

Agricultural Research and Extension Network

Newsletter No. 45 January 2002

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ISSN 0951-1865

From the AgREN Coordinator

The experiment with a special issue

This issue of AgREN presents the results of an experiment that we initiated last year. During a review of AgREN, a number of members suggested that it would be useful to have an occasional issue of AgREN dedicated to a special topic. We decided to follow up on this suggestion and chose globalisation as the topic, based on member interest. Early last year we announced the special issue and solicited proposals for papers. We received a number of proposals, selected those that seemed most relevant to the topic, and proceeded towards producing a special issue for January 2002.

The results of the experiment are now in your hands. On the positive side, we have three papers that directly address the problems of globalisation and a fourth paper that examines some closely related issues. One of the papers presents a comprehensive overview of issues of globalisation related to pro-poor technology development; two others look at case studies of traditional export crops in Latin America and a new export crop in Africa, respectively. The fourth paper presents a detailed analysis from Malawi of the types of factors that affect farmers' ability to diversify and take advantage of (or adjust to) the changes brought about by globalisation.

However, there is a negative side to our experiment. We did not receive the number of proposals that we had hoped, and in several cases authors were unable to follow up on work that they had proposed. In retrospect this should not be too surprising. All journals and edited volumes have difficulties getting authors to meet deadlines. AgREN members are particularly busy, and are not always able to find the time to dedicate to writing a paper to meet a deadline. Indeed most successful special issues of journals are the result of a preliminary meeting or workshop, when first drafts of papers are presented and discussed. In addition, there are AgREN members who are currently engaged in work related to the theme of globalisation, and we hope that they will produce papers over the next year or two. Members should certainly not feel that this issue covers the topic adequately.

A couple of lessons emerge from our experiment. First, we will abandon, at least temporarily, the idea of special issues for AgREN. (Many thanks to the members who have written with interesting suggestions for future topics.) However, if members are involved in, or know of, activities where a series of papers on a topic is being produced, and some of these might form a themed issue of AgREN, we would be very happy to explore such possibilities. We will continue to welcome ideas and suggestions for topics of interest to our members and will pass these on through the Newsletter in hopes of stimulating writing for future issues. Finally, we would like to use this experience to reiterate to our members that the range and quality of AgREN Papers depends

upon you and your willingness to write. AgREN offers a virtually unique opportunity to communicate detailed analysis about the performance, organisation and impact of pro-poor agricultural development. AgREN Papers are widely cited, and they offer the opportunity to bring your work to a wider audience. AgREN is happy to work with authors to develop initial drafts into final papers.

Globalisation. The experiment continues

Our experiment with a special issue is not over; indeed, it has just begun. AgREN members have received four papers with this issue, and (as always) we look forward to hearing reactions and comments. The papers cover a number of interesting issues.

Jonathan Kydd's overview paper provides a fresh and useful way to help think about globalisation. The term is used to describe so many different trends and issues that it is sometimes difficult to know if it is of any use at all. The idea of transaction costs, presented in the paper, draws attention to one common thread to help us find our way through the complex phenomenon known as globalisation.

The paper by Jon Hellin and Sophie Higman examines export markets for coffee and bananas. Although these crops have been important sources of income for many smallholders, conventional export markets are not sufficiently supportive of smallholder development. The paper examines the possibilities of niche markets. These offer opportunities for increased income, but market access is a problem. Farmers need organisation, representation, credit and inputs, and access to a reliable certification or quality control mechanism. Many of these represent challenges to lowering the transaction costs described in the Kydd paper.

The paper by Jones, Freeman and Lo Monaco looks at pigeonpea in Africa, a crop often associated with subsistence agriculture, but in fact one that presents significant opportunities for trade, internally and regionally as well as for export. The paper argues that although appropriate technology is important, it must be linked to identifying market opportunities. This involves making contacts with foreign markets, developing innovative input supply mechanisms, looking for ways to add value close to the farm, and taking advantage of in-country experience with other commercial crops.

The paper by Alastair Orr and Sheena Orr is not, strictly speaking, part of the globalisation issue, but it treats themes that are directly relevant to the topic. It examines the possibilities and challenges for farm diversification in Malawi. The options are often locally-traded commodities, such as vegetables, but also include export crops such as pigeonpea. The paper underlines

the importance of well functioning local markets to allow farmers to fully exploit these options. The paper also looks at the opportunities offered by micro-enterprise and non-farm activity to diversify and strengthen household income.

