**A129**

**Author** Southgate, D.

**Title** The causes of land degradation along 'spontaneously' expanding agricultural frontiers in the Third World.

**Source** *Land Economics* 66(1): 93-101 (2 fig., BLDSC, 14 ref.).

Section A - Tenure Rights

**Year** 1990  
**Language** English  
**Abstract** Focusing on the cycle of excessive deforestation and erosive farming emerging along 'spontaneously' expanding agricultural frontiers in the Third World, this paper addresses colonists' choices among resource development options with the aid of a model designed to reflect land tenure arrangements typically encountered in areas undergoing settlement. The model is used to assess the effectiveness of institutional and non-institutional remedies of land degradation problems in developing country hinterlands undergoing 'unplanned' settlement. It is concluded that technological innovation or price deregulation alone do not resolve the problem of land degradation along agricultural frontiers. The cycle of excessive land clearing and erosive farming can be broken only by accomplishing the politically charged task of changing the institutional causes of that cycle. To be specific, conservation of forested hinterlands is encouraged by strengthening the property rights of settlers, of those adversely affected by deforestation and erosion, or of both groups.  
**Keywords** deforestation; environmental degradation; forest margins; geographically non-specific; journal article; natural forest; tenural change and evolution  
**Database** CABI

**A130**

**Author** Speth, K.  
**Title** Forest utilisation and management practices of a Nepalese hill community.  
**Source** Thesis, Department of Forestry, Wageningen Agricultural University, Wageningen, the Netherlands.  
**Year** 1990  
**Language** English  
**Abstract** This thesis studies the local people's practices (and perceptions) of forest utilisation and management in the Naldung hill community in Nepal. After giving a theoretical background the thesis describes forest resources and trees utilised outside the forests, utilisation of timber, fuelwood, fodder, litter and other forest products and people's perceptions of forest resources. Existing forest management systems are described including local institutions, tenure and practices of vegetation management. Two important conclusions which must be addressed for community forestry action to succeed are the diversity of perceptions and attitudes within a village, and the existing focus on protection and regulation but not sustainability.  
**Keywords** Asia; forestry; institutional development; internal regulations; social organisation; thesis  
**Database** NRI

**A131**

**Author** Stienbarger, D.M.  
**Title** Tenure and alley farming: a literature review, with particular reference to the West African humid zone  
**Source** *Land Tenure Center Paper Wisconsin Univ. (USA). no. 138*, 39 pp. (fig, tables; bibliography ISSN 0084-0793).  
**Year** 1990  
**Language** English  
**Abstract** This literature review of tenure and alley farming in West Africa describes the processes involved in lineage-based tenure systems and the range of tenure types that might be found in West Africa: land rights; tree tenure, in particular individual, group and state rights in trees, distinguishing commercial, subsistence trees and tree products, and exotic trees; gender factors in tree tenure, including women's rights to trees; and experiences of the International Livestock Centre for Africa with introducing alley farming in Nigeria to highlight land and tree tenure issues specific to livestock production and land use management. Based on the literature review, further research into land tenure, tree tenure, state rights, gender issues and livestock production is suggested, with the ultimate aim of identifying the conditions favouring the introduction and adoption of alley farming.

**Keywords** Africa; alley farming; animal production; external organisational arrangements; farming systems; gender issues; generational equity; ILCA; internal regulations; paper

**Database** TROPAG

**A132**

**Author** Subedi, B.P., Das, C.L. and Messerschmidt, D.A.

**Title** Tree and land tenure in the eastern Terai, Nepal: a case study from the Siraha and Saptari districts, Nepal

**Source** *Community Forestry Case Study Series (FAO)*. 1994 no. 9, 123 pp. (figs, photos, tables; bibliography). Institute of Forestry, Tribhuvan Univ., Pokhara, Nepal.

