

# ILEIA BIBLIOGRAPHY

FOR LOW EXTERNAL INPUT AND SUSTAINABLE AGRICULTURE

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TOP 138



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**ILEIA** (Information Centre for Low-External-Input and Sustainable Agriculture) was established in 1982 by the ETC Foundation and is funded mainly by the Netherlands Ministry of Development Cooperation. Project funds are assured till early 1999.

**ILEIA's** long-term objective is to contribute to a situation in which Low-External-Input and Sustainable Agriculture (LEISA) is:

- widely adopted as a valid approach to agricultural development, complementary to high-external-input agriculture,
- recognised as a means to balance locally available resources and local knowledge with modern technologies requiring inputs from elsewhere,
- valued as a useful perspective in planning and implementing agricultural research, education and extension,
- developing and consolidating its stock of knowledge and scientific basis.

**LEISA** is agriculture which makes optimal use of locally available natural and human resources (such as climate, landscape, soil, water, vegetation, local crops and animals, local skills and indigenous knowledge) and is economically feasible, ecologically sound, culturally adapted and socially just. The use of external inputs such as mineral fertilisers, pesticides and machinery is not excluded but is seen as complementary to the use of local resources and has to meet the above-mentioned criteria of sustainability.

**ILEIA** seeks to reach these objectives by operating a documentation centre; publishing a quarterly newsletter, bibliographies, resource guides etc; holding workshops; and supporting regional networks in the Third World.

## About this publication

In 1988, ILEIA published, together with Agrecol from Switzerland, a bibliography entitled 'Towards Sustainable Agriculture'.

In the introduction it was stated that we intended to update this bibliography from time to time. Now, 7 years later, we finally bring out this updated version, as a reaction to the clear need for an update. This delay is not as dramatic as it may seem, since, in the meantime, a library catalogue, though without abstracts, has been published in 1991.

Much of the material presented in the 1988 bibliography, however, is no longer available, or has been replaced by publications that present a new view on the situation. Although the emphasis in ILEIA's work has not really shifted, new points of attention have come up since then. Many documents have been collected on Participatory Technology Development and various appraisal

methods in Farming Systems Research.

In spite of these developments, we have retained a number of publications from the old bibliography. By making this choice, we have, in fact, given these publications a status of a classic on the subject. We should be careful not to think that newer publications are automatically better than older ones.

Rather than presenting a large number of titles without any annotation, we have chosen for fewer documents complete with keywords and abstracts. This bibliography is one out of three published in the framework of EULEISA, the European Network for Low-External-Input and Sustainable Agriculture Institutions. The other bibliographies are in French and in Spanish, which is, incidentally, why there are only English titles (some of which translations), in this bibliography.

Many of the books included are intended for mid-level extensionists. Still, we have not entirely left out the more scientific books, partially because it is difficult to get hold of practically-oriented literature in the whole range of subjects dealing with sustainable agriculture. We have reserved space for manuals dealing with information dissemination, as this subject tends to get little attention. There are manuals on library management and documentation (nos. 81, 84 and 101), on editing and publishing (no. 77) and on small-scale printing (no. 138).

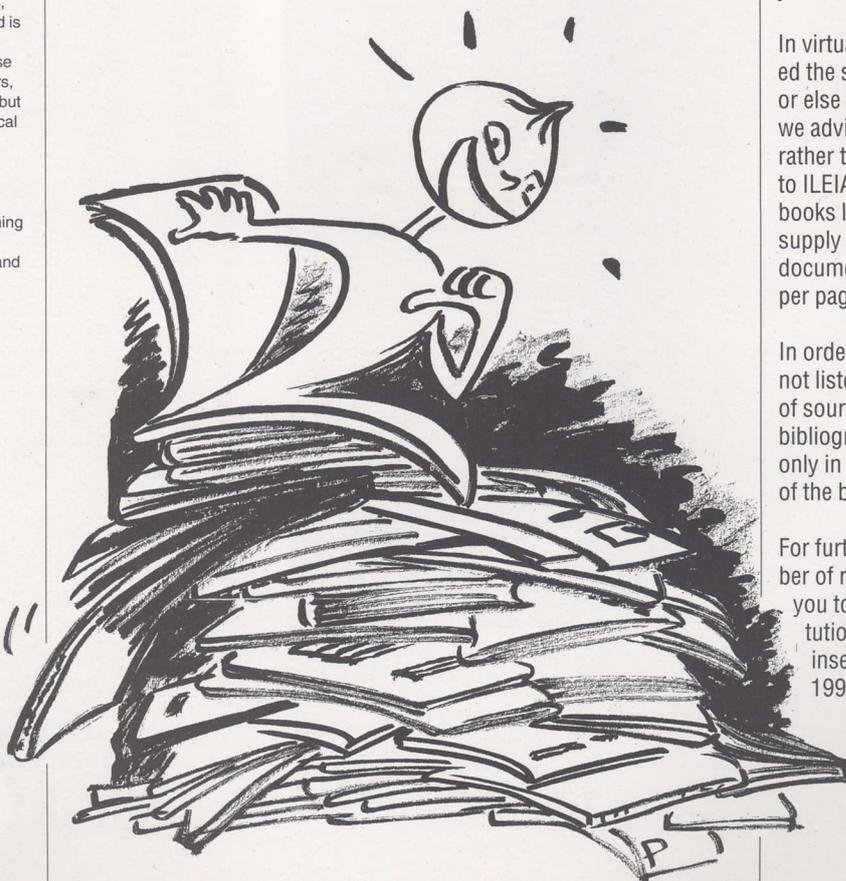
We have listed the references alphabetically according to first author's name. At the end, we have provided indexes of authors, keywords, countries and eco-zones.

Where possible, we have listed prices (in US\$). These prices should be seen as an approximate indication only. Also note that shipping prices can amount to a considerable sum, especially if you have the books shipped to you via air mail.

In virtually all cases we have listed the source of the document, or else the supplier. For ordering, we advise you to contact these, rather than addressing yourself to ILEIA, as we do not sell the books listed. ILEIA can, however, supply photocopies of original documents, at a cost of US\$ 0.40 per page (at this moment!).

In order to save space, we have not listed the complete address of source and/or supplier in the bibliographic description, but only in an address list at the end of the bibliography.

For further details about a number of resource centres, we refer you to a description of 57 institutions that figures as an insert in the ILEIA Newsletter 1993 no. 2.



1

Aaker J (ed.)

**Livestock for a small earth: the role of animals in a just and sustainable world.** Little Rock: Heifer Project, 1994.

Source: Heifer Project

International. 111 p.

ISBN 0 929765 28 1. US\$ 10.00.

*livestock; sustainable development; environmental protection; social participation; technology transformation; indigenous knowledge.*

'A primer on development assistance using animals'. Many issues in relation to development cooperation and environmental concern are brought into this guide. Obviously, not everything can be said in just 111 pages, but the note of the book is pleasant: it is a pastiche of concepts, practical facts and stories. One cannot help but think that in these cases such an impressionistic and eclectic approach is the best way to convey the message. The book moves as it were on different levels at the same time. By using clear language and many drawings (often so much easier to interpret than photos) the message really comes across. So refreshing amidst all learned material that is poured out over us, these days.



2

Aaker J, Shumaker J.

**Looking back and looking forward: a participatory approach to evaluation.**

Little Rock: Heifer Project

Source: Heifer Project

International. 106 p. US\$ 10.00.

*case studies; cost-benefit analysis; data collecting; development projects; evaluation; interviews; nongovernmental organizations; participatory approaches; participatory methods; questionnaires; ranking; surveys.*

A very practical step-by-step manual on how to evaluate small-scale development programmes of

NGOs. Key issue is that project evaluation is an ongoing process - as is project planning - in which all actors involved should learn how to look at their experiences in a systematic manner in order to better cope with future challenges. Project evaluation is a difficult task when looking at such hard-to-measure phenomena as empowerment and participation. There are a number of annexes with elaborate examples. A clear presentation of a difficult subject.

3

Albrecht H et al.

**Agricultural extension. Vol. 1: Basic concepts and methods.****Vol. 2: Examples and background material.** Eschborn:

GTZ, 1989.

Source: GTZ. 276 p.

(Sonderpublikation der GTZ no. 212). (Rural development series).

ISBN 3 88085 364 9. US\$ 20.00

per volume.

*agricultural extension; rural development; training methods; methodology; management; evaluation.*

The second, revised edition of the German handbooks on agricultural extension written by Harmut Albrecht and his colleagues have been translated into English. They were meant originally as a practical tool for development project workers but are also being used as textbooks in faculties of agriculture. The more theoretical first volume is given concrete support by the accounts in the second volume of how the concepts are being put into practice, e.g. evolution of a peasants' newspaper in Peru, GRAAP's approach to self-development in Burkina Faso. A French translation of the first volume is also available.

4

Alders C, Haverkort B, Veldhuizen L (van) (eds.)

**Linking with farmers: networking for low-external-input and sustainable agriculture.** London: ITP, 1993.

Source: ILEIA. 298 p. (ILEIA readings in sustainable agriculture).

ISBN 1 85339 210 3. US\$ 21.50.

Distribution: ITP.

*agricultural research; case studies; farmers' participation; indigenous knowledge; low-external-input agriculture; networking; nongovernmental organizations; rural development; sustainable agriculture; women.*

This reader presents experiences with networking to promote Low-External-Input and Sustainable Agriculture (LEISA). Central theme is how to strengthen linkages between farmers, development workers in the field, and researchers. Sharing experiences, opinions and information strengthens self-confidence and makes participants better equipped to manage a complex and rapidly changing environment. Case studies presented not only come from developing countries but also from developed countries, and show that ways of communication are similar in both cases. The development of LEISA very much depends on networks: its site-specificity implies it strongly relies on descriptions of local experiences. The various parts of this book deal separately with networks of farmers, NGOs, and research institutions. Audience is development professionals.

5

Alebeek FAN (van)

**Integrated pest management: a catalogue of training and extension materials.**

Wageningen: Agricultural University, 1989.

Source: CTA; Department of

Entomology, Wageningen

Agricultural University. 305 p.

ISBN 90 72620 01 1. Free for APC

countries. Distribution: CTA.

*integrated pest management; agricultural training; agricultural extension.*

Implementation of IPM systems in developing countries advances at a slow pace. One of the major constraints in further development of sound crop protection methods and techniques is the lack of information at all levels. In this catalogue, a large number of handbooks, field manuals, pocket guides, slide sets, posters, films and videos used in IPM training and extension are described. For each item information is provided on title, author, year of publication, contents, including crops, region and target groups, price and ordering information. Also listed are international journals on crop protection, including information on their contents, subscription rates and editorial addresses. Finally, a worldwide directory of IPM information and research centres is provided, listing their major research topics, publication activities and full address. Meant as reference material.

6

Altieri M, Vukasin HL.

**Environmentally sound small scale agricultural projects: guidelines for planning.**

New York: CODEL, 1988.

Source: Codel. 162 p.

ISBN 0 86619 283 2. US\$ 14.00.

Distribution: Codel; VITA.

*organic farming; rural development; water supply; terracing; erosion control; fertilizing; plant protection.*

This very practical manual explains, in an easily understandable way, how a small-scale project can be based on ecological principles and participation of the population concerned. The first part studies the relation between agriculture and environment. In the second part, a methodology for planning of sustainable agriculture is given. In the third part, special attention is paid to background issues: soil management, water management, pest management and agroforestry. The book can be used for planning as well as for training. References are given for further reading on special technologies.

7

Altieri MA, Hecht SB.

**Agroecology and small farm development.** Boca Raton

[etc.]: CRC Press, 1990

Source: Division of Biological Control, University of California.

262 p. ISBN 0 8493 4885 4.

Distribution: CRC Press.

*agricultural ecology; agroecology; rural development; small farms; small-scale farming; genetic diversity; traditional farming; marginal land; women's role; gender issues; technology development; green revolution; farming systems; farming systems research; agricultural extension; agroforestry; developing countries.*

Small farm development is extremely complex and goes well beyond purely technical issues. There is no single discipline or methodological approach that can adequately address the range of biological, cultural, and politico-economic processes that surround small farm development. Agroecology, with its emphasis on reproduction of the household and regeneration of the agricultural resource base, provides an agile framework for analyzing and understanding the diverse factors affecting small farms. This book explores the ways in which agricul-

tural productivity can be enhanced, in a variety of ecological settings, from mountain zones to lowland tropics. The chapters cover reviews of small farm development approaches, multiple cropping and other production systems, case studies of traditional farming in diverse environments and research methodologies. The authors stress the conceptual difference between agroecology, focusing on defining the principles on which to base an agroecosystem design, and farming systems research, where the main concern is technology transfer.

8

Amerena P.  
**Agriculture and natural resources: a manual for development workers.**

London: VSO, 1990.  
Source: VSO. 117 p.  
ISBN 0 9509050 3 8.

*agricultural development; natural resources; land tenure; animal husbandry; cultivation; fisheries; forestry; agroforestry; horticulture; development projects; developing countries.*

A manual written for field staff prepared by Voluntary Service Overseas (VSO). It is a useful guide for anyone involved in appraising requests for assistance in the agricultural and natural resources sector and in the subsequent selection and deployment of personnel to help achieve development objectives. These aims make it clear that the human factor is valued very high when dealing with change. The manual is divided into four sections: appraising requests, practical examples of country programme initiatives in agriculture and natural resources, factors affecting the success or failure of development workers, and sources of information. There is an appendix on recruitability as used in the British setting, which may not be entirely applicable elsewhere.

9

Anaman KA (ed.)  
**African farm management.**

Accra: Ghana University Press, 1988.  
268 p. ISBN 9964 3 0139 1.  
Distribution: Ghana University Press.

*farm management; farming systems research; economics; agropastoralism; agricultural credit; risk; economic analysis; accounting; traditional farming; small farms; Africa.*

Deals with the economics of farm production, particularly in Africa, both on small-scale and on large-scale level. The book puts an emphasis on the adaptation of economic concepts for semi-subsistence farms and the role of risk and uncertainty in influencing farmers' decision making and behaviour. Aims at students of agriculture and economics, extension officers, researchers, policy makers and consultants.

10

Arraudeau MA, Vergara BS.  
**A farmer's primer on growing upland rice.** Manila: IRRI, 1988.  
Source: IRRI. 283 p. ISBN 971 104 170 7. Distribution: IRRI.

*rice; upland rice; plant anatomy; cropping systems; cultivation; life cycle; fertilizing; pest control; plant disease control; weed control; selection; humid zone.*

The 'upland primer' was written following the concept of the book 'A Farmer's Primer on Growing Rice'. This latter book is now published in 35 languages in 25 countries. The 'upland primer' is written to meet the specific needs of upland rice growing farmers. Information on how to use improved production patterns, on diseases, pests, and cropping systems is given.

11

Atampugre N.  
**Behind the lines of stone: the social impact of a soil and water conservation project in the Sahel.** Oxford: Oxfam, 1993.  
Source: Oxfam, 168 p.  
ISBN 0 85598 258 6 (pbk).  
US\$ 18.00. Distribution: BEBC Distribution.

*Burkina Faso; contour cultivation; development projects; environmental degradation; erosion control; social aspects; semiarid zone; soil conservation; water conservation; women and development.*

Studies the social consequences of an Oxfam soil and water conservation project in the province of Yatenga, Burkina Faso after ten years of existence. One of the technical innovations triggered by this project is the water tube, used for determining contour lines. Apart from the construction of 'diguettes', the project has also been involved in afforestation, animal confinement, compost production, training, and research & development. In spite of wide-

spread acclaim of the project for economic achievements, no survey had been held as to social benefits. This book is the result of a survey by local researchers of more than 1,200 rural households. It becomes clear that within the limited time frame of the project, one must not expect too much change in terms of food security (more than half of the questioned claimed that yields still did not cover household food needs), nor in terms of general change in life. Many women considered diguettes primarily as an addition to their already heavy work load. Women were mainly responsible for carrying the stones for the diguette construction. The general conclusion is that the project has failed to modify the social processes which impoverish certain sectors of society. On the contrary, it seems to have enhanced the ability of richer households to become more productive. Participatory technology has not been developed much in the framework of the project: even the water tube had been developed by technical staff. The language used in clear and direct. Therefore, the book addresses itself to a wide audience of persons interested in development issues.

12

Beets WC.  
**Raising and sustaining productivity of smallholder farming systems in the tropics: a handbook of sustainable agricultural development.**

Alkmaar: AgBe, 1990.  
738 p. ISBN 974 85676 1 3.  
US\$ 65.00. Distribution: AgBe.

*productivity; agricultural production; yield increase; sustainable agriculture; small-scale farming; farming systems; agricultural development; natural resources.*

How to raise and at the same time sustain the productivity of tropical farming is the central question in this comprehensive handbook. It describes farming systems, their history, operation, and interactions with the world around them as well as changes required in the light of raised expectations and population pressure. First, conditions are described under which farming is practised in the tropics, with chapters on physical and human resources and on exogenous factors affecting farming systems. Then follows a lucid, practical review of the main tropical farming

systems and an outline of interventions which can lead to further development of a farming system. Throughout, reference is made to sustainability, referring not only to environmental but also economic and social dimensions. The book is unique in that the approach is truly supradisciplinary and the emphasis is always on systems, how they work and interact. It is well presented, clear and concise and can be regarded as a valuable resource for all those involved in agricultural development in the Third World, for practitioners, students, research workers and government officials at various levels. (abstract by Narong Chomchalow)

13

BOSTID  
**Vetiver grass: a thin green line against erosion.**

Washington: National Academy Press, 1993.  
Source: BOSTID. 171 p.  
ISBN 0 309 04269 0.

*case studies; contour cultivation; erosion control; field research; plant ecology; uses; vetiver.*

A useful introduction about the use of vetiver grass against soil erosion, promoted as cheap, appealing and long lived, and applicable both in tropical and semiarid conditions. There are detailed case studies from various regions, particularly India, Fiji, and some Caribbean nations where vetiver has been in use for a long time already. This report assesses vetiver's promise and limitations and identifies any research that may be necessary before this grass can be deployed rationally and on a wide scale, without undue environmental risk. There is a section on research contacts in various countries at the end of the book.

14

Brandjes P, Dongen P (van), Veer A (van der)  
**Green manuring and other forms of soil improvement in the tropics.** Wageningen: AGROMISA, 1989.