**Year** 1994

**Language** English

**Abstract** An in-depth analysis of 2 Nepalese communities is presented, revealing how issues of tree and land tenure and recent immigration have a direct impact on the success of community forestry initiatives. The legal and economic constraints facing tenant and landlord alike are examined. As well as providing a solid body of research into forest product user groups, it is suggested how tree-planting can potentially be fostered on common and reserve lands and in the vicinity of village ponds. A further objective of the study was to explore the use in a Nepali setting of the rapid appraisal methodology. A description of the research area, in the eastern Terai, Nepal, and of the concept of a "tenure niche", which is a socio-ecological concept used to describe and discuss a variety of options, opportunities and conditions for the use and management of land and landed resources, is given. The value of private holdings and of common and reserve lands is reviewed. It is concluded that there is a need for new and improved uses of both the natural and human resources related to the 3 tenure niches: private holdings, commons and government reserve land. Before any improvements to tree and land tenure can be addressed, however, the issues of equity in all its aspects: social, economic and political must be better understood.

**Keywords** Asia; case studies; external organisational arrangements; forestry; internal regulations; plantation; social organisation; socioeconomic issues; trees on farms

**Database** TROPAG

**A133**

**Author** Sun, C.J.

**Title** Community forestry in southern China.

**Source** *Journal of Forestry* 90(6): 35-40 (14 ref.).

**Year** 1992

**Language** English

**Abstract** A brief historical account is given of the administration and management of forests by individual families and communes in southern China since 1949. The main stages involved were land reform (1950-56), the period of socialist transformation (1956-58), the People's Commune System (1958-81) and the Contract Responsibility System (Phase 1, stabilization and consolidation, 1981-84; and Phase 2, 'overall openness', 1985 to present). Aspects described and discussed include land and tree ownership (tenure), the production system and timber marketing.

**Keywords** Asia; historical perspective; journal article; social organisation; technical methods

**Database** CABI

**A134**

**Author** Suryanata, K.

**Title** Fruit trees under contract: tenure and land use change in upland Java, Indonesia.

**Source** *World Development Oxford* 22(10): 1567-1578 (2 fig., 2 tab., 40 ref.).

**Year** 1994

**Language** English

**Abstract** The spread of fruit-based agroforestry in Java attests to the proposition that market incentives enhance the adoption rate of tree planting in agroforestry. Commercialization, however, changes the social relations of production and creates unexpected land-use patterns, the case study shows that under market pressures, agroforestry loses some of



the properties that earn it the reputation of being a sustainable system. It examines the development of multiple tenures associated with the planting of high-valued apple trees in a Javanese mountain village, Gubugklakah, on the slope of Mount Bromo in East Java. The apple boom in this village has resulted in the development of large apple orchards, decreasing the levels of equity and biological diversity that ordinarily characterize agroforestry systems. Some farmers still grow vegetables between rows of apple trees, leeks and scallions are the most common, but potatoes, CABibages and garlic are preferred. The paper also provides a background to the fruit boom in Java by outlining the place of fruit in the Indonesian agricultural economy and the economic circumstances in which the boom originated. The study confirms the argument that the issue of tenure and resource control is central in examining resource management systems. The findings also question the assumption of the independent ability of agroforestry operators to adopt a certain management strategy, in spite of possessing the technical knowledge.

**Keywords** Asia; biodiversity; crop production; journal article; natural forest; plantation; socioeconomic issues; sustainable development/ management; tenural change and evolution

**Database** CABI

**A135**

**Author** Swift, J. and Purata, S.E.

**Title** Forestry and food security in the pastoral economies of northern tropical Africa

**Source** Background paper presented February 1988, Bangalore, for Expert Consultation on Forestry and Food Production/Security, FAO, Rome. (The Tuareg)

**Year** 1987

**Language** English

**Abstract** The Kel Adwar, a group of Tuareg in north-eastern Mali, live in the transition zone between the Sahel and the Sahara, where rainfall is unpredictable and variable. Their main activity is pastoralism, usually with a combination of camels, cattle, sheep and goats. All animals are individually owned but land and water rights are much less clear. Each clan is historically associated with a particular wadi or group of wadis, but within each clan, pasture is a common resource. Households using part of a wadi can prevent others from cutting down trees there, although they cannot prevent others from allowing their animals to browse on the trees. The reduction in gathering of bush produce by the Tuareg has been attributed to the emancipation of slaves who used to perform these tasks, to the drought and to the increase in population density.

**Keywords** Africa; farming systems; internal regulations; natural forest; paper; social organisation

**Database** ODI

**A136**

**Author** Tewari, R.N. and Mascarenhas, O.A.J.

**Title** Wasteland development and environmental management through community forestry.

**Source** Natraj Publishers; Dehra Dun; India. 121 pp.

**Year** 1983

**Language** English

**Abstract** An account of a Community Forestry Management for Rural Development (CFMRD) project carried out over 4 yr at Khakripara, a peri-urban village of 934.1 acres on the Chotanagpur Plateau, Bihar. The project was conceived in Sept. 1977 under the auspices of the Xavier Labour Relations Institute and started in Oct. 1978. CFMRD aims to make all land space surrounding a community productive and at Khakripara it utilized wasteland and forest 'blanks'. The planning, organization and management of the scheme are described. Tables give detailed data on the characteristics, population, and land use and ownership of the area, and on the economics of various parts of the scheme (e.g. cattle and tasar silkworm rearing, paddy cultivation, eucalyptus planting and management and growing groundnuts with forest species).

**Keywords** animal production; Asia; book; CFMRD; crop production; economics; forestry; internal regulations; organisational development; wastelands

**Database** CABI

A137

**Author** Thomson, J.T.  
**Title** Participation, local organization, land and tree tenure: future directions for Sahelian forestry.  
**Source** *OECD for Club du Sahel, Paris France* 33pp. (2 tab., bibl., BIDS.).  
**Year** 1983  
**Language** English, French  
**Abstract** This paper reviews the question of a social forestry policy for The Gambia, Mali, Niger and Upper Volta. It is based on the Forestry Programme Assessments carried out by the CILSS/Club du Sahel in 1981-82, and constitutes a critique of these as they do not take sufficient account of popular participation but focus on technical forestry problems. Social forestry assumes that rural populations must bear greater responsibility than they now do for assuring sustained yield use of renewable natural resources. This is all the more urgent in that national Forestry Departments lack the money, manpower and equipment necessary to control resource-use adequately and to provide for future supplies of wood, pastures, soils and water. The foresters' role should be increasingly one of extension to support and strengthen participatory management efforts. However, rural people must be sensitized to conservation consciousness and the technical, economic, financial, legal and political constraints they face must be overcome or reduced so that it becomes feasible for them to participate in sustained yield management.  
**Keywords** Africa; economics; external organisational arrangements; institutional development; report; sustainable development/ management; tenural change and evolution  
**Database** CABI

A138

**Author** Thomson, J.T. and Raintree, J.B.  
**Title** Land and tree tenure issues in three Francophone Sahelian countries: Niger, Mali and Burkina Faso.  
**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.211-216 (Ed. Raintree JB, ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.  
**Year** 1987  
**Language** English  
**Abstract** Five topics are discussed. (1) The main tenure problems of the 3 countries and their impact on the adoption of agroforestry innovations. The 2 tenure issues constraining agroforestry are the forestry code provisions determining tree tenure rights (which define 10-15 major tree species as protected and nationally regulated common pool resources), and (less important) national government authority over land. (2) Agroforestry systems showing potential for solving or mitigating existing tenure problems. Central Sahelian systems are based either on local (usually protected) tree species, or on exotics (principally neem, *Azadirachta indica*) which are not subject to state control, and mixed systems of local and exotic species. (3) Promising new approaches to the social organization of land use and their relevance for agroforestry. The two main developments are: attempts by individuals or communities to create local 'outlaw' tree tenure systems without formal state sanction; and the involvement of wood users in the management of forestry projects. (4) Research needed to clarify particular tenure issues in agroforestry. (5) The relationship of the above considerations to planning and implementation of research and development projects.  
**Keywords** Africa; enriched forest areas; external organisational arrangements; forestry; institutional development; internal regulations; organisational development; plantation; social organisation; tenural change and evolution; workshop proceedings  
**Database** CABI