Source: AGROMISA. 47 p.  
(Agrodok no. 28). ISBN 90 72746 16 3. US\$ 5.00.

*green manures; soil improvement; soil conservation; biological fertilizing; nitrogen fixation; water conservation; alley cropping; mixed cropping; agroforestry; mulching; terrace cropping; blue green algae; azolla.*

Green manuring contributes to soil improvement, particularly when using nitrogen-fixing plants. These legumes can thrive in soils containing little nitrogen, which is frequent in the tropics. Green manures are ploughed into the soil and are then converted into organic manure. Their vegetative cover also counteracts erosion. Fertilisation, soil and water conservation and cropping systems involving green manures are treated separately for semi-arid, sub-humid and humid zones. The Agrodok series consists of low-priced simple manuals on a wide variety of agricultural practices in the tropics. Agrodoks are compiled specifically for field workers and contain few scientific references.

15

Browder JO (ed.)  
**Fragile lands of Latin America: strategies for sustainable development.**

Boulder: Westview Press, 1989. 301 p. (Westview special studies in social, political, and economic development). ISBN 0 8133 7705 6. Distribution: Westview Press.  
*land use; soil conservation; soil degradation; case studies; sustainable development; traditional technology; technology transfer; tropical rainforests; forest management; agroforestry; yields; Latin America; sustainable land use; humid zone; highland zone.*

Fragile lands, susceptible to severe and permanent degradation under non-sustainable uses, cover over eighty percent of Latin America's land base. The book first discusses theoretical contexts for research dealing with the concept of fragile lands and the type of technology flow needed, pleading for increased interest in traditional technology. Then the main part of the book deals with various aspects of tropical rain forest management. It further comprises studies about the sustainability of some traditional farming practices in the Andes (terracing and raised fields) and describes traditional arid-zone agriculture in Mexico. The final part of the book presents some cases of promising research in progress in humid zones, in Colombia and Central America. The common factor of all described resource management strategies is the strong degree of "adaptiveness". What distinguishes this collection of papers from many others is that the authors have tried to quantify the

financial costs and benefits of the strategies they have studied. This aspect makes it an important book, that addresses itself primarily to a scientific audience.

16

Buck LE.  
**Agroforestry extension training sourcebook. Module 1: beginning agroforestry extension training. Module 2: introduction to agroforestry. Module 3: project approach to agroforestry extension. Module 4: agroforestry extension communication. Module 5: land use diagnosis for agroforestry. Module 6: agroforestry design. Module 7: planning, monitoring and evaluating agroforestry extension activities.**

Nairobi: CARE, 1989.  
 Source: CARE.  
*agroforestry; training; agricultural extension; Kenya; semiarid zone.*

A set of manuals on agroforestry developed for field workers in Kenya. The different subjects have been subdivided in 10 modules (of which 7 are listed here) distributed over 4 different volumes that cover all aspects of agroforestry systematically. There is much attention for ways necessary to achieve optimum communication. Teaching agroforestry techniques, though necessary, is not enough: extensionists must also be capable and inspiring enough to get farmers to rely on their own experiences and not only passively digest external information. Also, financial implications are not always easy to convey to farmers: farmers must be really convinced of the usefulness of agroforestry-based cropping systems to be willing to plant trees without direct financial compensation. The lay-out of the manuals is quite good with lots of illustrations, making the manual accessible to a wide audience.

17

Campbell JK.  
**Dibble sticks, donkeys, and diesels: machines in crop production.** Manila: IRRI, 1990.  
 Source: IRRI. 329 p. ISBN 971 104 188 5. US\$ 19.55.

*agricultural equipment; agricultural mechanisation; animal power; animal traction; drying; fertilizing; harvesting; human resources; insect control; planting; social aspects; storage; tillage; transport; weed control.*

A broad study of agricultural mechanisation, from simple hand tools to sophisticated harvesters, this provides readers not specialised in this field with information needed to weigh the advantages and disadvantages of specific types of machines. General economics of machinery are discussed in a separate chapter. Information on producers and prices is not provided. The information is fairly superficial, giving an overview but still of interest to people practically involved in improving farm mechanisation.

18

Capistrano L, Durno J, Moeliono I (eds.)

**Resource book on sustainable agriculture for the uplands.** Cavite: IIRR, 1990.

Source: IIRR. 199 p.  
*sustainable agriculture; upland cropping; soil conservation; water conservation; agroforestry; reforestation; seed production; Philippines; humid zone; highland zone.*

A collection of techniques for sustainable agriculture in the South-East Asian uplands setting, compiled during a workshop on Sustainable Agriculture in the Philippine Uplands in 1989. Also included are names of people and organisations with relevant expertise. The production of such resource guides is an excellent way to constitute networks of persons concerned with development issues. Intended as reference material.

19

Carr M (ed.)  
**Women and food security: the experiences of the SADCC countries.** London: ITP, 1991.

210 p. ISBN 1 85339 109 3 (pbk). US\$ 16.50. Distribution: ITP.  
*Southern Africa; semiarid zone; subhumid zone; case studies; food security; food technology; women.*

Written for women's organisations and support groups, this book contains background papers on women's access to and use of improved food technologies in southern Africa. It covers all phases in food production, from land preparation and crop cultivation to storage and food processing. Attention is also given to tending village woodlots and household gardens. Throughout, the link is

made between techniques and non-technical factors, such as access to credit, training and markets. The book gives a regional perspective to women's role in producing, processing and marketing food, in countries where they have not had, until now, the opportunity to fully develop their potential in these fields.

20

Carruthers I, Rodriguez M (eds.)  
**Tools for agriculture: a guide to appropriate equipment for smallholder farmers.** 4th ed.

London: ITP, 1992.  
 Source: ITDG; GRET. 238 p. ISBN 1 85339 100 X (pbk). US\$ 50.00. Distribution: ITP; CTA.  
*agricultural equipment; appropriate technology; reference materials; small-scale farming.*

The fourth edition of this useful guide, first published in 1967, was prepared by the British Intermediate Technology Development Group (ITDG) and the French Groupe de Recherche et d'Echanges Technologiques (GRET). The different subdivisions of agricultural equipment are treated separately. Each chapter has numerous drawings and addresses. Traditional tools are mentioned in the text, but most drawings are of modern equipment. There is a new chapter on Pest Control and Operator Safety, but protective equipment still needs more attention. As this edition is the outcome of a computerised database, future regular updating of the information can be expected.

21

Chambers R, Pacey A, Thrupp LA (eds.)

**Farmer first: farmer innovation and agricultural research.** London: ITP, 1989.

218 p. ISBN 1 85339 007 0 (pbk). Distribution: ITP.  
*farmer innovations; social participation; agricultural research; agricultural engineering; indigenous knowledge; agroforestry; case studies; on-farm research; participatory technology development; farmers' participation.*

Farmer First presents a new approach to agricultural research. Starting with farmers' own innovations, contributions from the agricultural and social sciences, ecology, economics and geography, make the case for a farmer first

mode to complement conventional procedures for research and transfer of technology. The successes of the green revolution have been largely limited to irrigated and well-watered environments. Elsewhere, in rainfed, fragile and difficult environments where hundreds of millions of poor families seek their living, the performance of agricultural research has been disappointing. The challenge is to find more effective ways to serve their complex, diverse and risk-prone small farming systems. The central theme of Farmer First is that much of the problem lies in the process of generating and transferring technology, and much of the solution lies with the farmers. In the farmer-first mode, analysis, choice, and experimentation are performed mainly by the farmers themselves. Outsider professionals act as catalysts and consultants. The package of practices of the green revolution is replaced by a basket of choices.

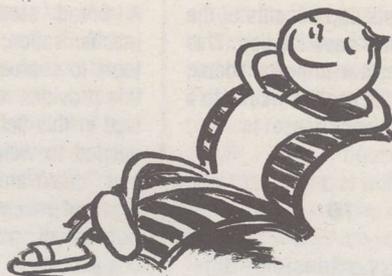
## 22

Cleveland DA, Soleri D.  
**Food from dryland gardens: an ecological, nutritional and social approach to small-scale household food production.** Tucson: CPFE, 1991.  
 Source: CPFE. 387 p.  
 ISBN 0 9627997 0 X.  
*dry farming; home gardening; small-scale farming; household production; food production; nutrition; self-reliance; semiarid zone; arid zone.*

The book encourages gardens that serve local needs, that are based on local knowledge, and that conserve natural resources and the biological diversity of traditional crops. It is written for field workers, extension agents, students, project workers and programme planners. Both a beginner's guide and a reference book for those with more experience, this book helps the reader observe and work with local people to ask appropriate questions about the community, the environment, and the potential for gardens to improve nutritional, economic and social well-being.

## 23

Conford P (ed.)  
**A future for the land: organic practice from a global perspective.** Bideford: Green Books, 1992. 244 p.  
 ISBN 1 870098 49 8. US\$ 25.00.  
 Distribution: Green Books.



*agricultural productivity; biological diversity; energy policy; environmental degradation; humid zone; industrial agriculture; organic farming; permaculture; property rights; small-scale farming; sustainable agriculture; traditional culture; tropical rainforests.*

This book brings together the views of leading practitioners, writers, campaigners and politicians concerned with environmental issues. They make a powerful critique of how industrialised agriculture destroys the natural climate ecosystem in a given area. They look at various issues related to land use practices and sustainability in a number of countries, and put forward proposals for the future. They discuss the policies and practices that can develop the long-term health and productivity of the land, ranging from the problems and potential of small-scale organic growing to the efforts of the Colombian government to conserve their rainforest.

## 24

Cooper D, Vellé R, Hobbelink H (eds.)  
**Growing diversity: genetic resources and local food security.** London: ITP; Genetic Resources Action International (GRAIN), 1992. 166 p.  
 ISBN 1 85339 119 0 (pbk).  
 US\$ 16.50.

*case studies; food security; genetic diversity; genetic resources; resource management; small-scale farming; traditional varieties.*

The Green Revolution has threatened the farmers' traditional role in managing genetic resources. New cultivars issued by international research centres have replaced many traditional varieties, demand extra inputs and often only add to farmers' risks. If biological diversity is further neglected and reduced, future production of the world's staple foods will be jeopardised. This book reports on the experiences of people and organisations who realise the danger of

further eroding the pool of traditional varieties and, linked to these, farming systems. It documents farmers' practices in conserving land races and in improving traditional varieties, and community efforts in organising the collection, exchange and multiplication of land races. The authors argue for organisational and financial support for these activities.

## 25

Critchley W; Graham O (ed.)  
**Looking after our land: new approaches to soil and water conservation in dryland Africa.** Oxford: Oxfam, 1991.  
 Source: Oxfam; IIED; ALIN. 84 p.  
 ISBN 0 85598 170 9.

*dry farming; agroforestry; soil conservation; water conservation; social participation; farmers' associations; land use; traditional farming; monitoring; evaluation; Africa south of Sahara; semiarid zone; subhumid zone; case studies.*

Soil and water conservation projects in sub-Saharan Africa have had a troubled record over the past 50 years. Their failure has had extremely serious consequences especially for those people living in the marginal dryland areas. However, with the help of a handful of projects, people across Africa have demonstrated that they are motivated, competent and capable of protecting their environment. This book (with an accompanying video, to be ordered separately), is about the main lessons to be learnt from new approaches to soil and water conservation in sub-Saharan Africa. Six case studies are covered, two each from Burkina Faso, Kenya and Mali. They show how some success has been achieved in projects where the participation of local people has been recognised as the crucial issue. The book is especially useful for development workers in arid and semi-arid Africa, but will also be of general interest to a wider audience concerned with environmental issues.

## 26

Cromwell E, Wiggins S, Wentzel S.  
**Sowing beyond the state: NGOs and seed supply in developing countries.** London: ODI, 1993.  
 Source: ODI. 143 p.  
 ISBN 0 85003 193 1. US\$ 20.00.

*Andean region; Bangladesh; case studies; community self-management; Gambia; local organisations; methodology; Mozambique; Nepal; nongovernmental organisations; Philippines; potatoes; Sahel; seed production; seed quality; seed supply; small-scale farming; soybeans; traditional varieties; vegetables.*

The Green Revolution drew attention to the importance of good seed quality in developing countries, but governments, projects and commercial seed companies have failed to reach smallholders outside high-potential farming areas. This book presents case studies of NGO involvement in seed projects. It reveals that coordination with other institutions active in seed production and distribution is often difficult, and many of the programmes are not sustainable - particularly relief organisms, which generally lose their momentum after having functioned well for some years. Much attention is given to multiplying and distributing local varieties, based on the insight that local farmers often prefer them. More work is needed on storage protection and quality control. Resorting to chemicals can be dangerous: when other food sources run out, farmers may eat the seeds instead of sowing them. The authors conclude that national seed systems rarely meet the needs of smallholders, sometimes produce poor seed too late, and are expensive to run.

## 27

Dankelman I, Davidson J.  
**Women and environment in the third world: alliance for the future.** London: Earthscan, 1988.  
 210 p. ISBN 1 85383 003 8.  
 US\$ 14.00. Distribution: Earthscan.

*women; women's organizations; environmental protection; food security; water management; fodder; fuelwood; energy sources; nature conservation; developing countries.*

Third World women play a major role in managing natural resources. They are the first hit and the hardest hit by environmental mis-

management, yet they are neither consulted nor taken into account by development strategists. This important book contains well-documented case studies and interviews with leading women conservationists from the Third World and gives a clear account of women's problems in relation to land, water, forests, energy and human settlements. It also looks at the lack of response from international organisations and at the ways women are organising to meet environmental, social and economical challenges.

### 28

Devendra C (ed.)  
**Shrubs and tree fodders for farm animals: proceedings of a workshop in Denpasar, Indonesia, 24-29 July 1989.** London: Intermediate Technology Publications, 1990.

Source: IDRC. 349 p. (IDRC publication no. 276e). ISBN 0 88936 556 3. US\$ 15.00. Distribution: ITP:

*trees; shrubs; fodder; feed crops; animal feeding; animal husbandry; agroforestry; ruminants; research and development; workshops; South-East Asia; humid zone.*

In pastoral situations and systems combined with arable cropping involving herbage, a reference to forages and fodders has commonly focused on the importance of grasses and legumes. This is because these fodder sources are the main components of diets in traditional feeding systems for ruminants. Throughout the tropical world, however, in addition to these, shrubs and tree fodders are widely available and traditionally used by farmers. These underutilised feeds are valuable supplements, provide considerable variety to grass diets and have much potential in supporting economic animal production. The importance of shrubs and trees becomes even more crucial in the context of increasing animal populations and ever more limited availability of grazing lands. These workshop proceedings treat the various aspects and problems of the utilization of these fodder sources.

### 29

Dixon JA, James DE, Sherman PB.  
**The economics of dryland management.** London: Earthscan, 1989.

302 p. ISBN 1 85383 052 6 (pbk). US\$ 33.00.

*agricultural policy; agricultural productivity; dry farming; economic analysis; economic development; environmental degradation; farming systems; land use; renewable resources; risk; semiarid zone.*

Drylands are areas in which productivity is limited by available moisture. They are of marginal agricultural productivity and are very vulnerable to degradation. As over 20% of the world population lives in drylands, farming systems in these areas deserve special attention so that sustained output can be assured at an acceptable level. This study of dryland resource use and economic incentives for conserving resources shows that environmental protection and economic development need not be conflicting goals, as resources are a component of both wealth and development. The authors make a strong case for the thesis that resources can be managed so that economic gains can be achieved without destroying the resource base. Addresses itself to a scientific audience.

### 30

Dixon JA, James DE, Sherman PB (eds.)

**Dryland management: economic case studies.** London: Earthscan, 1990.

Source: East-West Center, Honolulu, Hawaii. 364 p. ISBN 1 85383 054 2. US\$ 33.00.

*dry farming; case studies; villages; land use; erosion; semiarid zone; soil conservation; rangelands; environmental management; grassland management; fencing; India; Botswana; Australia; China; Thailand; Kenya; Sudan; Lesotho; Canada.*

The term drylands refers to a wide variety of landscapes ranging from the deserts of Africa and Asia to semi-arid and sub-humid areas that support extensive agricultural systems dependent on rainfall or irrigation. This volume is the follow-up of *The Economics of Dryland Management*, by the same authors, and presents twenty case studies from nine countries of Africa, Asia, North America and Australia. The cases have been grouped under various headings: land improvement techniques, farm practices, rangeland management, improvement programmes at local level, environ-

mental management at regional level, damage cost studies and macro-studies. This is the ideal companion volume to the more theoretically-oriented *Economics of Dryland Management*, as it gives a practical demonstration of the concepts developed there.

### 31

Dixon JM, Hall M, Hardaker JB, Vyas VS.

**Farm and community information use for agricultural programmes and policies.**

Rome: FAO, 1994.

Source: Food and Agriculture Organization (FAO). 100 p. (FAO farm systems management series, ISSN 1020 2080; no. 8). ISBN 92 5 103474 5.

*agricultural development; agricultural information; agricultural policy; farm management; farming systems research; household; household surveys; information management; rural household.*



### 32

Douglas MG.

**Integrating conservation into the farming system: land use planning for smallholder farmers: concepts and procedures.** 2nd ed. London:

Commonwealth Secretariat, 1990. Source: The Food Production and Rural Development Division, Commonwealth Secretariat. 137 p. *farming systems; land use; small farms; small-scale farming; soil degradation; pastoralism; soil conservation; social aspects.*

Prepared for professionals concerned with soil and water conservation and with land use planning on smallholder level. It should be useful for extensionists involved with agricultural development in a wider context. The book is primar-

ily concerned with the development of extension recommendations for improved land use practices. The objective of the book is to outline the concepts and provide guidelines as to the procedures involved in such an approach to land use planning at the level of the smallholder farmer. The book stresses the point that for conservation measures to be successful and sustainable, conservation has to be willingly undertaken by farmers as an integral component of a productive farming system rather than as a separate land management practice.

### 33

Dupriez H, Leener P (de)  
**Ways of water: run-off, irrigation and drainage.** London: MacMillan, 1992. (Land and life series).

Source: Terres et Vie. 382 p. ISBN 0 333 57078 2. US\$ 22.00.