**A139**

**Author** Thomson, J.T., Feeny, D.H. and Oakerson, R.J.  
**Title** Institutional Dynamics: the evolution and dissolution of Common Property Resource Management  
**Source** In: *Common Property Resource Management* pp. 391-424 BOSTID National Academy Press, USA.  
**Year** 1986  
**Language** English  
**Abstract** Only the case of Zinder, Niger, in the arid West African Sahel is used from this article, an area of shifting cultivation. From 1884-1935 there were local CPRs near villages, more general CPRs further away and a nationwide commons for the tree *Faidherbia albida*. From 1935-1974 legal state protection was extended to 14 additional species, and to some extent enforced. From 1974 to 1984, CPRs failed, village woodlots as communal assets failed to replace them satisfactorily, and farmers began to claim private rights to the trees found on their farm-land. Tree management intensified as the population increased. To start with, only a few tree species were treated as private property, with *Faidherbia albida* the preserve of the sultans. All other species were available to all. After 1935, with the colonial government's Forestry Code established, local management was curtailed and national-level rules substituted for them. The main other external changes which have had an impact on the situation have been population growth and enlarging markets.  
**Keywords** Africa; chapter; community woodlot; external organisational arrangements; institutional development; internal regulations; trees on farms  
**Database** ODI

**A140**

**Author** Tjondronegoro, S.M.P. and Raintree, J.B.  
**Title** Notes on tenure and agroforestry in Indonesia.  
**Source** In: *Land, trees and tenure. Proceedings of an international workshop on tenure issues in agroforestry, Nairobi, May 27-31, 1985, 1987* pp.253-259 (Ed. Raintree JB, 7 ref., ISBN 0-934519-01-3). Joint publication with Land Tenure Center (LTC), Madison, Wisconsin, USA and International Council for Research in Agroforestry (ICRAF); Nairobi; Kenya.  
**Year** 1987  
**Language** English  
**Abstract** Including some general statistics on forest land, and notes on agrarian reform in the 19th and 20th centuries, and on ecological zones and sectoral concerns.  
**Keywords** Asia; farming systems; forestry; historical perspective; natural forest; plantation; workshop proceedings  
**Database** CABI

**A141**

**Author** Tonye, J., Meke-me-ze, C. and Titi nwel, P.  
**Title** Implications of national land legislation and customary land and tree tenure on the adoption of alley farming  
**Source** *Agroforestry Systems (Netherlands)* **22**(2): 153-160 (11 ref.; summary (En) ISSN 0167-4366). Institut de la Recherche Agronomique, Yaounde, Cameroon.  
**Year** 1993  
**Language** English  
**Abstract** Population growth in the forest zone of Cameroon has led to a reduction of fallow periods and to a diminution of per capita cropping land area. Although alley farming is a promising technology for the zone, its perennial nature may make it difficult for farmers to accept when they do not have full ownership rights to land and trees. A study was conducted in 1990 to determine the effect of national land legislation and customary land and tree tenure on the adoption of alley farming in Cameroon's forest zone. It is shown that despite the existence of national land legislation, land and tree tenure in the forest zone are largely determined by customary rules. Customary land and tree tenure do not adversely affect the adoption of alley farming, but insecurity of land tenure does so. Farmers with secure land and tree tenure rights should be the first target for alley

- farming. Women do not inherit land but being the first concerned about food crop and fuelwood production, it is expected that they would readily adopt alley farming.
- Keywords** Africa; alley farming; external organisational arrangements; farming systems; gender issues; institutional development; internal regulations; journal article; social organisation
- Database** TROPAG
- A142**
- Author** Torres, F., Raintree, J.B., Dalmacio, M.V., Darnhofer, T., Dalmacio, R.V. and del Castillo, R.
- Title** Chapter 9. Agroforestry systems for smallholder upland farmers in a land reform area of the Philippines: the Tabango case study.
- Source** In *Man, agriculture and the tropical forest. Change and development in the Philippine uplands* pp.245- 268 (Eds. Fujisaka-S. and Sajise-P, 18 ref., ISBN 0-933595-12-3). Winrock International Institute for Agricultural Development; Bangkok; Thailand.
- Year** 1986
- Language** English
- Abstract** The two main land-use systems in Tabango are: the coconut based perennial tree crop systems, which may also include livestock grazing in the understory, and are productive and sustainable; and the permanent upland cultivation of field crops, which is not sustainable. The tree crop system is feasible for farmers with >5 ha of land, but most of this land is owned by large landowners who in return for tree planting labour allow landless farmers to cultivate crops under canopy until it closes. Tabango is included in the government land reform programme 'Operation Land Transfer' in which the government buys land from the landlords of small farmers and offers the title to the farmer after a specified pay-back period. The area of land involved is often small (<2 ha) and, therefore, not suitable for the tree cropping system. This case study gives an account of the ecology and farming systems of Tabango and presents a 'Diagnosis and Design' analysis of major land use problems and potentials, with design specifications. Possible agroforestry and non-agroforestry interventions are listed and discussed. Agroforestry interventions are preferred alternatives and an alley cropping system based on *Leucaena leucocephala* and maize is proposed. Appropriate research projects are proposed for this, including the use of other woody species and crops.
- Keywords** Asia; case studies; chapter; economics; external organisational arrangements; institutional development; socioeconomic issues; sustainable development/ management; taungya systems; technical methods; tenural change and evolution
- Database** CABI
- A143**
- Author** Trankell, I.B.
- Title** On the road in Laos: a report on the social impact of road construction on rural communities in Lao PDR.
- Source** *Report Development Studies Unit, Department of Social Anthropology, University of Stockholm No. 22, 71pp. (app., map, 27 tab.,42 ref.)* Stockholm, Sweden.
- Year** 1992
- Language** English
- Abstract** The report presents an anthropological account of some of the findings from a two-part socioeconomic planning study carried out in late 1991 and early 1992 within the Lao Road Sector Support Programme. The study focused on the impact of the road construction programme on local communities, ethnic groups and gender relations, with regard to the rehabilitation of the National Road 13 South from Vientiane municipality to Pakkading district in Bolikhamxai province. Fieldwork was conducted during November-December 1991. Selection of villages and other local sites visited and included in the investigation was based mainly on geographical criteria following their location along the road and on the ethnic composition of districts and villages. The report presents findings on ethnicity; the socioeconomic situation of villages in Vientiane; marketplaces and commercial centres, and the socioeconomic survey of roadside villages in Bolikhamxai province. Consideration is then given to social, economic and political change in the context of forestry, agriculture and land use in relation to the road; land, labour and

gender; on-farm and off-farm transport needs; changing landholding patterns in roadside villages; political and socioeconomic changes at village level; and wealth ranking and political-economic power. Discussion follows of the general consequences of the improved road for the Lao Sung, the Lao Theung and the Lao Lum, and of the social and cultural priorities along the improved road. Conclusions highlight the significance of socioeconomic, cultural and structural determinants in access to and use of improved roads.

**Keywords** Asia; institutional development; social organisation; socioeconomic issues  
**Database** CABI

**A144**

**Author** van Duijl, E.  
**Title** Women's access to trees and women planting trees: A study on the complications of tenure issues in agroforestry.  
**Source** In: *People's participation in social forestry projects. Report of a workshop held on 27 October 1987. Bos-Document 7* (Ed. Berenschot, L) Department of Forest management, Wageningen Agricultural University and Foundation for Dutch Forestry Development Co-operation.  
**Year** 1987

**Language** English

**Abstract** The study was made in Machakos District among the waKamba, at an altitude of 1200m. This is a sub-humid to semi-arid area with 850mm rainfall per annum. Kamba men used to be hunters, livestock keepers and long-distance traders, while women farmed millet. They have turned increasingly to sedentary agriculture as population densities have increased and land has been registered. The ownership of trees coincides with the ownership of land, and the head of household controls both. The household head's position has become more important with the privatisation and registration of land. There is now evidence that the division of land between sons occurs earlier than previously to encourage greater investment in and improvement to land such as terracing, and tree-planting. Exotics, and planted trees in general, are regarded as private property, while indigenous naturally occurring trees are still regarded by some as available for fuelwood to all. In cases where trees are scarce, the male head of household will control the rate of cutting. Tree-logging for fodder and for fencing (carried out by men) takes priority over logging for fuelwood (done by women). Trees may be retained by the individual most easily if they are planted or exotic. Valuable exotics such as *Grevillea robusta* and *Eucalyptus spp.* will be logged in such a way that a central pole for construction timber is encouraged, while side branches can be used for fuelwood.