*water management; irrigation; drainage; water harvesting; water storage; erosion control.*

An English translation of the French original published in 1990, this focuses on the paramount importance of water as a production factor in African agriculture. In a simple, understandable and precise style, the book shows how best to use water in farming, illustrated by means of numerous pictures and drawings. It treats the relationship between water and air, soil and plants, and covers the practical aspects of irrigation, erosion control and water lifting. A very complete handbook on water management.

### 34

Edwards CA, Lal R, Madden P, Miller RH, House G (eds.)  
**Sustainable agricultural systems.** Ankeny: Soil and Water Conservation Society, 1990.

Source: SWCS. 696 p. ISBN 0 935734 21 X. US\$ 40.00. *sustainable agriculture; nutrient cycling; crop rotation; biotechnology; pest control; weed control; tillage; grassland management; integrated farming; ecological aspects.*

This book has its origins in a 1988 conference in Ohio. It contains 40 papers in six sections: an overview, components of sustainable farming systems, the importance of integration, tropical systems, poli-

cy development, and improved ecological impacts. These papers, with their extensive individual bibliographies, may form the best textbook on "more sustainable and integrated systems of agricultural production that depend less on chemical and other energy-based inputs." The authors include people who have long thought about these topics as well as relative newcomers. As a result, the book has a certain freshness and it is packed with information.

**35**

Een G, Joste S (eds.)  
**More innovations for development.** London: ITP / Innovations for Development Association (IDEA), 1991. Source: IDEA. 79 p. ISBN 1 85339 102 6. US\$ 12.50. Distribution: ITP.

*appropriate technology; aquaculture; energy sources; farming systems; fishing; forestry; food production; technology transfer; water management.*

Descriptions are given of 80 technical innovations submitted to IDEA for their 1990 awards in the fields of water, energy, forestry, farming and fishing. The criteria for judging were sustainability, self-reliance and socioeconomic acceptance. For each innovation, there is a short introduction, a description generally with an illustration, and the address of the innovator.

**36**

Egzabher AG et al.  
**Cities feeding people: an examination of urban agriculture in East Africa.** Ottawa [etc.]: IDRC, 1994.

Source: IDRC. xiv + 146 p. ISBN 0 88936 706 X. US\$ 11.00. *case studies; East Africa; farming systems; food production; human feeding; urban agriculture; urban communities.*

Urban agriculture is becoming important in order to reduce developing countries' dependency on food imports in order to feed rapidly growing urban populations. The underlying book studies urban agriculture in four East African countries: Tanzania, Uganda, Kenya and Ethiopia. In these countries, IDRC began examining impact and feasibility of urban agriculture some ten years ago. Urban agriculture has long been neglected by researchers as a marginal, unproductive activity under-

taken by the urban poor. However, under the pressure of falling per-capita food production in Africa south of the Sahara, and subsequent migration to urban areas resulting in high unemployment, urban agriculture can no longer be ignored as an important part of the urban informal sector, providing income or income-substituting food. An important aspect of the study of urban agriculture is that the approach that looks at rural and urban economies as completely separate entities is seriously questioned. In reality, these economies have many links, although they do not necessarily appear in official statistics. Better land use agreements are needed for urban food production to flourish. More government involvement and interest in urban agriculture will be necessary to achieve this.

**37**

FAO  
**Farming systems development: guidelines for the conduct of a training course in farming systems development.** Rome: FAO, 1990.

Source: FAO. 234 p. *farming systems development; training courses; on-farm experimentation.*

These guidelines are prepared for trainers in universities and agricultural colleges to conduct courses in farming systems development, but are also useful in training field-based extension and development agents. The course is presented in practical modules and contains many exercises, sample solutions and a slide set.

**38**

Farrington J (ed.)  
**Agricultural biotechnology: prospects for the third world.** London: ODI, 1989.

Source: ODI. 88 p. ISBN 0 85003 119 2. US\$ 10.00. *biotechnology; research and development; agricultural engineering; economic implications; plant breeding; selection; animal breeding; plant protection; germplasm; clones; vegetative propagation; developing countries.*

Gives definitions and distinguishing features of biotechnology and deals with biotechnology's potential impact on North-South trade and, hence, its effect on the economies of developing countries. In this study, the role of the private

sector is highlighted, as well as markets, patenting and property rights. There are also chapters on recent advances in plant and animal production biotechnology.

**39**

Feldstein HS, Jiggins J (eds.)  
**Tools for the field: methodologies handbook for gender analysis in agriculture.** West Hartford: Kumarian, 1994. 270 p. ISBN 1 56549 028 2 (pbk). US\$ 24.95. Distribution: Kumarian.

*analysis; case studies; data collecting; diagnosis; extension; farmer experimentation; gender issues; household surveys; institutionalisation; interviews; on-farm experimentation; participatory research; research methods; rural development; surveys; training; wealth ranking; women; workshops.*

A handbook for gender analysis in agriculture. Descriptions are given of methods to diagnose the position of women and to identify gender variables in various settings on household or village level. Numerous and diverse case studies illustrate how to include this gender perspective when dealing with rural development and agricultural extension.

**40**

Feldstein HS, Poats SV.  
**Working together: gender analysis in agriculture. Vol. 1: Case studies. Vol. 2: Teaching notes.** West Hartford: Kumarian Press, 1989.

271 p. and 258 p. ISBN 0 931816 58 0; ISBN 0 931816 59 9. Distribution: Kumarian. *gender issues; case studies; farming systems; agricultural extension; farming systems research; developing countries.*

These two volumes show how to incorporate gender analysis into development programme design. A conceptual framework is made for gender analysis in agricultural research and extension. The first volume describes nine case studies, looking at issues like farming systems research, technology adoption, agroforestry extension, rice farming and intrahousehold dynamics. The second volume is a teachers' guide, reviewing and commenting the cases presented in the companion volume. It also contains instructions and guidelines for presenting cases in a meaningful manner. The outline of

the two books make them very suitable for educational purposes.

**41**

Fielding D, Pearson RA (eds.)  
**Donkeys, mules and horses in tropical agricultural development: proceedings of a colloquium organised by the Edinburgh School of Agriculture and the Centre for Tropical Veterinary Medicine of the University of Edinburgh, 3-6 September 1990.** Edinburgh: University of Edinburgh, 1991. Source: Centre for Tropical Veterinary Medicine, University of Edinburgh. 336 p. ISBN 0 907146 06 6.

*agricultural development; animal diseases; animal feeding; animal health; animal husbandry; animal power; animal traction; asses; equines; horses; mules.*

In agricultural development, equines seem to attract less interest than bovines, probably in view of their lesser numbers in farm-work. The colloquium mustered the scarce and scattered knowledge available about equines. A larger role from these animals is visualised, especially for donkeys. After many obscure years of isolated investigations, this collection of papers could form the basis of numerous new initiatives.

**42**

Gerber SE.  
**Modern way of agriculture and its impact on environment.** Nairobi: Technopress, 1990.

63 p. Distribution: Technopress. *soil fertility; earthworms; humus; Kenya; semiarid zone.*

This nice booklet, written in an accessible manner (with many quotations) deals with soil fertility and the role of composting, mulching, humus, trees on farmland, the cultivator hook, African earthworms and the influence of earthworms on the soil. It also describes how a farmer can please his busy helpers.

**43**

Gilmour DA, Fisher RJ.  
**Villagers, forests and foresters: the philosophy, process and practice of community forestry in Nepal.** Kathmandu: Sahayogi Press, 1991. 212 p. US\$ 15.00. Distribution: Sahayogi Press.

*community forestry; local government; forest management; rural development; property rights; Nepal; highland zone.*

Nepal's community forestry policy is concerned with local management of forests. However, implementation has been slowed down by the persistence of beliefs that rural people do not have the knowledge or the capacity to manage forests effectively. The authors present evidence to the contrary. They argue that successful transfer to local control requires an approach which recognises the capacities of rural people and shifts the emphasis of government activities to support rather than control. Often, community forestry projects have not been successful because of an approach that leaned too heavily on detailed blueprints. The imbalance between the technological and the socio-economic side of the problem should be carefully avoided. Community forestry projects have too often remained foresters' projects, rather than community projects.

#### 44

Glavanis K, Glavanis P.  
**The rural Middle East: peasant lives and modes of production.** London: Zed Books, 1989. 215 p. US\$ 15.00.  
Distribution: Zed Books.

*rural development; economic analysis; farming systems; social aspects; household production; labour; small farms; farmers; farm tenancy; gender issues; Middle East; semiarid zone; case studies; agricultural markets; agricultural credit; land ownership.*

Shows how traditional farming systems have survived in the Middle East against the tide of modern, commercial agriculture. Specific vital issues in this region, such as land ownership, sharecropping, family ties, the role of women, tribal organisation, and feudalism, are treated in much detail in this study. A very welcome work, also because of the fact that attention of development professionals focuses relatively rarely on this region with such a long and rich agricultural history.

#### 45

Grandin B, Thampy R, Young J.  
**Case study: village animal health care: a community-based approach to livestock development in Kenya.**

London: ITP, 1991.  
52 p. ISBN 1 85339 092 5.  
Distribution: ITP.

*veterinary services; animal health; livestock; communities; indigenous knowledge; development projects; Kenya; sub-humid zone; case studies.*

In many developing countries, access to veterinary services is a problem in rural areas and poor farmers suffer significant losses of production due to preventable livestock diseases. This book describes three pilot projects which Intermediate Technology's Livestock Programme has undertaken in Kenya since 1986. Building on local knowledge, farmers have been trained in common diseases and basic treatment techniques. They are now able to provide a simple animal health service for their communities. The book provides an assessment of the technical aspects of the programme and its effectiveness in terms of community development and outreach. It will be of interest to animal health care practitioners and to those involved in wider aspects of community development.

#### 46

Gregersen H, Draper S, Elz D (eds.)  
**People and trees: the role of social forestry in sustainable development.** Washington: World Bank, 1989.  
Source: Economic Development Institute, World Bank. 273 p.  
(Economic Development Institute seminar series).  
ISBN 0 8213 1205 7.

*sustainable development; social forestry; education; training; agricultural research; agroforestry; fuelwood; cooking; stoves; employment; productivity; project implementation; monitoring; social participation; land tenure; tree tenure.*

This book's main purpose is to present material that can be useful as a reference for training people who deal with formulating policies and designing or implementing programmes that include the integration of trees into farming and ecological systems. The book is intended to complement earlier work by other authors and agencies, by focusing on policy, programme and project issues, and how these issues might be addressed most effectively in training courses. It can also be an excellent reference for training that deals with the formulation of social forestry policies, the design of

social forestry programs, and the implementation of projects.

#### 47

GRET  
**Farming systems research and development in Thailand: illustrated methodological considerations and recent advances.** Songkla: Prince of Songkla University, 1988.  
Source: GRET; Prince of Songkla University. 212 p. ISBN 974 605 312 4.

*farming systems research; rural development; agroecosystems; agricultural extension; on-farm surveys; technology transfer; case studies; Thailand; humid zone.*

It is now commonly acknowledged that researchers and extensionists should take into account farmers' perceptions and motives when making proposals for technological innovations. Many publications have seen the light offering methods and results of such systems analyses. Most publications in the ILEIA collection look at approaches from the anglophone scientific community: It has often been suggested the French approach of 'Recherche-Développement' (R-D) differs considerably from Farming Systems Research and Extension (FSR/E). In this study it is argued that these differences are relatively minor. The controversy of Top-Down Approach versus Bottom-Up Approach can certainly not be linked to either the francophone or the anglophone school of thought. GRET, the French Technological Research and Exchange Group, has built a sound reputation in facilitating international exchange on R-D. The underlying study is the result of its approach in the Thai small-farmer setting. The language is scientific.

#### 48

Groverman V; Cook J, Thomas G (eds.)

**The group promoter's resource book: a practical guide to building rural self-help groups.** Rome: FAO, 1994.  
Source: Food and Agriculture Organization of the United Nations (FAO). 112 p.

*adult education; education; participatory approaches; participatory methods; rural communities; training.*

The group promoter (or GP) is a key figure in rural development and

has three main tasks: to help the rural poor form small, autonomous groups, to help group members develop their skills, and to facilitate communication between groups and development services. This resource book is designed to guide GPs in all phases of group development. It provides a step-by-step approach to identifying the poor in rural communities, forming groups, linking them in associations and building group income-generating activities. It includes detailed suggestions for strengthening democracy within groups and for planning group enterprises. Very clearly written, this manual is useful for group promoters, but also for extension workers and development project staff. (from original abstract)

#### 49

Hansen M.  
**Escape from the pesticide treadmill: alternatives to pesticides in developing countries.** Mount Vernon: ICPR, 1988.

Source: Institute for Consumer Policy Research. 185 p.  
ISBN 0 89043 281 3. US\$ 12.00.  
*pest control; history; pesticides; uses; case studies; integrated pest management; cassava; soybeans; bananas; cotton; rice; coconut palms.*

The author has brought together successful case studies in developing countries of large-scale applications of alternative pest control methods. The six case studies are well documented and clearly indicate that alternative pest control practices can be both economically and biologically feasible. The case studies include the control of the pests attacking cassava in Africa, soybeans in Brazil, bananas in Costa Rica, cotton in Nicaragua, rice in South East Asia and coconuts in the South Pacific. Integrated Pest Management (IPM) is discussed critically. The general conclusion of the publication is that IPM can work very well in developing countries.

#### 50

Hart R.  
**Forest gardening.** Bideford: Green Books, 1991.  
212 p. ISBN 1 870098 44 7. US\$ 12.00. Distribution: Green Books.  
*agroforestry; gardening; permaculture; temperate zone.*

Forest gardening is aimed at self-reliance in food production through trees. It draws heavily on agroforestry practices, as well as the author's personal experiences in his garden in England. By adapting the ideas to their own situation, people from various ecozones could be inspired by this book to conserve a productive soil.

51

Hirose S. et al. (eds.)  
**Useful farming practices.** new revised ed. Tokyo: AICAF, 1993. Source: Association for International Cooperation of Agriculture and Forestry (AICAF). 163 p.

*appropriate technology; agricultural engineering; agricultural equipment; agricultural innovations; agricultural mechanisation; cropping systems; cultivation; fruit trees; horticulture; labour; rice; upland cropping; upland rice; vegetable crops; humid zone; subhumid zone; South-East Asia.*

A very practical manual on cultivation practices in South East Asia. Deals with rice cultivation, upland cropping (mainly rice), vegetable growing and fruit trees. Presented are 109 systematic descriptions of technologies in South East Asia. All these technologies have been described by Japanese, mostly volunteers. Many descriptions have an editor's comment, very useful to temper the sometimes overoptimistic descriptions.

52

Hobbelink H.  
**Biotechnology and the future of world agriculture.** London: Zed Books, 1991. Source: GRAIN. 159 p. ISBN 0 86232 837 3 (pbk). US\$ 17.00. Distribution: Zed Books.

*agricultural development; biotechnology.*

Genetic diversity is the cornerstone to sustainability of agricultural production, but it is also the main factor for the adaptation of natural ecosystems to changing circumstances. The impoverishment brought about by habitat destruction and monocropping has been recognised for some time and seed banks were established as a result. Still, the value of this technology is questionable in view of the loss of genetic vigour. The author argues it remains to be seen if biotechnology will be capable of enhancing agricultural sustainability. Biotechnology, the fastest growing industry of our time, is taken over by transnational corporations and taken away from those who selected, developed and maintained those varieties that best responded to their situation and needs. The question of how biotechnology will affect the Third World is the central theme of this valuable book. The book addresses itself to a scientific audience.

53

Inckel M et al.  
**The preparation and use of compost.** revised ed. Wageningen: AGROMISA, 1990. Source: AGROMISA. 25 p. (Agrodok no. 8).

*composts; composting; manures; soil management; sewerage; waste disposal; agricultural products; byproducts; food wastes.*

This small booklet gives a simple description of the processes taking place in the soil during composting, and makes practical suggestions for constructing a compost heap. The advantages and disadvantages of using compost are discussed. This is a revised edition of the 1983 version of Agrodok 8.

54

Inglis JT (ed.)  
**Traditional ecological knowledge: concepts and cases.**

Ottawa: IDRC, 1993. Source: International Program on Traditional Ecological Knowledge, Canadian Museum of Nature; IDRC. 142 p. ISBN 0 88936 683 7. *case studies; environmental management; indigenous knowledge; information transfer; land use; property rights; resource management; sustainable development.*

Traditional ecological knowledge (or TEK for short) refers to the knowledge base acquired by indigenous and local peoples over the past through direct contact with the environment. It includes a detailed knowledge of plants, animals, and natural phenomena, the development and use of appropriate technologies for hunting, fishing, trapping, agriculture, and forestry, and a holistic knowledge which closely resembles the approach practised by the science of ecology. The underlying proceedings are a selection of papers presented during an International Workshop on Indigenous Knowledge and Community Based Resource Management held in Canada in 1991. The workshop gathered very diverse participants. There are many interesting contributions about the problems encountered by the Inuit (Eskimos). The parallels with indigenous peoples in hotter regions are striking.

55

Jackson C, McCracken J, Kabutha C, Ogan W.

**Women, conservation and agriculture: a manual for trainers in Commonwealth Africa.** London: Commonwealth Secretariat, 1992.

Source: Women and Development Programme, Human Resource Development Group, Commonwealth Secretariat. 199 p. *Africa; agricultural production; household; resource management; sustainability; training; women.*

A training manual aimed at people working with rural and urban-fringe women in sustainable agriculture and natural resource management. It gives guidance and examples for learning from and with rural women (and men!): discovering local knowledge, building on it and working together with local people to find better ways of managing their environment.

Many practical ideas are given of how to organise joint research by farmers, development workers and scientists, and how to stimulate better communication between these partners. There are sections on participatory analysis of the local environment and women's organisations, and a guide to techniques of natural resource management, including organic farming, agroforestry and conserving local genetic resources.

56

Jodha NS, Banskota M, Partap Tej (eds.)

**Sustainable mountain agriculture.** Kathmandu: ICIMOD, 1992.

Source: ICIMOD. Vol. 1: Perspectives and issues, p.1-389. Vol. 2: Farmers' strategies and innovative approaches, p.394-807. ISBN 81 204 0620 6.