**Keywords** Africa; agroforestry; fodder production; fuel wood; gender issues; report; social organisation; technical methods; tenural change and evolution; timber/ pole products; trees on farms

**Database** ODI

**A145**

**Author** Vergara, N.T. and Gholz, H.L.  
**Title** Agroforestry: a sustainable land use for fragile ecosystems in the humid tropics.  
**Source** In: *Agroforestry: realities, possibilities and potentials*.pp. 7-19 (28 ref). Martinus Nijhoff, Dordrecht; Netherlands.

**Year** 1987

**Language** English

**Abstract** After an introduction noting the potential and fragility of tropical ecosystems, the paper discusses strategies for maintaining the productivity of ecosystems with respect to nutrient balance, and the use of traditional and modern agroforestry systems on them. The traditional rotational system of swidden cultivation, and modern improvements to it, are described and discussed. The dangers of swidden systems, leading to site degradation because of shortened fallow periods and lack of land availability, are noted. The modern agroforestry system of intercropping is described and contrasted with the swidden system, and constraints and opportunities for its wider adoption discussed.

**Keywords** Constraints include land tenure problems, the need for the adoption of new technologies and support systems for them, and problems in the marketing of surpluses. chapter; external organisational arrangements; fallow systems; farming systems; geographically non-specific; intercropping; sustainable development/ management; technical methods

**Database** CABI

A146

**Author** Vergara, N.T. and Nair, P.K.R.  
**Title** Agroforestry in the South Pacific region: an overview  
**Source** *Agroforestry Systems (Netherlands)* 3(4): 363-379 (fig, photos, tables, 15 ref., summary (En) ISSN 0167-4366) Environment and Policy Inst., University of Hawaii, Honolulu, Hawaii, USA.

**Year** 1985

**Language** English

**Abstract** The major agroforestry systems and practices in the developing countries of the South Pacific region are reviewed. These include various forms of combination of tree crops such as coffee, coconut and cacao with nitrogen fixing trees such as *Casuarina*, *Gliricidia* and *Leucaena*, and food crops (mostly tubers) such as cassava, taro, sweet potato and yams. Additionally, some improvements to shifting cultivation are also being tried in several places, the most common being the use of *Casuarina oligodon* before abandoning the swidden as in Papua New Guinea highlands, and intercropping food crops in tree crop stands. The land tenure system in most of the countries is the traditional clan or extended family control over land. This can have either positive or negative influence on the adoption of agroforestry practices depending on the extent and duration of "tenancy" tenure enjoyed by the assignees of land. Several governments of the region are now promoting the agroforestry approach. The lack of roads and communication facilities can pose a problem in marketing surplus products. The immediate opportunity in agroforestry in the region lies in making better use of the unexplored potential of a large number of locally available trees and agricultural crops. Intercropping in tree crop stands and the taungya system seem to be promising methods for the Pacific region. From authors' summary.

**Keywords** crop production; external organisational arrangements; farming systems; intercropping; internal regulations; journal article; Oceania; taungya systems

**Database** TROPAG

A147

**Author** von Oppen, A.  
**Title** Farmers, land and trees. Land conflicts and their ecological effects in Tanzanian villages after Ujamaa.