*Asia; highland zone; agricultural development; agricultural innovation; land resources; mountains; sustainable agriculture.*

ICIMOD studies agriculture, environmental management, infrastructure development, population and employment in mountain areas. This two-volume work comes out of research by the Mountain Farming Systems Division. Mountain areas in the developing countries face heavy population pressure, resulting in environmental degradation. This book looks at how farming systems in mountainous areas can be made more sustainable. Volume I addresses this question in a general descriptive manner; Volume II presents numerous case studies.

57

Juma C.  
**Biological diversity and innovation: conserving and utilizing genetic resources in Kenya.** Nairobi: ACTS, 1989.

139 p. (Research series no. 3). ISBN 9966 41 001 5. Distribution: ACTS.

*biotechnology; biological diversity; genetic resources; genetic erosion; environmental protection; environmental policy; nature conservation; sustainable development; agricultural innovation; germplasm conservation; Kenya; semi-arid zone.*

This study highlights policy aspects in relation to biological diversity. Policies and legal instru-



ments in Kenya lag behind existing needs in the field of genetic resource conservation and show an insufficient degree of innovative thinking. There is not enough institutional capacity to implement whatever political initiatives may have been developed. Indigenous botanical knowledge might play a future role in guiding conservation efforts, but is hardly consulted. The author argues that Kenya - but it holds true for many tropical countries - should react swiftly to changes that will be brought about by biotechnology, as its agriculture, main source of income, could come under serious threat. The issue of diversification of its agricultural production is hardly picked up by authorities.

58

Juma C.  
**The gene hunters: biotechnology and the scramble for seeds.** Princeton: Princeton University Press, 1989. 288 p. (African Centre for Technology studies). (Research series no. 1). ISBN 0 86232 640 0. US\$ 15.00. Distribution: ACTS. *biotechnology; genetic resources; germ-plasm; plant breeding; selection.*

Focuses on the implications of advances in biotechnology and the conservation of genetic resources, for the Third World in general and for Africa in particular. The author argues that the new techniques, unlike earlier technological revolutions, are applicable to small-scale, labour-intensive production and thus offer Africa a significant opportunity to transform its economy.

59

Kamp J (van der), Schuthof P.  
**Methods of participatory technology development: theoretical and practical implications.** Leusden: ILEIA, 1988. Source: ILEIA. 92 p. US\$ 7.50. *participatory technology development; sustainable agriculture; on-farm experimentation; innovations.*

In the process of participatory technology development, persons might find it difficult to place their situation in a wider context. This reference book tries to present new ideas and concepts which may give new insights. The authors first discuss the major elements related to

the process of participatory technology development, such as participation, indigenous technical knowledge and interaction with the target group. The large body of the book consists of a description of nine selected methods on participatory technology development. Through the presentation and discussion of several methods, it is shown how the situation can be analyzed and creative thoughts can be stimulated.



60

Kerkhof P; Foley G, Barnard G (eds.)  
**Agroforestry in Africa: a survey of project experience.** London: PANOS, 1990. 216 p. ISBN 1 870670 16 7. Distribution: PANOS. *agroforestry; tree growing; case studies; project design; project implementation; agricultural extension; training methods; seedlings; plant production; forest nurseries; Africa; humid zone; subhumid zone; semiarid zone.*

Describes a survey of 19 project experiences with agroforestry in East and West Africa, in various ecological zones. Successes and failures teach us more than theoretical works on agroforestry could ever hope to achieve. Issues dealt with are:

- tree planting vs. protecting areas -the latter much more successful, obviously, in grazing areas, but also, often, in dryland farming areas;
- incentives to plant trees -questionable whether the positive effect lasts after the cash incentive has been withdrawn;
- effects of trees on crop production -not very conclusive;
- the need for flexibility -preconceived ideas of project staff are counterproductive;
- designing proper surveys and research trials;
- proving the technical package before disseminating it;

- the institutional framework -expensive programmes were not better than cheaper ones.

61

Koper-Limbourg HAG, Oyeyemi DO.  
**Innovations in goat keeping in humid West and Central Africa: a tool for extension agents.** Wageningen: Agricultural University, 1993. Source: Department of Animal Science, Obafemi Awolowo University, Ile-Ife, Nigeria; Department of Tropical Animal Production, Wageningen Agricultural University, PO Box 338, 6700 AH Wageningen, The Netherlands. 51 p. Free. *agricultural extension; animal diseases; animal feeding; animal health; animal housing; animal husbandry; Central Africa; goats; humid zone; ruminants; small-scale farming; traditional animal husbandry; West Africa.*

This booklet is primarily for extensionists working with smallholders, and is a product of the West African Dwarf Goat project in Ile-Ife, Nigeria. It focuses on husbandry of dwarf goats, the most common type in the humid tropics of West and Central Africa, but much of it also applies to dwarf sheep. Main aspects covered are mange control, prevention of the viral disease Peste des Petits Ruminants (PPR) and other common goat ailments, feeding with cut forage (glicicidia, leucaena) and byproducts of food processing, and simple ways to keep goats under better control by tethering, fencing or housing. These represent various degrees of intensifying the traditional system of free-roaming goats. Suggestions are given for extending these innovations, including some useful tools for joint problem-solving by farmers and extensionists. The innovations are basically in the direction of LEISA, except for the recommendation to control mange with lindane, one of the "Dirty Dozen" chemical pesticides.

62

Kotschi J et al.  
**Ecofarming in agricultural development.** Weikersheim: Margraf, 1989. Source: GTZ. 132 p. (Tropical agroecology no. 2). ISBN 3 8236 1163 1. US\$ 25.00. Distribution: Margraf. *agricultural development; ecofarming;*

*organic farming; technical cooperation; indigenous knowledge; participatory research; training; agricultural extension; aquaculture; fertilizing; mulching; multiple cropping; participatory technology development.*

This book is a significant contribution to the subject of sustainable agricultural development in the tropics. Ecofarming, its definition, importance and approaches for the development of small holder farmers are described in detail. Ecofarming technologies described range from agroforestry, green manuring and mulching to integration of livestock, with the aim of achieving sustainable productivity through proper organic matter management. The indigenous ecofarming systems and technologies described in this book are noteworthy since a proper understanding of them would lead to a dialogue between the farmer and the scientist and enable researchers to tap resources hitherto underutilized.

63

Kuchelmeister G.  
**Hedges for resource-poor land users in developing countries.** Eschborn: GTZ, 1990. Source: GTZ. 256 p. *agroforestry; land use; hedges; resource management; nutrition; feed crops; fuelwood; erosion control; alley cropping; green manures; mulching; cultivation.*

Pleads for the use of hedges in stead of fences and shows what advantages can be gained by planting them. The study gives an overview of existing knowledge of growing hedges in developing countries. Hedgerows can be vital for providing resources. The numerous uses and functions of hedges are treated in detail (as vegetables, for fodder, security, barriers against livestock, green manure, erosion control, microclimate modification). There is a social dimension to growing hedgerows, in a time where access to land and its products becomes increasingly restricted for smallholders. Planting hedgerows is also important for land tenure: planting a border hedge is often a crucial step in claiming a piece of land. In the final chapter, techniques are presented for hedgerow growing (planting, propagation, pruning, harvesting). A very thorough investigation on an original subject, not adequately described elsewhere.

Lampkin N.

**Organic farming.** Ipswich: Farming Press, 1990. 701 p. ISBN 0 85236 191 2. Distribution: Ipswich Farming Press.

*organic farming; soil management; soil structure; nutrient cycling; manures; crop rotation; weed control; pest control; plant disease control; livestock; animal husbandry; grassland management; feed crops; conversion; temperate zone.*

Gives a very complete overview of principles underlying organic farming, while providing a scientific basis for the various techniques described. Throughout the book, the importance of ecological interactions is stressed. Animal husbandry takes an important place in the light of the importance of animals in the nutrient cycling process. The author also gives much attention to the issue of marketing organic products and the economic assessment of organic farming. Whether organic farming can provide a living is not easy to answer, in view of the scarcity of reliable and representative data, the author argues. Much depends on the availability of labour and on the existence of premiums for organic produce. There is a chapter on conversion to organic farming. A planning is given for this difficult and hazardous period. A standard text, containing mainly information on temperate zones.

## 65

Lightfoot C et al. (eds.)

**Training resource book for agro-ecosystem mapping.**

Los Baños: IIRRI, 1989.

Source: IIRRI. 55 p.

*agroecosystems; monitoring; training; agricultural extension; case studies; Philippines; humid zone.*

Made for researchers who want to learn the essentials of agro-ecosystem mapping. Agro-ecosystem analysis is an important tool in farming systems research. It can help to improve the location specificity of recommendations, and, so, improve the impact of technology dissemination. Although written from Eastern Indian experience, its applicability goes well beyond. Most of the techniques presented can be applied during one-day visits. As a result, links between research and extension will improve as the produced maps will help extensionists to identify which

farmers are most likely to adopt the technologies developed. Also, assessing the impact of research and extension is simplified through repeating the mapping exercise over a period of time.

## 66

Lightfoot C et al. (eds.)

**Training resource book for farming systems diagnosis: process documentation of an experiential learning exercise in farming systems diagnosis of the ICAR-IIRRI Collaborative Rice Research Project held at Birsa Agricultural University, Kanke, Ranchi, Bihar, India, 10-15 July 1989.** Manila: IIRRI; ICLARM, 1990.

Source: IIRRI; ICLARM. 33 p. ISBN 971 104 222 3.

*farming systems research; diagnosis; agroecosystems; agricultural extension; training; case studies; Philippines; humid zone.*

Treats procedures enabling agricultural scientists to understand farmers' problems from an ecosystem perspective, in an Eastern-Indian setting. Environmental rehabilitation, which will often precede the (re)installation of sustainable production systems is rarely experimented in close cooperation with smallholders. Devising sophisticated interventions generally takes insufficiently into account small-scale farmers' priorities and perceptions. This manual aims at providing tools to agricultural scientists for understanding, in close cooperation with the farmers, biophysical and socioeconomic constraints to their farming systems problems. Techniques described comprise village case studies, agroecosystem maps and transects, ranking, interviews, and system diagramming. All these concepts are presented in a practical manner, making this rather abstract-looking approach accessible to a wider audience than one might have presumed before reading this manual.

## 67

Lightfoot C, Feldman S, Zainul Abedin M.

**Households, agroecosystems and rural resources management: a guidebook for broadening the concepts of gender and farming systems.** Manila: ICLARM, 1991. (ICLARM educa-

tion series no. 12). Source: ICLARM. 80 p. ISBN 971 1022 89 3. US\$ 5.50.

*Bangladesh; humid zone; agroecosystems; farming systems; gender issues; household; resource management; rural population.*

A practical manual on how to conduct farm household interviews which lead to a description of how farmers see their own farming systems. Diagrams and drawings are made in close cooperation between the farm family and the scientist or extensionist. First, the scientist develops a vision of the farming system studied, then the farm family develops its vision of its farming system, gender relationships are worked out, and the place of the farm within the agroecosystem is visualised. This very readable manual is intended as a self-learning guide and contains many examples, checklists and a glossary of the concepts used.

## 68

Lukfahr SD.

**The rabbit project manual: a trainer's manual for meat rabbit project development.**

Little Rock: Heifer Project, 1992.

Source: Heifer. 103 p.

*animal husbandry; development projects; meat production; rabbits; rural development.*

A very practical manual on how to raise rabbits, small livestock that deserve more attention in developing countries than is presently the case. Rabbit-keeping is very well adapted to smallholder farming systems, as it demands a steady but relatively low labour input. The manual not only deals with technical aspects of producing rabbits, but also gives attention to economic factors such as feasibility, project design and implementation. The extra cash income would be a strong incentive for starting a rabbit project, especially since production costs are lower for rabbits than for chickens. Some good ideas are given on cooperative handling of sales.

## 69

Macdonald J, Hearle D.

**Communication skills for rural development.** London:

Evans Brothers, 1990.

119 p. ISBN 0 237 50791 9. US\$ 15.00. Distribution: Evans Brothers.

*rural development; communication; agricultural extension; selfhelp; audiovisual aids; teaching methods; training courses.*

This small book is intended for extension workers, or "change agents", as they are called throughout the book. It deals with attitudes and communication skills vital to overcome cultural or educational barriers. Change agents have mainly been trained in how to provide technical knowledge. This book points at attitudes required to better communicate with the target group. It covers subjects such as communication principles and methods, audio-visual aids, teaching methods, managing training courses, supervising staff, planning programmes and rural development strategies. It is full of sound, practical advice, with many illustrations and presented in plain language. A very good book.

## 70

Matzigkeit U.

**Natural veterinary medicine: ectoparasites in the tropics.**

Weikersheim: Margraf, 1990.

Source: AGRECOL. 183 p.

(Tropical agroecology, ISSN 0935 9109; no. 6). ISBN 3 8236 1195 X. *veterinary medicine; traditional medicine; acarina; sucking lice; diptera; pesticide crops; repellents.*

Besides general biological methods of controlling ectoparasites (ticks, mites, lice and flies), Uly Matzigkeit brings empirical data about plant-derived pesticides and repellents reported over several centuries. The aim is to recall traditions of natural control of ectoparasites, to show the continued potential of this type of pest control in animal husbandry, and to give useful suggestions for experimentation in this field. Especially for small-scale farmers in the tropics and subtropics, the book hopes to encourage the use of low-cost local resources to reduce or eliminate the necessity for synthetic pesticides.

## 71

McCorkle CM (ed.)

**Plants, animals & people: agropastoral systems research.** Boulder: Westview

Press, 1992.

Source: Department of Rural Sociology, University of Missouri, SMCRSP. 196 p. ISBN 0 8133

8097 9. Distribution: Westview Press.

*South America; Brazil; Morocco; Indonesia; Kenya; humid zone; highland zone; semiarid zone; subhumid zone; agropastoralism; alfalfa; case studies; farming systems research; goats; integrated farming; labour; rangelands; traditional animal husbandry.*

Drawing on the fieldwork of the Small Ruminant Collaborative Research Support Programme (SM-CRSP), this book primarily examines the roles of goats and sheep in agropastoral systems. The introduction and ten cases provide an irrefutable argument for the necessity of social, cultural, economic, political and ecological



orientations in order to gain a holistic understanding of agropastoral systems. The message is consistent and hard-hitting, and may be a bitter pill for the more conventional, non-social scientist. For this very reason, this volume is highly recommended particularly for technical agriculturalists. (from review by Tracy Slaybaugh-Mitchell)

72

McCracken JA, Conway GR. **Training notes for agroecosystem analysis for development: Ethiopia.** London: IIED, 1988.

Source: IIED. 55 p.

*agroecosystem analysis; agroecosystems; Ethiopia; participatory rural appraisal; semistructured interviews; workshops.*

These notes are designed firstly to introduce the concept of agroecosystems; secondly to explain the Rapid Rural Appraisal techniques for analyzing agroecosystems; and thirdly to outline how the use of these techniques is structured in the procedure of an Agroeco-

system Analysis. In the same format there are also Training Notes available for Indonesia.

73

McRobie G (ed.) **Tools for organic farming: a manual of appropriate equipment and treatment.** London: ITP, 1990. 77 p. ISBN 1 85339 009 7. Distribution: ITP.

*animal traction; appropriate technology; hand tools; organic farming; sustainable agriculture; plant protection; cultivation; storage.*

This manual builds on selections from Tools for Agriculture, with the emphasis on organic farming.

There is a useful introduction on environmental degradation as a result of use of fossil fuels, nitrates in ground water and pesticide pollution. A chapter on crop protection proposes a choice of botanical pesticides and a few biological control agents (the latter probably difficult to obtain in many countries!). Weed control should take place through an adaptation of cultural methods, for which some proposals are made. The chapter on tillage shows a multitude of various tools, virtually all for hand cultivation and some for animal-powered cultivation. Useful equipment is proposed for sowing, planting and (surprisingly) fertilizer distribution. There is a manufacturers' index, but no prices are given.

74

Mettrick H. **Development oriented research in agriculture: an ICRA textbook.** Wageningen: ICRA, 1993

Source: ICRA. 287 p. ISBN 90 73041 16 3 (hbk). US\$ 32.50. *agricultural extension; agricultural knowledge systems; agricultural*

*research; data collecting; experimenting farmers; farm surveys; farming systems research; indigenous knowledge; on-farm experimentation; participatory rural appraisal; research programmes.*

ICRA is the International Centre for development oriented Research in Agriculture in Wageningen, The Netherlands. The underlying text book is closely linked to ICRA's annual seven-month course. The field work done by the course participants has strongly influenced the contents of the course and has led to the compilation of this book. The chapters comprise descriptions and analyses of all phases of development oriented research: planning, farming systems study, survey methods, data collection and analysis, organisation of field study, on-farm experimentation and the final evaluation.

75

Mollison B. **Permaculture: a designers' manual.** Tyalgum: Tagari Publications, 1988.

574 p. ISBN 0 908228 01 5. US\$ 49.95. Distribution: Tagari.

*organic farming; permaculture; project design; farming systems; resource management; soil management; water management; cultivation; semiarid zone; humid zone; subhumid zone; temperate zone.*

This book is about designing sustainable human settlements, and preserving and extending natural systems. "The world can no longer sustain the damage caused by modern agriculture... and in the near future we will see the end of wasted energy, or the end of civilization as we know it due to human-caused pollution and climate changes". 'Permaculture design' is a system of assembling conceptual, material, and strategic components in a pattern which functions to benefit life in all its functions. A book full of practical ideas!

76

Mollison B. **The permaculture book of fermentation and human nutrition.** Tyalgum: Tagari Publications, 1993.

278 p. ISBN 0 908228 06 6. Distribution: Tagari Publications. *fermentation; food preparation; food preservation; food processing; food technology; human feeding; nutrition; permaculture; storage.*

Deals with food conservation techniques, particularly through fermentation. The author argues that, in the Western world, much knowledge about food conservation is in the process of being lost. Therefore, this recording of existing knowledge is very much needed. Many of the processes described come from field data collected in the Third World among tribal people, where knowledge of food preservation techniques is vital for survival. The information in this book has been ordered systematically according to use (food, fodder, compost) and substrate. The book contains beautiful photos and drawings. A very practical book, destined to become a reference manual for gardeners and farmers trying to vary their resource base by adding value to their crops.

77

Montagnes I. **Editing and publication: a handbook for trainers.** Manila: IRRI, 1991.