**Source** *Afrika Spectrum* 28(2): 227-254, (46 ref.).

**Year** 1993

**Language** German

**Abstract** The increasing difficulty which village leaders in Tanzania are having in motivating villagers to take part in communal afforestation schemes despite awareness of environmental problems is contrasted with individual peasants' involvement in conservation measures, particularly tree planting, since the 1980s. These opposing trends are taken to illustrate both the demise of the planned village and current struggles about land rights in rural Tanzania. The enforcement of large nucleated villages in the 1970s spurred various older conflicts between peasants and bureaucrats, and among peasants themselves, with severe social and environmental implications. The Ujamaa scheme failed to create sustainable local public interest institutions to replace traditional ones which it destroyed, and the resulting land conflicts are becoming destructive. New legislation is under discussion which may provide a legal framework for negotiating conflicts involving elements of customary tenure, the area covering villages and private ownership titles.

**Keywords** Africa; conflict resolution; journal article; organisational development; social organisation; tenural change and evolution

**Database** CABI

**A148**

**Author** Weinstock, J.A. and Vergara, N.T.

**Title** Land or plants: agricultural tenure in agroforestry systems.

**Source** *Economic Botany* **41**(2): 312-322 (11 ref.).

**Year** 1987

**Language** English

**Abstract** The conflict between rights to land and rights to plants is discussed with reference to the agroforestry systems of Kalimantan (Indonesia) and Papua New Guinea. The Luangans of Kalimantan have developed an ecologically stable and economically viable agroforestry technology that encourages the cultivation of perennial species. In contrast, clans in Papua New Guinea grant only temporary land tenures and permit only short-term crops, thus ruling out perennial components of agroforestry. It is concluded that the perceptual separation of land and plant rights needs to be explored if agroforestry practices are to be not only ecologically stable and economically sound, but also culturally acceptable.

**Keywords** agroforestry; Asia; farming systems; internal regulations; journal article; social organisation

**Database** CABI

**A149**

**Author** Westley, S.B., Quintrell, E. and Smucker, G.R.

**Title** Agroforestry project in Haiti reaches 80,000 farmers.

**Source** *ICRAF Newsletter and Agroforestry Review* No. 24 pp.1-5.

**Year** 1988

**Language** English

**Abstract** A descriptive account of the Haiti Agroforestry Outreach Project set up in 1981 to combat the problems of deforestation and erosion on steep mountainside farms, which have led to reduced agricultural production and increased rural poverty. The project covers sites from the northern plateau to the SW of the island and its organizers are the Pan American Development Foundation (PADF), the Cooperative for American Relief Everywhere (CARE), and Operation Double Harvest, all of which receive substantial funding from USAID. Aspects discussed include assistance to farmers with tree planting (which is given by private voluntary organizations who sign an agreement with the project organizers), the support of local tree nurseries, choosing tree species and improving tree survival. The project has surpassed its original goals. One of the important reasons for this is considered to be the fact that farmers own the trees they plant so that the project is demand driven and responsive to the great need for wood in Haiti. In 1987, USAID extended its support for the umbrella project for another 3 yr, and the PADF part of the project has also received important support from other (international) donors.

**Keywords** CARE; Caribbean; economics; forestry; journal article; LVO; PADF; social organisation; technical methods; trees on farms; USAID

**Database** CABI

**A150**

**Author** Wiersum, K.F.

**Title** Significance of social organization and cultural attitudes for agroforestry development.

**Source** *Serie Tecnica: Informe Tecnico Centro Agronomico Tropical de Investigacion y Enseñanza* **117**: 23-33 (25 ref., ISBN 9977-57-022-1) Turrialba, Costa Rica.

**Year** 1987

**Language** English

**Abstract** Several socio-cultural factors should be considered in agroforestry development. Many of these influence any land-use practice, but some are specifically related to the cultivation of trees, and knowledge of their significance has advanced significantly. Such factors include lack of homogeneity in village structure, land and tree tenure arrangements, division in sexual roles, and local perceptions and attitudes to trees. These are often interrelated and there is a consistency between the behavioural pattern of a society and

its resource use practices. Based on such consistencies various types of lifestyles with specific strategies for resource use can be distinguished. Such lifestyles are not static, but dynamic. Consequently, both traditional and adaptive strategies of resource use can be found. Often the strategies also involve the use and management of trees. Such indigenous practices of tree management can often form the basis for further agroforestry development.