Source: IRRI; IDRC. 107 p. ISBN 971 22 0008 6.

**Editing and publication: a training manual.** Manila: IRRI, 1991.

Source: IRRI; IDRC. 429 p. ISBN 971 22 0009 4.

*publishing; printing; information dissemination; training.*

A major obstacle to agricultural development in the Third World is translating research results into publications for the people who need them. This poor transfer of knowledge is partly due to a lack of editors who can simplify research results so that they can be understood by a broad public. IRRI and IDRC have set up a training course on editing and publishing on which this training manual is based. Its companion handbook for trainers is designed to facilitate development of similar courses elsewhere.

78

Morehouse W (ed.) **Building sustainable communities: tools and concepts for self-reliant economic change.** New York: Bootstrap Press, 1989.

Source: TOES. 187 p. ISBN 0 942850 11 4. Distribution: ITDG USA.

*communities; economic transformation; land ownership; land reform; land resources; community land trusts; com-*

*munity self-management; banking systems; social aspects.*

This book deals with community ownership and management of land and natural resources, techniques of community self-management, and community banking. The practical experiences, which build on the concepts of E.F. Schumacher expressed in his book *Small is Beautiful: Economics as if People Mattered*, are mainly from the First World, but the tools are applicable worldwide and could stimulate new ideas for local development of sustainable land-use.

79

Mothander B, Kjaerby F, Havnevik K. **Farm implements for small-scale farmers in Tanzania.**

Uppsala: Scandinavian Institute of African Studies, 1989.

Source: Scandinavian Institute of African Studies. 214 p. ISBN 91 7106 290 4. US\$ 18.00.

*Tanzania; subhumid zone; agricultural equipment; animal traction; appropriate technology; bullocks; hand tools; small-scale farming; small-scale industry; technology development.*

This book on hand- and ox-drawn farm implements is based on a study made in Tanzania into how the ecology of different areas influenced choice and manufacture of tools. Special attention is given to ox-drawn ploughs, not only their manufacture but also local repair facilities. One chapter concentrates on small-scale industrial production, and the difficulties these enterprises encountered during the economic crisis in the early 1980s. An analysis of how new farm implements were introduced and further developed locally, leads to the conclusion that most introductions were irrelevant to farmers' needs, because farmers were seldom consulted on the desirability and consequences of such technology transfer.

80

Mukherjee N. **Participatory rural appraisal: methodology and applications.**

New Delhi: Concept Publishing, 1993. Source: Lal Bahadur Shastri National Academy of Administration, Mussoorie, Uttar Pradesh, India 160 p. (Studies in rural participation no. 1). ISBN 81 7022 473 X. US\$ 8.00.

*farmers' participation; India; methodology; participatory rural appraisal; rural appraisal.*

A study on rural participation based on Participatory Rural Appraisal (PRA). The book explains concepts and methods of PRA (such as interviews, maps, transects, seasonal diagramming, ranking, Venn diagrams, routine diagrams, livelihood analysis) and also elaborates on applications of PRA (poverty, gender issues, health) in the context of rural India. The final chapter deals with policy measures resulting from PRA, and also discusses limitations of the PRA methodology, particularly the rapidity with which PRA's are often conducted, but also the failure to meet the participants' expectations. A very useful and complete book.

81

Munjal S, Kapoor A, Malhotra K, Kannipiran C.

**Basics of documentation.**

New Delhi: Voluntary Health Association, 1988.

66 p. US\$ 12.50. Distribution: Voluntary Health Association.

*cataloguing; documentation; indexing; information processing; information services; information technology.*

A small manual on documentation in the setting of an Indian NGO active in health care. It describes the management of a small information centre and will be of interest to many who find themselves in a similar situation of trying to set up such a service with limited funds and experience. It includes chapters on how to treat audiovisual documents and on using computers in a small library, and indicates some disadvantages of library automation where computer training is lacking. A chapter on evaluating information services gives some valuable suggestions.

82

Murakami S. **Lessons from nature: a guide to ecological agriculture in the tropics.** Dhaka: PROSHIKA, 1991.

Source: PROSHIKA. 102 p. US\$ 8.00.

*ecological agriculture; tropical agriculture; agroecosystems; soil conservation; mulching; green manures; agroforestry; crop rotation; mixed cropping; pest control; weed control; seed production; Bangladesh; humid zone.*

This book relates the experiences of the author working on rural community development for a Japanese NGO in Bangladesh. He has been active as an advisor on ecological agriculture within PROSHIKA, a Bangladesh NGO concerned with the environmental aspects of rural development. The book contains a host of suggestions for the implementation of ecological farming practices in the Bangladesh context, treating aspects like soil fertility conservation, cropping systems, pest management and local seed production. The book is practically oriented but written from the philosophical background that led to the concept of Natural Farming as developed by Fukuoka.

83

Murnyak D, Murnyak M. **Raising fish in ponds: a farmer's guide to Tilapia culture.** Little Rock: Heifer, 1990.

Source: Fish Farming Project, Diocese in Arusha Region, Evangelical Lutheran Church of Tanzania; Heifer Project International. 75 p.

*fish culture; tilapia; aquaculture; Tanzania; subhumid zone.*

This small manual with large print and many drawings was written by lay missionaries in Tanzania especially for farmers, to help them learn how to build ponds and raise fish to produce nutritious food. It would also be useful to development workers as a training tool. It gives only little attention to integration of fish farming with other types of farming activities, but it does give clear guidelines for a good start with the fish component.

84

Naber G. **An agricultural library: its start and management.**

Wageningen: ILRI, 1991.

Source: ILRI. 123 p. ISBN 90 70754 274.

*libraries; agricultural information; library management; information dissemination; information services.*

This manual on managing agricultural libraries is meant to make up for the lack of good training facilities for agricultural documentalists. It covers collection building, acquisition criteria and procedures, and day-to-day library management, including one-person libraries with very limited funds. Ideas for train-

ing of library personnel are also given. The chapter on automation, nowadays standard for libraries worldwide, is rather brief and general. Seventeen appendices give a wealth of practical information (addresses, acronyms, reference material, databases, library layouts). A very useful book, especially when used together with Eva Philipps' book *Documentation Made Easy*, published by GATE.

85

Nanda M (ed.) **Planting the future: a resource guide to sustainable agriculture in the third world.**

Minneapolis: IASA, 1990.

Source: IASA. 309 p. (IASA publication no. 1989-1). US\$ 30.00 (Third World); US\$40.00 (others).

*sustainable agriculture; farming systems; cropping systems; information exchange; information networks; information services; developing countries.*

This publication provides a comprehensive listing of sustainable agriculture resources and groups in the Third World, as well as specific descriptions of the farming practices. It comes completely indexed by country, group and subject based on a questionnaire sent to 430 sustainable agriculture groups in 70 countries in Africa, Asia, Latin America and the Caribbean. It includes an extensive glossary and listing of books, journals, videos and other media. The information of the organizations includes goals, history, major activities, farming expertise, work force, structure, funding, newsletter, publications, audio-visuals, meetings, information sharing, information needs, financial needs and volunteer needs. A very useful tool to enhance networking!

86

National Research Council **Lost crops of the Incas: little-known plants of the Andes with promise for worldwide cultivation.** Washington:

National Academy Press, 1989.

Source: BOSTID; NRC. 415 p. ISBN 0 309 04264 X.

Distribution: National Academy Press.

*genetic conservation; genetic diversity; indigenous knowledge; agronomy; cultivation; uses; root crops; grain legumes; vegetables; fruits; nut crops; South America; semiarid zone; highland zone.*

The National Research Council, well known for its publications on a.o. underexploited crops, trees and animals, has been active in catalyzing actions that will vastly increase the use of the most promising native crops of the Andes. Although the greater part of American agriculture relies on introduced species, at least 2,000 indigenous food plants exist in various parts of the continent. Many have been used for thousands of years, but are now little appreciated. Some may have the promise to become major crops, but their modern potential is not being seriously assessed and they are receiving scant research, development, or promotion.



87

**National Research Council  
Microlivestock: little-known  
small animals with a promis-  
ing economic future.**

Washington: National Academy Press, 1991.

Source: BOSTID; NRC. 449 p. ISBN 0 309 04437 5. US\$ 29.95. Distribution: National Academy Press.

*animal husbandry; livestock; animal production; wild animals; genetic diversity; cattle; swine; goats; sheep; ducks; poultry; rabbits; rodents; bees; livestock production.*

This book tries to raise awareness of the potential of small livestock species and stimulates their introduction into animal research and economic development programmes. "Microlivestock" refers to small species such as rabbits and poultry, but also to breeds of cattle, sheep, goats and pigs that are less than half the size of the most common breeds. These miniature animals seem to have a promising future. Wherever land is scarce, it seems reasonable to assume that small animals would be more attractive than large ones. Though

many species are covered by this large scientific survey of more than 300 animal scientists in 80 countries, it is by no means exhaustive. Not much space was allocated to aquatic food sources or edible insects, snails, worms, turtles, birds or bats. A warning is issued about the introduction of certain species, especially rodents, into regions where they do not exist. An extremely interesting and remarkable book. Books published earlier in this series treated subjects like the water buffalo and little-known Asian animals with future potential.

88

**National Research Council  
Alternative agriculture.**

Washington: National Academy Press, 1989.

Source: NRC. 448 p. ISBN 0 309 03987 8. Distribution: National Academy Press.

*economic development; ecological agriculture; agroindustry; resource management; farm management; agricultural research; agricultural income; crop rotation; nutrients; livestock; pest control; case studies; USA; temperate zone.*

This book created a storm of controversy when it was published. A coalition of agricultural groups published a rebuttal in 1990; their book of 41 reviews is one-half the size of the original. Part of the debate concerns analytical methods. Some reviewers doubt the validity of drawing conclusions from 14 case studies. This Newsletter's readers, however, are likely to find these graphic examples of technological combinations one of the book's most useful features. Time will tell how much influence this book will have had, but it comes from a credible and usually conservative organization, and it is likely to be the best picture for some time of where nonconventional US agriculture has been and where it is headed.

89

**Netting R (McC)  
Smallholders, householders:  
farm families and the ecology  
of intensive, sustainable  
agriculture.**

Stanford: Stanford University Press, 1993.

389 p. ISBN 0 8047 2061 4 (pbk). US\$ 16.95. Distribution: Stanford University Press.

*agricultural ecology; agricultural productivity; China; economic aspects; energy utilization; family farms; industrial agri-*

*culture; labour; land tenure; models; small-scale farming; sustainable agriculture; traditional farming.*

An interesting book describing and defending smallholder agriculture. The author argues that efficiency and productivity of traditional small-scale agriculture is underestimated, in terms of energy demand and conservation of the resource base. The book is full of detailed information about incentives on the basis of which farmers make choices. Numerous resource conservation practices are described. It is heartening to note that no dividing line is drawn between northern and southern agriculture. One realises once more how much agricultural systems all over the world have in common. There is an interesting chapter on labour aspects, a key element in decision making. Also much attention for farmers' views on managing common property production factors, such as grazing land, forests, marshes and irrigation systems, so vital for the smallholder.

90

**Niamir M.  
Community forestry: a  
herder's decision making in  
natural resources manage-  
ment in arid and semi-arid  
Africa.**

Rome: FAO, 1990.

Source: FAO. 126 p. (Community forestry note no. 4).  
*community forestry; natural resources; resource management; grassland management; herds; animal production; tree management; shrubs; indigenous knowledge; land tenure; Africa; arid zone; semiarid zone.*

This study does an excellent job of introducing concepts of indigenous knowledge and explaining issues relevant to decision-making in livestock systems. It provides an in-depth, multidisciplinary view, including the animal husbandry aspect. The author draws on case examples from many different groups, and avoids making broad generalisations that may mislead the reader.

91

**Nissen-Peterson E, Lee M.  
Harvesting rainwater in  
semi-arid Africa: sub-surface  
and sand-storage dams.**

Nairobi: ASAL, 1990.  
Source: ASAL. 43 p. (Harvesting

rainwater in semi-arid Africa manual no. 5).

*water management; water harvesting; dams; sand; subsurface irrigation; irrigated farming; Africa; semiarid zone.*

Part of a series of 6 manuals on Harvesting Rainwater in Semi-Arid Africa, and based on practical experience gained by building some 700 water structures for rainwater harvesting in semi-arid Kenya over a period of 14 years. The various structures are described, including purpose of the structure, criteria for site selection, building instructions, water volume calculations, cost estimations and labour requirements. Very sound information intended for technicians.

92

**Oakley P et al.  
Projects with people: the  
practice of participation in  
rural development.**

Geneva: ILO, 1991.

Source: ILO. 284 p. ISBN 92 2 107282 7. US\$ 28.00.  
*rural development; development aid; development projects; social participation; rural communities; technology transfer; developing countries.*

This book illustrates a wide range of experiences in which genuine attempts are made to promote people's participation within the broad framework of development projects. A selection of case studies from Africa, Asia and Latin America highlights the successes and failures of the methodological approaches applied in a variety of sectoral, institutional and policy settings. Peter Oakley builds up elements of a strategy and a methodology for promotion and participation. This study will provide development practitioners with guidance on how to move forward in promoting people's participation.

93

**Oei P.  
Manual on mushroom grow-  
ing: techniques, species and  
opportunities for commercial  
applications in developing  
countries.**

Amsterdam: TOOL, 1991. 249 p. ISBN 90 70857 22 7 (pbk). US\$ 21.50.

*breeding; cultivation; diseases; edible fungi; food processing; marketing; pests.*  
A well-illustrated handbook on commercial mushroom growing in developing countries, mainly in

Southeast Asia. It gives biological information, describes how to grow and sell mushrooms, and explains how to do a feasibility study for mushroom growing, an enterprise which is attractive because of the high added value compared to other crops. An important positive point in growing mushrooms is that they can transform agricultural and industrial wastes into valuable soil conditioner or fertiliser. The text makes it apparent that growing mushrooms is primarily a commercial undertaking that will not often be within reach of smallholders, especially because of the rather complicated techniques involved and the type of inputs needed in the production process, including numerous plastic bags.

94

Office of Technology Assessment  
**Enhancing agriculture in Africa: a role for US development assistance.** Washington: US Government Printing Office, 1988.

Source: OTA. 328 p.

*development aid; low-external-input agriculture; intercropping; resource management; cultivation; genetic improvement; agroforestry; animal diseases; integrated pest management; technology transfer; Africa; humid zone; subhumid zone; semiarid zone; arid zone.*

In addition to recognizing the usefulness of local knowledge, this report also aims at encouraging American farmers to learn relevant lessons from African farmers. Based on reviews of past development efforts, it advocates the use of untapped resources such as indigenous plants and animals and people's knowledge of how best to use them. It notes that local knowledge may provide resources for agricultural development beyond those manifested in existing production systems.

95

Orskov ER.  
**Reality in rural development aid: with emphasis on livestock.** Aberdeen: Rowett Research Institute, 1993.

Source: Rowett Research Institute. 88 p.

ISBN 0 9520688 0 X. US\$ 13.50.  
*animal breeding; animal feeding; development projects; indigenous breeds; livestock; livestock production; traditional animal husbandry.*

A specialist in animal nutrition who has evaluated numerous projects in Asia and Africa is very frank in expressing his views about conventional technical aid in livestock production. Of particular interest is his realistic assessment of the biotechnical constraints and possibilities of improving animal breeds and feeds and of developing milk production. With examples from his personal experience with smallholders and development professionals, the author reminds us how site- and culture-specific everybody's perception of "normality" is, causing false expectations and blindness to primary problems. "Modern" technology-led approaches to livestock development have squandered financial and human resources and have had, on the whole, more negative than positive effects on smallholder livestock-keepers. The few positive cases of research and extension have been initially small-scale: learning from rural wisdom and exploring possibilities of low-external-input innovations together with a few livestock-keepers. This very readable book continues in the "tradition" of Robert Chambers' 'Rural Development: Putting the Last First', with a special concern for livestock development.

96

Owen R, Verbeek K, Jackson J, Steenhuis T (eds.)

**Dambo farming in Zimbabwe: water management, cropping and soil potentials for smallholder farming in the wetlands.** New York: CIIFAD, 1994.

Source: Cornell International Institute for Food, Agriculture and Development (CIIFAD); University of Zimbabwe. 193 p.

*communal land; cropping systems; irrigation; land use; small-scale farming; soil fertility; subhumid zone; water harvesting; water management; wetlands; Zimbabwe.*

Deals with the role dambos, or wet areas, play in agricultural production in communal lands in Zimbabwe. Dambo wetlands are often found in southern Africa. They can hold water long enough to allow crops to be grown during the dry season. The role of dambos for food security has been studied for some time now but research results have not been divulged on a broad scale. To make up for this lack of information, a conference

was organised in Harare, Zimbabwe. These proceedings give the annotated papers presented there. As a result of the extended period of low rainfall currently witnessed in southern Africa, many dambos may be drying out. In Zimbabwe, farmers can only obtain access to dambos through special permits. These permits are often refused on the grounds that dambos are erosion- and siltation-prone. Now, under increasing population pressure, and with a shortage of water and suitable land, much dambo cultivation takes place without official consent or involvement, potentially leading to unsustainable use. Apart from irrigation issues and soil erosion aspects, these socio-economic and legislative aspects received much attention during the workshop.

97

Pandey RK.  
**A primer on organic-based rice farming.** Manila: IRRI, 1991.

Source: IRRI. 201 p. ISBN 971 104 189 8.

*fertilizers; green manures; manures; mixed cropping; organic farming; rice; humid zone.*

This book outlines the whys and hows of integrating organic and chemical fertilizers, emphasising the growing of green manure crops. About 50 legumes suited to a wide range of rice-growing environments are described so that farmers may choose the best ones for their own needs. Most are multipurpose crops that not only replenish soil nutrients but also provide food, fodder, fuel and extra income for the rice farmer.

98

Parnes R.  
**Fertile soil: a grower's guide to organic and inorganic fertilizers.** Davis: agAccess, 1990.

Source: agAccess. 190 p.  
ISBN 0 932857 03 5. US\$ 29.95.