**Keywords** gender issues; geographically non-specific; indigenous knowledge; internal regulations; journal article; social organisation; socioeconomic issues

**Database** CABI

**A151**

**Author**

**Title** Community participation, NGO involvement and land tenure issues in the Philippine reforestation program: assessment of the ADB-funded contract reforestation program in the Philippines

**Source** Metro Manila (Philippines), Asian NGO Coalition, 50 pp. (figs, tables, ISBN 971-8632-12-3).

**Year** 1991

**Language** English

**Abstract** The largest reforestation and forest management efforts of the Department of Environment and Natural Resources (DENR) in the Philippines is the Contract Reforestation Programme (CRP) funded by the Asian Development Bank. Main issues in the programme were equity, land tenure, community participation and the role of NGOs. An evaluation of 6 case studies of the CRP illustrate strengths and weaknesses of the programmes. Major problems encountered were (1) the lack of community participation in identifying reforestation sites; (2) the long periods involved in processing papers and releasing funds; (3) the lack of DENR personnel to ensure effective monitoring and evaluation; and (4) the inadequate first fund release to meet initial reforestation costs. It is recommended to improve participation and involvement of NGOs and upland communities.

**Keywords** Asia; Asian Development Bank; case studies; CRP; external organisational arrangements; NGO; reforestation; report; social organisation

**Database** TROPAG

**A152**

**Author**

**Title** Stewardship as an alternative to land ownership in the Philippine uplands.

**Source** In: *College, Laguna (Philippines). UPLB-FDC. Mar 1988.* 45 pp. Philippines Univ., Los Banos, College, Laguna (Philippines). Forestry Development Center.

**Year** 1988

**Language** En (English)

**Abstract** This paper examines the problems and issues in the granting and in the consequent acceptance of the certificate of stewardship contract (CSC). It focuses on the insights gained from interviewing CSC recipients and 21 Integrated Social Forestry Program (ISFP) officers in 6 BFD [Bureau of Forest Development, Philippines] districts of Region 4. It describes and analyzes stewardship as an alternative to absolute land ownership on two perspectives: the welfare of the people and the condition of the land and forest resources. A major finding of the study was that the CSC recipients are apprehensive of their land security after 25 years and fear that the government might get back the land covered by the CSC after it has been fully developed. The study also revealed such other problems as: continued opening/occupancy of forest areas not originally covered by the December 1981 cut-off date and those excluded in the ISFP, political interference, inadequate or lack of skilled manpower to provide technical assistance and related services to the CSC recipients. Analysis of the problems and issues drawn from the interviews, including those taken from related reports on the ISFP revealed that stewardship can be a defensive land management strategy for the uplands, provided that similar bio-physical and socio-cultural condition exists. The exceptions are some areas where CSC is not generally acceptable such as in the Cordilleras, in predominantly



- Muslim areas in Mindanao, and where there are existing petitions that lands currently occupied be released as alienable and disposable.
- Keywords** Asia; community woodlot; external organisational arrangements; institutional development; natural forest; report; social organisation; stewardship; sustainable development/ management; tenural change and evolution; wastelands
- Database** AGRIS
- A153**
- Author**
- Title** (Focus on agroforestry)
- Source** *Entwicklung und landlicher Raum (Germany)* **27**(5): 2-27, special issue (figs, photos, tables; bibliography; summaries (En)).
- Year** 1993
- Language** German, English
- Abstract** Various articles on the benefits of agroforestry are presented. The use of agroforestry as a viable alternative for soil conservation is discussed. Such applications include hedgerow intercropping, multistorey tree gardens and plantation crop combinations, trees on soil conservation structures, and reclamation agroforestry. Other subjects dealt with include: (1) the ecological sustainability of agroforestry in the tropics; (2) the ecological and economic capacity of agroforestry in arid zones; (3) the role of agroforestry in the protection of forest resources; (4) conflicts between the introduction of agroforestry and existing legislation concerning land in Niger; and (5) the use of multipurpose tree species in agroforestry.
- Keywords** agroforestry; external organisational arrangements; farming systems; geographically non-specific; journal article; sustainable development/ management; technical methods
- Database** TROPAG