*soil fertility; fertilizers; manures; inorganic compounds; chemical fertilizers; soil; nutrients; composts; USA; temperate zone.*

A comprehensive technical resource on creating fertile soils using a balanced fertilizer program which does not rely on chemical fertilizers. The book provides an overview of the key elements of soil

fertility. It gives detailed information on using organic and inorganic fertilizers, listing nutrient contents of both groups of fertilizers. It also gives an indication on fertilizer requirements for various crops. Manures are described in some detail, as well as production and nutrient values of compost. Finally, a chapter deals with micronutrients. The book is the result of many years of experience, but the information is in the first place valid for temperate regions.

99

Payne WJA.  
**An introduction to animal husbandry in the tropics.** 4th ed. Harlow: Longman, 1990.  
881 p. ISBN 0 582 40407 X.  
Distribution: Longman.

*African buffaloes; animal diseases; animal feeding; animal health; animal housing; animal husbandry; animal products; asses; camels; cattle; ducks; game; geese; goats; llamas; sheep; swine; turkeys; water buffaloes; livestock production.*

Very good standard text, including chapters on underexploited species such as donkeys and the llama, alpaca, guanaco and vicuña of the New World, but still too little emphasis on smallholder animal husbandry. The book is divided into three parts. Part One deals with the adaptation, domestication, health, nutrition, reproduction and breeding of animals in the tropics. Part Two gives detailed information on the origin, distribution and management of various types of domestic livestock bred in the tropics, with particular emphasis on cattle. Part Three deals with animal products: milk and milk products, meat and carcass byproducts, and animal fibres.

100

Pereira W, Seabrook J.  
**Asking the earth: farms, forestry and survival in India.** London: Earthscan Publications, 1990.

228 p. ISBN 1 85383 045 3.  
US\$ 13.50. Distribution: Earthscan.

*sustainable development; farming systems; tree management; forestry; agricultural innovation; India.*

Pleads against the Western development model with its unsustainability features. The idea is that, until the arrival of colonialism,

Third-World agricultural systems were sustainable, a thesis which seems difficult to maintain in all cases. Still, it is safe to say that colonialism has ruptured social and economic tissues profoundly. Much of the book contains a description of the farming system of a co-operative farm near Bombay, founded by Pereira. Much of his philosophy has been inspired by forest tribes.

101

Philipps E.  
**Documentation made easy.** Braunschweig: Vieweg, 1990. Source: GATE. 207 p. ISBN 3 528 02054 7. Distribution: GATE; GTZ; Vieweg.  
*libraries; documentation; cataloguing; indexing; classification; information dissemination; information processing; acquisitions; library management.*

An extremely useful manual for Third-World documentalists. Quite a few persons managing small reference centres in the Third World feel they cannot properly function without computerising their library. This is sometimes offered as an excuse for low productivity, that may be caused by entirely different factors. Eva Philipps proves, as do 2,000 years of library history, that it is very well possible to set up and manage an excellent library without computers and, generally, with little funds available. What it takes is dedication and a good working knowledge of both documentation and the subject(s) documented. This manual covers a lot of ground and is in itself more than sufficient to get a documentation centre going. It is a must for all dealing with information management.

102

Prior J.  
**Pastoral development planning.** Oxford: Oxfam, 1994. Source: Oxfam. 150 p. (Oxfam development guidelines no. 9). ISBN 0 85598 204 7 (pbk). US\$ 15.00.  
*case studies; community development; development programmes; grassland management; pastoralism; social aspects; Somalia; technology development.*

Report on a range management and erosion control project in Somaliland. Analyses participatory action rather than describing specific methods. Shows that pastor-

alists have their own agenda, including elements which should be supported and those which are more problematic, such as group egoism. For example, by instrumentalising a project supported by an outside NGO, one pastoral group tried to secure exclusive rights over land to which a number of groups have traditional claims. Similarly, women's rights and poverty alleviation may be of high priority for an NGO, but not for the powerful among the pastoralists. Indicates the importance of reducing vulnerability of pastoral communities, increasing the security of pastoralists' access to pasture and water, creating alternative employment, and developing adaptive social and political strategies rather than technological solutions. Whereas a small NGO project can have positive influence on a local level, replication of many small projects by NGOs which form a coalition appears necessary to have wide impact and influence government policy.



103

Querol D.  
**Genetic resources: a practical guide to their conservation.** London: Zed Books, 1993. Source: Third World Network, Penang, Malaysia. 252 p. ISBN 1 85649 204 4 (pbk). US\$ 22.50.  
*biological diversity; genetic diversity; genetic resources; germplasm; plant breeding; property rights; resource conservation.*

Developing countries are the only ones not having profited from their own genetic resources. The hybrids trade is dominated by the international corporations, who

obtained their basic materials without paying any price whatsoever to farmers who were the keepers and owners of these plants and animals. This book stresses the point of ownership by farmers in developing countries of the genetic stock they use. There are also technical sections about collection of genetic material and its management, i.e. conservation, storage and regeneration. This management should ideally take place in developing countries themselves, in order to keep a firm grip on these riches and to prevent any form of abuse. The book is written for a public with a good working knowledge of plant production.

104

Rappaport R, Edmonds R.  
**Controlling crop pests and diseases.** London: MacMillan, 1992. (Tropical Agricultural Extension Handbooks). 106 p. ISBN 0 333 57216 5. Distribution: MacMillan.  
*agricultural equipment; pest control; plant disease control; plant protection; spraying.*

Organised as a pictorial guide, this book deals with a field well suited to illustration: pest control. It is written for extensionists and gives a basic understanding of pests and how to control them. The cartoons approach seems more suitable for addressing farmers, and this is how the book must be understood: an illustrated course, providing extension workers with examples of how they can communicate with farmers about a complex technical subject. The book includes information on integrated pest management, but much of the space is taken up by spraying techniques. This may be because IPM is so site-specific that it is difficult to go beyond general descriptions.

105

Reetz H.  
**Possibilities of mechanisation in sustainable agriculture in the "Third World": use and problems of implements and aids which make the work on smallholdings easier.** Stuttgart: FAKT, 1989. Source: FAKT. 46 p.  
*agricultural equipment; agricultural mechanisation; agroforestry; composting; erosion control; fallow; green manures; integrated farming; labour; mixed cropping; mulching; small-scale*

*farming; sustainable agriculture; traditional farming.*

Appropriate tools are needed to ease the workload of smallholders and to distribute labour peaks throughout the agricultural calendar. This book presents a survey of the use of such implements. It also mentions work procedures that aim at optimising the effectiveness of the tools. (abstract by Regina Radtke)

106

Reijntjes C, Haverkort B, Waters-Bayer A.  
**Farming for the future: an introduction to low-external-input and sustainable agriculture.** London: MacMillan, 1992. Source: ILEIA. 250 p. ISBN 0 333 57011 1. US\$ 17.50. Distribution: MacMillan.  
*agroecology; agroecosystems; experimenting farmers; indigenous knowledge; integrated farming; land use; nutrient cycling; participatory technology development; plant protection; soil management; sustainable agriculture; traditional farming.*

This book examines the strategies and techniques of low-external-input and sustainable agriculture (LEISA) in the tropics. Over eight years, the Information Centre for Low-External-Input and Sustainable Agriculture (ILEIA) drew on its network of over 5000 members to collect the experiences of innovative farmers, field workers and supporting scientists in developing agricultural practices which are both productive and sustainable. The central concern is how development agents can assist smallholders in making the best use of low-cost local resources to optimise agricultural production. Emphasis is on methods of participatory technology development (PTD) to find site-specific solutions through an interdisciplinary approach. The book provides a broad framework of background theory as well as practical ideas and sources of up-to-date information.

107

Rowland JRJ (ed.)  
**Dryland farming in Africa.** London; Basingstoke: MacMillan; Wageningen: CTA, 1993. Source: CTA. 336 p. ISBN 0 333 47654 9. US\$ 33.00. Distribution: MacMillan.

*Africa; animal traction; cereals; cultivation; drought; dry farming; farming systems; farming systems research; semi-arid zone; subhumid zone; grain legumes; oilseeds; pest control; plant production; rain-fed farming; risk management; root crops; soil conservation; traditional farming; water conservation; weed control.*

A very comprehensive text on the technicalities of dryland farming, focusing particularly on Africa. A much-needed publication, considering the deteriorating productivity of dryland Africa. Issues addressed in this book are drought, desertification and losses related to pests and diseases. There are detailed descriptions of farming practices of smallholders clearly showing the farmers' preoccupation with risk reduction rather than maximum productivity. Problems not examined in detail comprise availability of farm inputs, labour and cash constraints and extension methods. In spite of the technical orientation of the work, the editor stresses the importance of farmers' participation and the presence of social scientists in agricultural research. There are separate chapters on cereals, oilseeds, grain legumes and root crops.

### 108

Rowley J, Bennett O.  
**Grasshoppers & locusts: the plague of the Sahel.** London: PANOS, 1993.  
Source: PANOS. 114 p. (Panos dossier). ISBN 1 870670 24 8. US\$ 13.50.

*aerial surveys; biological control; grasshoppers; insect control; integrated pest management; locusts; monitoring; pesticide residues; pesticides; remote sensing; Sahel; sampling; semi-arid zone.*

This PANOS publication studies how control of locusts and grasshoppers is effectuated in Sahelian countries. It raises many pertinent questions about the short-lived nature of emergency operations. Due to the nature of the plagues - particularly the locusts: limited in time and patchy in occurrence - damage calculations are very hard to produce and funds for long-term research commitment are insufficient. Still, there is now evidence of a high potential for biological control, through fungi and insect growth regulators. Proper monitoring of the pests is vital, be it on the ground or through satellite images. Training of pest scouts is

therefore important, as is the participation of villagers. Chemical control now concentrates on crop protection on the site rather than prevention of swarm build-up. As pesticides are heavily subsidised in the Sahel, reports on pest incidence have known to be exaggerated, in order to obtain maximum quantities. Fragile ecosystems like in the Sahel are very sensitive to pesticides, though, and natural enemies of locusts and grasshoppers suffer at least as much mortality. The report highlights the lack of impact of the different regional control institutions, incapable of monitoring the pests for lack of funding by the member states.

### 109

Royal Tropical Institute (KIT)  
**Tropical agriculture: selected handbooks.** Amsterdam: KIT, 1988.  
Source: KIT. 119 p. ISBN 90 6832 627 9. Distribution: CTA.

*tropical agriculture; developing countries.*

This catalogue is a guide to 405 English-language books on agriculture and rural development. Price and name of publishers are given. Published in 1988, it does not contain the most recent information. Still, it is a good compilation of useful works, with informative abstracts and presented in a clear manner.

### 110

Sarrantonio M.  
**Soil-improving legumes: methodologies for screening.** Kutztown: Rodale Institute, 1991.  
Source: Rodale Institute. 310 p. ISBN 0 87857 989 3.

*leguminosae; soil improvement; nitrogen fixation; rhizobium; nitrogen metabolism; on-farm experimentation.*

This handbook was designed to help field-based researchers and extension agents match the need for a soil-improving legume in a farming system with the very best legume for that specific system. It is meant primarily for people working with minimal equipment and support services. Although the research approach is clearly scientific, some farmer participation in on-farm experiments is included. The reader is guided step-by-step through the fairly complex research process. This book presents an important subject in a user-friendly way.

### 111

Scheewe W.  
**Nurturing the soil - feeding the people: an introduction to sustainable organic agriculture.** Davao City: Crust Foundation, 1993.

Source: Crust Foundation. 106 p. *crop rotation; cropping systems; humid zone; manures; organic farming; Philippines; plant protection; soil fertility; sustainable agriculture.*

Primarily written for extension workers and others involved in rural development, this small book pleads, in a clear and simple manner, for the introduction of organic farming practices that are studied with an eye on sustainability, two issues that do not necessarily go together. Many aspects are studied, ranging from productivity, and efficiency of energy conversion to cropping systems and erosion control. Many of the cited examples are from the Philippines and, hence, deal with humid zones. Good reading for those who want a quick overview of the issues at stake. The final chapter deals with preconditions for successful transition from conventional to organic agriculture, but does not, unfortunately, indicate the diversity of ways in which this conversion can take shape.

### 112

Scherr SJ (ed.)  
**Methods for participatory on-farm agroforestry research: summary proceedings of an international workshop.**

Nairobi: English Press, 1991.  
Source: ICRAF. 72 p. ISBN 92 9059 095 5.  
*agricultural research; agroforestry; extension; farmer participation; fodder banks; hedges; intercropping; living fences; on-farm research; planning; training; workshops.*

Given the complex nature of agroforestry systems, improvements can be made only in concert with farmers. ICRAF has developed methods for carrying out on-farm experimentation in agroforestry, e.g. Diagnosis and Design, and Agroforestry Systems Inventory. The workshop proceedings review these and other methods applied in on-farm research with farmers' participation, and identify where improvements can be made in these methods. Very concisely presented.

### 113

Schoubroeck FHJ (van) et al.  
**Managing pests and pesticides in small scale agriculture.** Wageningen: CON, 1989.  
Source: CON. 204 p. ISBN 90 70857 18 9. US\$ 15.00.

*plant protection; pest control; integrated pest management; small-scale farming; cultivation; biological control; agricultural research; agricultural extension; pesticides; storage; handling; legislation; case studies; developing countries.*

Lists integrated pest management techniques liable to reduce pesticide use without loss of production, such as cultivation practices, biological control and post-harvest storage techniques. There is much attention for research and extension directed towards small-scale farmers. As the use of pesticides often cannot be completely avoided, even in IPM scenarios, a chapter is presented on various aspects of pesticide handling, including a critical examination of the FAO Code of Conduct. The strength of this book is its appealing lay-out, with lots of illustrations. This would make it a suitable textbook for a wide range of situations in developing countries.

### 114

Scoones I, Melnyk M, Pretty JN (comp.)  
**The hidden harvest: wild foods and agricultural systems: a literature review and annotated bibliography.** London: IIED, 1992.  
Source: IIED; SIDA; WWF. 256 p. ISBN 0 905347 93 5.

*agricultural production; biological diversity; farming systems; food resources; food security; natural resources; nature conservation; participatory rural appraisal; rural livelihood; wild animals; wild plants.*

This collection of almost 1000 references reveals the wide range of wild foods harvested throughout the world, and the importance of these foods for human livelihoods, especially during stress periods, eg. hungry seasons, droughts, and especially for women, children and the poor. As wild foods are often collected from communal land, securing access to such areas is important for the poor's survival. In each thematic section of the book, major issues are highlighted and gaps in scientific knowledge identified. The sections cover the role of wild foods in farming systems;

swidden agriculture and foraging in forest areas; non-timber forest products; wildlife utilisation; food security; nutritional value; social differences in use of wild foods; economic value; tenure and local institutions for natural resource management; and biodiversity. Indices to regions, countries, ethnic groups and topics are included. Not all references are annotated.

115

Shepherd G.

**Managing Africa's tropical dry forests: a review of indigenous methods.** London: ODI, 1992.

Source: ODI. 117 p. ISBN 0 85003 169 9. US\$ 16.50.

*Africa; semiarid zone; case studies; forest management; indigenous knowledge; local government.*

Tropical dry forests in Africa are under tremendous environmental pressure because of rising population density and the decline of local institutions provoked by central governments wanting to extend their authority ever further. The resulting power vacuum has had very negative effects. This book makes a sound analysis of the problem and pleads for reinstitutionalising local governance. The people who are directly concerned should be allowed to take the decisions, for they are the ones who suffer most from mismanagement. The book contains 111 very good abstracts of documents dealing with land use and forest management in Africa.

116

Shiva V.

**Staying alive: women, ecology and development.** London: Zed Books, 1988. 224 p. ISBN 0 86232 823 3 (pbk). US\$ 15.00. Distribution: Zed Books.

*women; ecology; economic development; gender issues; forestry; soil conservation; agriculture; food production; water management; resource management; ecological aspects.*

Deals with the position of women in relation to nature. Shiva holds the opinion that violation of nature and marginalisation of women are strongly related and that science and economic development only lead to more exploitation. The book contains elaborate case studies on: women and forestry management;

women and food production; and woman and water management.

117

Shiva V et al.

**Biodiversity: social and ecological perspectives.** London: Zed Books / World Rainforest Movement, 1991.

123 p. ISBN 1 85649 054 8. US\$ 15.00. Distribution: Zed Books.

*biological diversity; biotechnology; ecological balance; genetic diversity; genetic erosion; natural resources; resource conservation; social aspects; sustainable development.*

A collection of essays challenging the findings of several international organisations published in the study *Conserving the World's Biological Diversity*. It opposes the dualistic North-South view in this study, which makes the Third World responsible for destroying biological wealth, which the North alone can conserve. Instead, it is argued, the roots of genetic erosion lie in the industrial system of the North. The emerging biotechnologies threaten to erode biodiversity even more by increasing uniformity in production. In order to develop biotechnologies, industries impose intellectual property rights on life forms. The losers will be Third World forest dwellers and smallholders, who have always been the guardians of biodiversity.

118

Shiva V et al.

**Cultivating diversity: biodiversity conservation and the politics of the seed.** Dehra Dun [India]: RFSTNRP, 1993.

Source: Research Foundation for Science, Technology and National Resource Policy (RFSTNRP). 130 p. (Navdanya work-in-progress report no. 1).

*biological diversity; decentralization; farmers' participation; genetic conservation; genetic erosion; seed production; seed storage; seed supply; traditional storage; traditional varieties.*

The first in a series of working papers of Navdanya, an Indian network of people's biodiversity conservation programmes initiated by the Research Foundation for Science, Technology and National Resource Policy. It is a plea for shifting from monoculture cropping towards biological diversity. Special attention has been given to seed production and conservation

of indigenous varieties. This conservation should no longer be considered as an activity separated from agricultural production. One year of activity has revealed to the Navdanya team that there is still a tremendous richness of diversity to be found with Indian smallholders. It is vital that they continue to be the main seed suppliers, in spite of the rapid emergence of the seed industry in the public and private sector.

119

Singh RP, Parr JF, Stewart BA.

**Dryland agriculture: strategies for sustainability.** New York: Springer Verlag, 1990.

Source: ICAR; USDA. 373 p.

(Advances in soil science no. 13). ISBN 0 387 97204 8.

*dry farming; climatology; soil conservation; organic matter; soil fertility; management; nutrient cycling; water utilization; water erosion; wind erosion; plant diseases; crop residues; economic analysis; simulation; semiarid zone.*

This monograph on dryland agriculture looks at sustainability from various angles:

- soil and water conservation
- erosion control
- tillage
- residue management
- crop-livestock integration
- biological diversity
- economic aspects

120

Singh RP et al.

**Field manual on watershed management.** Hyderabad:

CRIDA, 1990.

Source: CRIDA. 165 p.

*water management; watersheds; soil conservation; water conservation; plant production; land use; India; semiarid zone.*

A technically-oriented manual on soil and water conservation techniques in the Indian setting, but also applicable to other arid or semi-arid regions. The authors argue that conservation measures on an individual scale are only marginally beneficial as they are done ignoring what happens to other areas which exert an influence on the hydrologic characteristics. A comprehensive approach on a watershed basis would take into account and make use of existing terrain differences by attributing different roles to different zones. The symbols used and the strongly

mathematical orientation of the work make it primarily suitable as a textbook or reference manual for undergraduate and graduate levels of agricultural universities. There is much attention for design aspects of soil conservation works.

121

Sivanappan RK.

**Soil and water conservation and water harvesting manual.** Madras: Tamil Nadu Social Forestry Project, 1989.

Source: Tamil Nadu Social Forestry Project. 109 p.

*soil conservation; water management; water harvesting; watersheds; rain-fed farming; India; semiarid zone.*

The new dimension in social forestry involves not only tree planting in the degraded reserve forest, but also soil conservation and water harvesting works in these areas on watershed basis in order to utilise the area to the maximum benefit to the community living in the periphery of the reserved forest areas. This book is a manual to cover training topics, e.g. measurement of runoff, soil erosion, watershed based development plans, dryland farming, micro and macro level planning, economic analysis and instruments and equipments for soil and water conservation.

122

Skillicorn O, Spira W, Journey W.

**Duckweed aquaculture: a new aquatic farming system.**

Washington: World Bank, 1993.

Source: World Bank. 76 p.

ISBN 0 8213 2067 X. US\$ 6.95.

*aquaculture; aquatic plants; aquatic resources; cultivation; fish culture; natural resources; sewage; waste waters.*

Duckweed species, small floating aquatic plants covering stagnant water surfaces, are found worldwide. Few people realise their unique properties, such as their phenomenal growth rate, high protein content, ability to clean waste water and to thrive in fresh as well as brackish water. This study summarises the current knowledge about the biology of duckweed. Based on findings in an experimental fish farming programme in Bangladesh, the economics of duckweed farming and duckweed-fed fish production are examined. Duckweed can also be used for stripping nutrients from waste water, with a high efficiency and

low cost involved, compared to conventional treatment systems. Other potential uses are also examined: for poultry and animal feeding, as a mineral sink on waterlogged, salinised soils, and for human nutrition, in view of their high protein and vitamin A content.

### 123

Slim H, Thompson P (eds.); Bennett O, Cross N.

#### **Listening for a change: oral testimony and development.**

London: PANOS, 1993.

Source: PANOS. 147 p.

ISBN 1 870670 31 0. US\$ 16.50.

*case studies; culture; data collecting; folklore; indigenous knowledge; interviews; traditional culture.*

This book is a guide to collecting, interpreting and using oral testimony. The aim is to help development workers improve their listening and learning skills and value the knowledge, experience and priorities of local people. With case studies from all over the world, it explores different ways of oral testimony, gives practical guidelines on methods of collection as well as on recording, transcription and translation, and information on relevant organisations and publications.

### 124

Stephens A, Putman K.

#### **Participatory monitoring and evaluation: handbook for training field workers.**

Bangkok: RAPA, 1988.

Source: RAPA. 51 p. (FAO RAPA publication no. 1988/2).

*agricultural extension; social participation; rural development; monitoring; evaluation; participatory technology development; participatory research.*

A guide for training field workers to assist village groups who want to develop a monitoring and evaluation system which allows everyone to participate, to benefit from, and to use data collected and generated in the process. As part of a self-help management system, participatory monitoring allows the various partners in rural development to learn from experience, from success and failure, and to do better in future.

### 125

Stern PH.

#### **Operation and maintenance of small irrigation schemes.**

London: ITP, 1988.

Source: ODI. 45 p.

ISBN 0 946688 74 5. US\$ 9.50.

Distribution: ITP.

*agricultural equipment; development projects; irrigation; maintenance; small-scale enterprises; water management.*

The Overseas Development Institute has studied organisation and management of small irrigation schemes and found that, usually, problems of management and operation are significant causes of poor performance of these projects. Projects featuring small-scale irrigation were generally less costly in relation to results achieved than larger-scale, single-purpose, classical irrigation projects. In this small book, a companion to the same author's "Small-scale Irrigation" (1979), several aspects of small-scale irrigation are treated in detail, like organisation and responsibility, various sources of water, ways of conveying water, aspects of water distribution to the different units, operation, care and maintenance of irrigation systems, drainage and health aspects in farm irrigation.

### 126

Stoll G.

#### **Natural crop protection: based on local farm resources in the tropics and subtropics.** 3d improved ed. Weikersheim: Margraf, 1988.

Source: Agrecol. 188 p.

ISBN 3 8236 1113 5. US\$ 12.00.

Distribution: Margraf.

*plant protection; integrated pest management; plant disease control; storage; biological control; pesticides; pesticide crops; ashes; baits; traps; vegetable oils; stored products pest control.*

Lists indigenous crop protection measures, mostly using insecticidal plants, but also animal substances, ashes, baits and traps. Though relatively old, it is still one of the most consulted books in the ILEIA library. Pesticides, apart from having the well-documented negative effects on health, environment and secondary pest resurgence, have become increasingly unaffordable for small-scale farmers. This consideration primes all others in the farmers' perception, no doubt. It is a very necessary undertaking to record traditional knowledge, in this case with respect to pest control, as this knowledge is seriously threatened as a result of the introduction of high-external-

input agriculture. Apart from some introductory remarks on cropping systems and plant health, the book is divided into three parts: descriptions of field and storage pests, crop protection measures in the field, and stored products pest control. It is important to realise that the proposed methods are not proven in the scientific sense: they are recorded control measures, and will not work under all circumstances. Much is left to be tested by the farmer or extensionist. In this, traditional crop protection is not unlike IPM programmes, in which site-specificity is an important factor.

### 127

Stroud A.

#### **Conducting on-farm experiments.** Cali: CIAT, 1993.

Source: Bean Program and Communications Unit, Centro Internacional de Agricultura Tropical (CIAT). 118 p.

(CIAT publication no. 228).

ISBN 958 9183 50 6.

*Africa; data collecting; experimental design; farmer experimentation; farming systems research; on-farm research; participatory technology development.*

This is a very practical "how-to" publication treating all aspects of implementing on-farm experiments. Introductory chapters discuss the importance of Indigenous Knowledge, and analyze in detail the differences between on-farm and on-station research. As part of the on-farm research process the planning of experiments, and their design, implementation and management are being studied in separate chapters. A final chapter gives concrete suggestions on how to organize data collection without, unfortunately, going into the details of analysis and evaluation of these data. Compared to other publications in this field it compares more systematically the possible different levels of participation of farmers in the experiments, and elaborates fully farmer-managed experiments as one of the possible options. Of interest is also the clear reference to the role of extension organizations and possible forms of collaboration between researchers and extension agents in implementing on-farm experiments. Inclusion of study questions at the end of each chapter make this publication suitable for self-study.

### 128

Tengey WE.

#### **A guide to promote rural self-reliant development: a Ghana experience.** Accra: ACHD, 1991.

Source: African Centre for Human Development. 92 p. ISBN 9964 91 150 5.

*Ghana; community self-management; groups; rural development; self-reliance; social participation; training.*

This guide for leaders of grassroots groups and for animators of self-reliant rural development uses easily understandable English, but the guidelines given tend to be very general. The introductory chapters clarify the need for and the implications of self-reliant development, which stresses the need for local people to be managers of their own development. After discussing the process of analytical enquiry and problem analysis at village level, the author presents more concrete guidelines about how to promote group formation and maintain group coherence, and about the role and task of the animator vis-a-vis the community. The final chapter describes in some detail a participatory training event for animators. This 14-day event includes extensive exchange of experiences, formulation of main challenges and focused discussions on strategies to act upon.

### 129

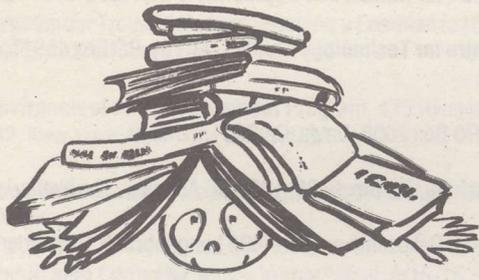
Thurston HD, Smith M, Abawi G, Kears S (eds.)

#### **Slash - mulch: how farmers use it and what researchers know about it.** New York: Cornell, 1994.

Source: Cornell International Institute for Food, Agriculture and Development (CIIFAD); Centro Agronómico Tropical de Investigación y Enseñanza (CATIE). 302 p.

*alley cropping; beans; case studies; Central America; cover plants; cropping systems; environmental degradation; farmer experimentation; erosion control; farming systems; green manures; humid zone; indigenous experimentation; leguminosae; minimum tillage; mulches; shifting cultivation; slashing; soil fertility; technology transfer; traditional farming; workshops.*

Proceedings of a workshop on slash & mulch farming systems, traditionally practised in Central and South America in humid zones where burning is impossible. Slash & mulch means that forest vegeta-



tion, or alternatively a cover crop such as velvet bean, is slashed. Crops planted in the resulting mulch receive their nutrients from the decomposing vegetation. Such a cropping system is very environmentally friendly, when compared to slash & burn, and can enhance crop productivity by making more organic material available. Labour, at least at peak times, is reduced because of less weeding. Though practised and adapted by Central American farmers for a long time, researchers have given little attention to the system ('just as well', one might be tempted to think sometimes). The underlying proceedings compile the information available. An interesting subject, and well presented.

### 130

Tiffen M, Mortimore M.  
**Theory and practice in plantation agriculture: an economic overview.** London: ODI, 1990.

Source: ODI. 153 p. (ODI development policy studies). ISBN 0 85003 124 9.

*plantations; agroindustry; industrial crops; agricultural development; environmental effects; small farms.*

Studies the role of plantation agriculture in developing countries and assesses its future as an agent for development. A set of characteristics of plantations is given and their historical background is briefly described. Plantation agriculture is not a static phenomenon, but is constantly changing, in the light of political changes but also as a response to changing market conditions. Governments are confronted with the difficult choice to allocate investments either to plantation agriculture (so vital in the procurement of foreign exchange) or to smallholder production. These policy choices are amply

addressed in the underlying study. Consequences of nationalisation are described. The environmental impact of these often large-scale commercial undertakings is assessed. A very useful study for agricultural economists and policy makers. The language is technical.

### 131

Vandermeer J.  
**The ecology of intercropping.** Cambridge: Cambridge University Press, 1989.

237 p. ISBN 0 521 34592 8.  
Distribution: Press Syndicate University of Cambridge.

*agricultural ecology; intercropping; population density; land equivalent ratio; biological competition; niches; genetic conservation; phenomenology.*

A standard text on intercropping, growing two or more crops simultaneously in the same field. The benefits of intercropping are nutrient exchange, reduced weed competition, and pathogen control, and, hence, crop productivity. Intercropping is developed here from ecological principles on competitive production. In this theoretical approach, the book differs from most publications on the theme which are mostly descriptions of experiments. An important book for agricultural scientists, ecologists and plant physiologists. Language, mathematics and approach to the subject make it less suitable for the non-scientifically oriented.

### 132

Vincent F.  
**Manual of practical management for Third World rural development associations. Vol. 1: Organisation, administration, communication.**

Geneva: IRED, 1989.  
Source: IRED. 103 p.

*community development; documentation; farmers' associations; groups; information dissemination; local leadership; local organisations; newsletters; planning; resource evaluation; resource management; rural development; self-help; social participation.*

IRED has considerable experience in networking with grassroots associations. This manual addresses the management of small rural organisations, that so often evolve around one charismatic leader who is difficult to replace. Issues covered include: finding funds, accounting, dealing with donors, personnel management, group cohesion, motivation, participation, leadership, delegation of responsibilities, communication techniques, small project planning and public relations. This book goes together very well with Oxfam's Field Directors' Handbook and is very useful for managers of local development organisations in rural areas.

### 133

Warren DM, Slikkerveer LJ, Titilola SO.  
**Indigenous knowledge systems: implications for agriculture and international development.** Ames: Iowa State University, 1989.

Source: Technology and Social Change Program, Iowa State University. 186 p. (Studies in technology and social change no. 11). ISBN 0 945271 15 8.

*agricultural research; indigenous knowledge; rural development; agricultural development; low-external-input agriculture; ethnoveterinary medicine; Africa.*

This collection of papers from two conferences on the role of indigenous knowledge systems (IKS) in agriculture and rural development reflects current thinking and activities, and makes an important contribution to this rapidly evolving field of study. Several subjects of relevance to IKS are covered, including history, economics, natural resource management, gender issues and documentation.

### 134

Waters-Bayer A.  
**Participatory technology development in ecologically-oriented agriculture: some approaches and tools.**

London: ODI, 1989.

Source: ODI. 63 p. (Agricultural Administration Research and Extension Network paper, ISSN 0951 1873; no. 7).

*organic farming; participatory technology development; social participation; ecological agriculture; agricultural research; economic development; networking.*

A second printing was recently made of this network paper, which is based on a study commissioned by GTZ. It introduces the concept of participatory technology development (PTD) and explores ways in which conventional and participatory agricultural research can complement each other. Some techniques which have been applied within PTD are briefly described, and names and addresses of relevant contact institutions and individuals are given.

### 135

Werner J.  
**Participatory development of agricultural innovations: procedures and methods of on-farm research.** Rossdorf: TZ-Verlagsgesellschaft, 1993.

Source: GTZ; Swiss Development Cooperation (SDC). 251 p. (Schriftenreihe der GTZ, ISSN 0723 9637; no. 234). ISBN 3 88085 492 0 (pbk).

*on-farm research; participatory methods; agricultural innovations; farmers' participation; participatory rural appraisal; data analysis.*

A considerably revised version of Kurt Steiner's handbook about On-Farm Experimentation. This book promotes farmers' participation in researchers' activities, but also refers to forms of participatory research which strengthen farmers' own ability to analyze problems and test potential improvements themselves. The focus is on experimentation with crops rather than animals and on farm plots rather than systems of farming or land use. The principles and process of on-farm research are discussed, and useful guidelines are given for designing and implementing on-farm trials and for communicating with farmers. More attention is given to gaining "soft" data and farmers' views than in the earlier book, including RRA/PRA (rapid/participatory rural appraisal) techniques, but a large part is still devoted to obtaining and analyzing quantitative data. The book is structured to facilitate find-

ing solutions to problems often encountered by on-farm research projects, but the frequent repetitions and poor editing are sometimes irritating. Several practical examples are given of on-farm trials and of how tools for involving farmers in them have been applied. The guide is most suitable for researchers within rural development programmes and represents an important further step of bilateral development agencies toward farmer-oriented adaptive research.

**136**

Withington D et al. (eds.)  
**Multipurpose tree species for small-farm use: proceedings of an international workshop held November 2-5, 1987 in Pattaya, Thailand.** Ottawa: IDRC, 1988.  
 Source: Winrock; IDRC. 282 p. ISBN 0 933595 18 2.

*multipurpose trees; small farms; eucalyptus; fruit trees; palms; nitrogen fixation; agroforestry; South-East Asia; humid zone; highland zone; subhumid zone.*

These proceedings contain a wide collection of papers on subjects like tree planting on small farms, role of Eucalyptus, nitrogen-fixing trees, fruit trees, socio-economic considerations and research strategies.

**137**

World Bank  
**Vetiver grass (*Vetiveria zizanioides*): a method of vegetative soil and moisture conservation.** Washington: The World Bank, 1988.

Source: World Bank.  
 vetiver; erosion control; hedges; soil conservation; water conservation; erosion; rain-fed farming.

**Vetiver grass: the hedge against erosion.** Washington: World Bank, 1990.

Source: World Bank. 3d ed. 78 p. ISBN 0 8213 1405 X.

vetiver; erosion control; hedges; soil conservation; water conservation; erosion; rain-fed farming; humid zone; subhumid zone; semiarid zone.

**Vetiver grass: technical information package. Vol. 1.** New York: World Bank, 1993.

Source: World Bank.  
*vetiver; erosion control; hedges; soil conservation; water conservation; erosion; rain-fed farming; humid zone; Malawi; South Africa; subhumid zone;*

*semiarid zone; Zambia; Zimbabwe.*

Vetiver grass is, in a way, the pet child of the World Bank, although it has been used by Indian farmers for ages. Its use has been advocated in order to drastically reduce soil and water losses caused by excessive rainfall runoff. Many soil conservation measures are costly and require coordination of efforts on a supra-household level. Earth bunds or terraces on small farms have not always turned out to be effective and have a tendency to erode and lose their functionality. When applied effectively, i.e. on contours, vegetative systems of soil and water conservation have proved cheaper and more effective, as they do not channel the water elsewhere, but reduce its velocity. Vetiver grass adapts to a wide range of ecological zones. The manuals contain a wealth of very good drawings.

**138**

Zeitlyn J.  
**Low cost printing for development: a printing handbook for Third World development and education.** London: ITP; Dhaka: University Press, 1988.  
 119 p. ISBN 1 85339 065 8.

Distribution: ITP; Dhaka University Press.  
*appropriate technology; printing; industrial equipment; management; industrial design.*

A manual for development and education workers in the Third World who are faced with the problem of how to put a message in print. It is vitally important that organisms in developing countries are capable of locally producing, at low cost, the publications that are so badly needed. This is so because it provides the producer with control over what should be printed and how it should look. This handbook deals specifically with small-scale printing and the machinery and techniques associated with it. It does not address the problems that come with larger-scale printing, such as newspapers. A very practical guide, with an easily readable lay-out. Nowadays, desktop publishing may have changed the picture somewhat, but the described practices are still valid in the context of developing countries.

**• SUPPLIERS' ADDRESSES •**

**African Centre for Human Development**, PO Box 0273 OSU, Accra, Ghana

**African Centre for Technology Studies (ACTS)**, PO Box 45917, Nairobi, Kenya

**agAccess**, PO Box 2008, Davis, CA 95617, USA

**AgBe Publishing**, PO Box 9125, 1800 GC Alkmaar, The Netherlands

**AGRECOL**, c/o Oekozentrum, CH-4438 Langenbruck, Switzerland

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**Arid Lands Information Network (ALIN)**, Casier Postal 3, Dakar - Fann, Senegal

**ASAL Rainwater Harvesting**, PO Box 14333, Nairobi, Kenya

**Association for Appropriate Technology (FAKT)**, Gaensheidestrasse 43, 7000 Stuttgart, Germany

**Association for International Cooperation of Agriculture and Forestry (AICAF)**, 19 Ichibancho, Chiyoda-ku, Tokyo, 102 Japan

**Bangladesh Agricultural Research Institute (BARI)**, Joydebpur, Gazipur 1701, Bangladesh



**Bean Program and Communications Unit, Centro Internacional de Agricultura Tropical (CIAT)**, AA 6713, Cali, Colombia

**BEBC Distribution**, 15 Albion Close, Parkstone, Poole BH12 3LL, UK

**Board on Science and Technology for International Development (BOSTID), Ad Hoc Panel of the Advisory Committee on Technology Innovation, National Research Council (NRC)**, 2101 Constitution Avenue NW, Washington, DC 20418, USA

**CARE, Regional Technical Advisory Office**, PO Box 43864, Nairobi, Kenya

**Center for People, Food and Environment (CPFE)**, 344 South Third Avenue, Tucson, Arizona 85701, USA

**Central Research Institute for Dryland Agriculture (CRIDA)**, Hyderabad 500 659, India

**Centre for Development Work (CON)**, PO Box 211, 6700 AE Wageningen, The Netherlands

**Centre for Tropical Veterinary Medicine, University of Edinburgh**, Easter Bush, Roslin, Midlothian EH 25 9RG, UK

**Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)**, 7170 Turrialba, Costa Rica

**CODEL, Environment and Development Program**, 475 Riverside Drive, Room 1842, New York, New York 10115, USA

**Commonwealth Secretariat**, Marlborough House, Pall Mall, London SW1Y 5HX, UK

**Concept Publishing Company**, Ashok Kumar Mittal, A/15-16, Commercial Block, Mohan Garden, New Delhi 110059, India

**Cornell International Institute for Food, Agriculture and Development (CIIFAD)**, Box 14, Kennedy Hall, Cornell University, Ithaca, New York 14853-5901, USA

**CRC Press**, 2000 Corporate Blvd., NW, Boca Raton, Florida 33431, USA

**Crust Foundation**, PO Box 50, 6-B J. Palma Gil St., 8000 Davao City, Philippines

**Department of Animal Science, Obafemi Awolowo University**, Ile-Ife, Nigeria

**Department of Entomology, Agricultural University**, PO Box 8031, 6700 EH Wageningen, The Netherlands

**Department of Rural Sociology, University of Missouri**, Columbia, MO 65211, USA

**Department of Sociology of Rural Development, Agricultural University**, PO Box 8130, 6700 EW Wageningen, The Netherlands

**Department of Tropical Animal Production, Agricultural University**, PO Box 338, 6700 AH Wageningen, The Netherlands

**Division of Biological Control, University of California**, 1050 San Pablo Avenue, Berkeley, Albany, CA 94706, USA

**Earthscan Publications**, 120 Pentonville Road, London N1 9JN, UK

**East-West Center**, 1777 East-West Road, Honolulu, Hawaii 96848, USA

**Economic Development Institute, World Bank**, 1818 H Street NW, Washington, DC 20433, USA

**Evans Brothers**, 2A Portman Mansions, Chiltern Street, London W1M 1LE, UK

**FAO Regional Office for Asia and the Pacific (RAPA)**, 39 Phra Athit Road, Bangkok 10200, Thailand

**Farming Press Books**, 4 Friars Courtyard, 30-32 Princes Street, Ipswich IP1 1RJ, UK

**Fish Farming Project, Diocese in Arusha Region**, Evangelical Lutheran Church of Tanzania

**Food and Agriculture Organization (FAO), Farm Management and Production Economics Service**, Viale delle Terme di Caracalla, 00100 Rome, Italy

**Food and Agriculture Organization of the United Nations (FAO), Publications Department**, Viale delle Terme di Caracalla, 00100 Rome, Italy

**Food Production and Rural Development Division, Commonwealth Secretariat**, Marlborough House, Pall Mall, London, SW1Y 5HX, UK

**Freedom Publications**, PO Box K 601, Accra New Town, Ghana

**Genetic Resources Action International (GRAIN)**, Girona 25, pral.E-08010 Barcelona, Spain

**German Agency for Technical Cooperation (GTZ)**, PO Box 5180, D-65726 Eschborn 1, Germany

**German Appropriate Technology Exchange (GATE), German Agency for Technical Cooperation (GTZ)**, PO Box 5180, D-65726 Eschborn 1, Germany

**Ghana University Press**, PO Box 4219, Accra, Ghana  
**Green Books**, Ford House, Hartland, Bideford, Devon EX39 6EE, UK

**Groupe de Recherche et d'Echanges Technologiques (GRET)**, 213 rue La Fayette, 75010 Paris, France

**Heifer Project International**, PO Box 808, Little Rock, AR 72203, USA

**Indian Council of Agricultural Research (ICAR)**, Hyderabad 500659, India

**Information Centre for Low-External-Input and Sustainable Agriculture (ILEIA)**, PO Box 64, 3830 AB Leusden, The Netherlands

**Innovations et Réseaux pour le Développement (IRED)**, 3 rue de Varembe, Case 116, 1211 Geneva 20, Switzerland

**Innovations for Development Association (IDEA)** [address unknown]

**Institute for Consumer Policy Research, Sustainable Agriculture Programme**, 256 Washington Street, Mount Vernon, New York 10553, USA

**Institute for Tropical Food Crops Research, CIRAD-IRAT**, BP 5035, 34032 Montpellier, France

**Intermediate Technology Development Group of North America (ITDG)**, Suite 9A, 777 United Nations Plaza, New York, NY 10017, USA

**Intermediate Technology Development Group (ITDG)**, Myson House, Railway Terrace, Rugby, CV21 3HT, UK

**Intermediate Technology Publications (ITP)**, 103-105 Southampton Row, London WC1B 4HH, UK

**International Alliance for Sustainable Agriculture (IASA), University of Minnesota**, Newman Center, 1701 University Avenue SE, Minneapolis, Minnesota 55414, USA

**International Center for Living Aquatic Resources Management (ICLARM)**, MC PO Box 1501, Makati, Metro Manila 1299, Philippines

**International Centre for Development Oriented Research in Agriculture (ICRA)**, PO Box 88, 6700 AB Wageningen, The Netherlands

**International Centre for Integrated Mountain Development (ICIMOD)**, GPO 3226, Kathmandu, Nepal

**International Council for Research in Agroforestry (ICRAF)**, PO Box 30677, Nairobi, Kenya

**International Development Research Centre (IDRC)**, PO Box 8500, Ottawa, Ontario, Canada K1G 3H9

**International Institute for Environment and Development (IIED)**, 3 Endsleigh Street, London WC1H 0DD, UK

**International Institute for Land Reclamation and Improvement (ILRI)**, PO Box 45, 6700 AA Wageningen, The Netherlands

**International Institute of Rural Reconstruction (IIRR)**, Silang, Cavite, Philippines

**International Labour Office (ILO)**, CH-1211 Geneva 22, Switzerland

**International Program on Traditional Ecological Knowledge, Canadian Museum of Nature**, PO Box 3443, Station D, Ottawa, Ontario, Canada K1P 6P4

**International Rice Research Institute (IRRI)**, PO Box 933, 1099 Manila, Philippines

**Kumarian Press**, 630 Oakwood Avenue, Suite 119, West Hartford, CT 06110-1529, USA

**Lal Bahadur Shastri National Academy of Administration**, Mussoorie, Uttar Pradesh, India

**Longman Scientific & Technical**, Longman House, Burnt Mill, Harlow, Essex CM20 2JE, UK

**Macmillan Press**, Houndsmill, Basingstoke, Hampshire RG21 2XS, UK

**National Academy Press**, 2101 Constitution Avenue N.W., Washington, D.C. 20418, USA

**National Research Council (NRC), Board on Agriculture, Committee on the Role of Alternative Farming Methods in Modern Production Agriculture**, 2101 Constitution Avenue NW, Washington, DC 20418, USA

**Overseas Development Administration (ODA)**, Central Avenue, Chatham Maritime, Kent ME4 4TB, UK

**Overseas Development Institute (ODI)**, Regent's College, Regent's Park, Inner Circle, London NW1 4NS, UK

**Oxfam**, 274 Banbury Road, Oxford OX2 7DZ, UK

**Panos Publications**, Angel House, 9 White Lion Street, London N1 9PD, UK

**Plymbridge Distributors**, Estover, Plymouth PL6 7PZ, UK

**Press Syndicate of the University of Cambridge**, The Pitt Building, Trumpington Street, Cambridge CB2 1RP, UK

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**Research Foundation for Science, Technology and National Resource Policy**, 105 Rajpur Road, Dehra Dun 248001 (U.P.), India

**Rodale Institute**, 611 Siegfriedale Road, Kutztown, PA 19530, USA

**Rowett Research Services**, Greenburn Road, Bucksburn, Aberdeen AB2 9SB, UK

**Royal Tropical Institute (KIT)**, Mauritskade 63, 1092 AD Amsterdam, The Netherlands

**Sahayogi Press**, PO Box 3666, Tripureshwar, Kathmandu, Nepal

**Scandinavian Institute of African Studies**, PO Box 2126, S-750 02 Uppsala, Sweden

**Soil and Water Conservation Society (SWCS)**, 7515 Northeast Ankeny Road, Ankeny, Iowa 50021, USA

**Stanford University Press**, Stanford, California 94305-2235, USA

**Swedish International Development Authority (SIDA)**, Birger Jarlsgatan, S-10525 Stockholm, Sweden

**Swiss Development Cooperation (SDC)**, CH-3003 Bern, Switzerland

**Tagari Publications**, PO Box 1, Tyalgum, NSW 2484, Australia

**Tamil Nadu Social Forestry Project**, Madras, India [address unknown]

**Technical Centre for Agricultural and Rural Co-operation (CTA)**, PO Box 380, 6700 AJ Wageningen, The Netherlands

**Technology and Social Change Program, Iowa State University**, Ames, IA 50011, USA

**Technopress**, PO Box 2543, Nakuru, Kenya

**Terres et Vie**, 13 Rue Laurent Delvaux, 1400 Nivelles, Belgium

**Thai-French Farming Systems Research Project, Faculty of Natural Resources, Prince of Songkla University**, Haad Yai 90110 Songkla, Thailand

**The Other Economic Summit (TOES)** [address unknown]

**Third World Network**, 228 Macalister Road, 10400 Penang, Malaysia

**TOOL**, Sarphatistraat 650, 1018 AV Amsterdam, The Netherlands

**University of Zimbabwe**, PO Box MP 167, Mount Pleasant, Harare, Zimbabwe

**University Press**, Red Cross Building, 114 Motijheel, Dhaka 1000, PO Box 2611, Bangladesh

**US Congress, Office of Technology Assessment (OTA)**, Washington, DC 20510, USA

**US Government Printing Office**, Washington, DC 20402-9325, USA

**USDA Agricultural Research Service**, Beltsville, Md 20705, USA

**USDA Conservation & Production Laboratory**, Bushland, Tex 79012, USA

**Verlag Josef Margraf**, PO Box 105, D-97985 Weikersheim, Germany

**Voluntary Health Association of India**, Tong Swasthya Bhavan, 40 institutional Area, New Delhi 110 016, India

**Voluntary Service Overseas (VSO)**, 317 Putney Bridge Road, London SW15 2PN, UK

**Volunteers In Technical Assistance (VITA), Publication Services**, PO Box 12028, Arlington, Va 11109, USA

**Winrock International Institute for Agricultural Development**, Petit Jean Mouton, Route 3, Morrilton, AR 72110, USA

**Women and Development Programme, Human Resource Development Group, Commonwealth Secretariat**, Marlborough House, Pall Mall, London, SW1Y 5HX, UK

**World Bank**, 1818 H Street, NW, Washington, DC 20433, USA

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## ILEIA Newsletter

ILEIA's quarterly magazine presents experiences of farmers, NGOs, fieldworkers and researchers from tropical regions all over the world. It is primarily written for middle-level agricultural fieldworkers, but is also widely read by researchers, trainers, government officials and policymakers. Each issue of 36 pages is focused on a theme and also contains six pages of information on relevant (new) publications, learning opportunities, seminars and other network activities. In the past years, themes have included livestock, management of resources outside the farm, recycling of wastes, post-harvest practices, local varieties, information sharing and diminishing the use of chemicals.

Subscription rate: individuals and organisations in the Third World and students in industrialised countries: US\$ 13.00 or DFL27.50/year. Others: US\$ 27.50 or DFL 55.00/year (postage included). Third World organisations may request to receive a subscription free of charge.

## Other publications

In cooperation with Intermediate Technology Publications, ILEIA published a series of "Readings in Sustainable Agriculture." Titles thus far in this series are *Joining Farmers' Experiences: Experiences in Participatory Technology Development*; *Let Farmers Judge: Experiences in Assessing the Sustainability of Agriculture*; and *Linking with Farmers: Networking for Low-External-Input and Sustainable Agriculture*. Available from IT Publications Ltd, 103/105 Southampton Row, London, WC1B 4HH, UK.

In cooperation with MacMillan Publishers, the 250 page book *Farming for the Future* was published in 1992. This introduction to LEISA (now in its third printing) provides a broad framework of background theory as well as practical ideas and sources of up-to-date information. Numerous examples from the field are given to illustrate key principles and techniques of LEISA. Available from MacMillan Publishers, Houndmills, Basingstoke, Hampshire RG21 2XS, UK.

The PTD Circular is a six-monthly update on Participatory Technology Development and aims to make documented experiences on PTD in LEISA known to a wider audience, especially people working in the field. It contains reviews on recent publications, translations, journals, learning opportunities, workshops and audiovisuals. Available from ILEIA.

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## EUropean network for Low-External-Input and Sustainable Agriculture

# EULEISA

**EULEISA is a network of European organisations promoting Low-External-Input and Sustainable Agriculture (LEISA) by smallholders in tropical, subtropical and Mediterranean areas. It was founded in 1991.**

EULEISA includes organisations which advocate purely organic farming as well as organisations which advocate sustainable forms of agriculture which make limited use of external inputs in combination with optimal use of local resources. EULEISA members work together with governmental and nongovernmental organisations, development projects, farmers' associations and information exchange networks in Africa, Asia, Latin America.

The ultimate aim of all members is, through promotion of ecological agriculture, to contribute to the development of rural livelihood systems which are socially, economically and ecologically sustainable.

### Seeking synergy

The main activities of the EULEISA member organisations are:

- advocacy for ecologically-oriented development of smallholder farming systems
- information exchange (documentation, question-and-

answer service, publications, workshops) about ecological agriculture

- promoting local and regional networks for ecological agriculture in the South.

The members maintain two-way communication with their Southern partners through newsletters, correspondence and face-to-face meetings. Links are also sought with international institutes concerned with agricultural development.

The need for ecologically-oriented forms of agricultural development is increasingly recognised. Putting LEISA into practice requires considerable knowledge in both technical and social sciences.

The European organisations promoting ecological agriculture are being asked by their overseas partners to help find, process and distribute such knowledge and to support related activities, such as facilitating regional information exchange in the South.

It is difficult for any single organisation, often with uncertain funding, to do this efficiently on a lasting basis. The financial means of European organisations promoting ecological agriculture are very limited.

Yet their very smallness and diversity allow more personal interactions with Southern partners than

could be achieved by a larger, more bureaucratic institution. EULEISA seeks to create synergy: to expand the overall capacity of European organisations promoting ecological agriculture by joining forces, yet maintaining the diversity and approachability of small member organisations, each with its own identity, sphere of work, and form of organisation.

Through optimal cooperation, coordination and division of labour with minimal administrative inputs, the organisations within EULEISA try to give better and more cost-effective service to their Southern partners. The group is particularly interested in gaining and analysing its own experience in cooperation with a low level of formalisation. This should lead to better understanding of network development in Africa, Asia and Latin America, and to greater competence in "low-input" organisational development.

### Working without walls

EULEISA works without a fixed office and without specifically assigned personnel and funding. Regular working meetings are organised, accommodated and financed by each member on a rotational basis. During these meetings, information is exchanged, members' programmes are harmonised, and joint activities are conceived and planned. The members collaborate in seeking financial support for joint projects. The responsibility for coordinating each project is assumed by a different member organisation.

Joint projects include:

- a common database of documents, specialists and training opportunities regarding ecological agriculture;
- a thesaurus (catalogue of key words) for ecological agriculture, now used by all members and some Southern partners to systematise their documentation. In collaboration with Southern partners, the English-language thesaurus has been translated into French, Spanish and Portuguese;
- provision of information and editorial advice to an emerging Latin American journal of ecological agriculture;
- a support programme for small libraries in Asia, Africa and Latin America.

EULEISA members also combine forces to influence development agencies, policymakers and funders in favour of ecologically-oriented agricultural development. This is achieved by means of joint publications and conference papers and coordinating representation of advocates of ecological agriculture at major international conferences on environment and rural development.

EULEISA can be reached by contacting any one of its members, which refers enquiries to the most appropriate organisations or individuals.

### Membership

Membership in the EULEISA group is open for European organisations with the primary concern of promoting ecological agriculture in tropical, subtropical and Mediterranean areas. The EULEISA group decides jointly on admittance of new members.

**AGRUCO and AGRECOL together produced a "Guía bibliográfica sobre Agroecología en América Latina." The guide contains abstracts of Spanish publications and addresses of relevant organisations. In Latin America (US\$ 5) it can be ordered from AGRUCO, Casilla 3392, Cochabamba, Bolivia, fax +591 42 45613 and industrialised countries may order a copy (US\$ 12) from AGRECOL, c/o Oekozentrum, CH 4438, Langenbruck, Switzerland.**

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