All of the papers in this issue offer a rather cautious view of globalisation. Each one of them presents examples of possible strategies for farmers to take advantage of expanding markets, but each is frank about the serious impediments that remain. Of particular relevance for AgREN, the skills and organisation required to lower transaction costs and allow farmers better access to markets are far removed from the traditional skills and experience of agricultural research and extension. AgREN members need to think carefully about the implications of these challenges.

The email conference

As part of our experiment with a special issue, we will have an email conference for AgREN members to discuss the implications of globalisation. The papers in the current issue will provide some material to think about, but we are most interested in hearing the views and experiences of individual AgREN members. The email conference is scheduled for April, and we will inform you by email about how to participate in that conference. Please let us know (agren@odi.org.uk) if your email address has changed recently, so that we can be sure to reach you. We look forward to assessing the experience of this conference. If it proves to be useful, we can consider further e-mail conferences on particular topics, even if they are not associated with a special issue of AgREN Papers.

Contributions from members

Fadama development in northern Nigeria and cultivator-pastoralist conflicts

There has been an increase in the cultivation of inland valleys (fadama) in northern Nigeria in recent years. This is the result of a National Fadama Development Programme (NFDPP) and other efforts that increase the dry season cultivation, often with supplemental irrigation, of fadama land. There are a number of positive results from these changes. Rainfed agriculture is restricted to about four months, but fadama cultivation allows the production of crops throughout the year. As soon as the dry season sets in and the inland valleys are sufficiently drained, fadama cultivation commences. There are changes in terms of crop production, with the usual cereal based farming system replaced during fadama cultivation by crops such as tomatoes, pepper, onion, sugarcane and wheat. The implementation of the fadama programme has led to an increase in the adoption rate of agricultural technologies among farmers. The fadama programme has also encouraged the formation of female fadama users associations. Some fadama are cultivated for fodder crops to supplement the crop residues of rain-fed agriculture, and green fodder crops in the intense dry period means high income for the growers. Fadama cultivation has also reduced the amount of seasonal migration to the south of Nigeria.

The expansion of fadama cultivation has not been without cost, however, particularly for pastoralists. Over 90% of the cattle and the large proportion of the sheep and goats are held by the nomadic and semi-nomadic pastoralists. Grazing has traditionally been on a communal basis, with no individual possessing sole right to any grazing land. Pastoralists usually used uncultivated bush, fallow farms and forest and grazing reserves, and grass and water were considered free resources available to the stock that got to them first. However, over the years, there has been a progressive deterioration in the symbiotic relationships, and conflicts between the farmers and pastoralists have become routine events in Nigeria.

Some of the major points of conflict include:

Land tenure and land use practices. In Nigeria, land was traditionally held on a collective basis, and was used by communities and individuals on first-come first-served basis by virtue of being members of the community. For example, the use of fadama was not based on ownership, and some fadama sites were reserved for use by the pastoralists who would spontaneously settle on them and utilize the resources available therein. However, increasing pressure on land has decreased the importance of communal rights and enhanced the significance of individual ownership of land.

Inadequacy of the existing grazing land. Most of the grazing areas have been encroached in recent years by expansion in farming activities as well as by land speculators and government development interventions. Virtually, all the grazing reserves are poorly developed, with little or no trace of grass on them, principally due to over-grazing and poor management. Consequently the pastoralists move farther south in search of sources of fodder.

Blockage and reduction in size of stock routes. It has been observed that stock routes become fertile over time due to droppings from animals and therefore farmers encroach on them. The blockage of local cattle routes leading to watering points and increased activities in the fadama are major sources of conflict between pastoralists and farmers. The release of livestock by the settled pastoralists and the arrival of the nomadic pastoralists coincide with land preparation and planting in fadama lands (November to April). One of the problems of the farmers is how to police the scattered fadama from encroachment by the large influx of livestock to the fadama areas.

Commercialisation of crop residues. Crop residues are intensively used by agro-pastoralists and nomadic and semi-nomadic pastoralists. Hitherto, they had more or less free access to crop residues. However, nowadays,

crop residues are treated as an economic commodity and this limits the opportunity of herders to use them to meet their dry season pasture requirements.

Conflicts are sometimes violent, resulting in the death of farmers and pastoralists. Another consequence of the conflict is the feeling of insecurity and fear generated among the farmers and pastoralists every time the immigration period arrives. The attendant uncertainty and insecurity have forced many farming families to emigrate from crisis prone areas and villages. Indeed some of the farmers claimed that the crisis has affected their ability to pay back NFDLP loan.

In terms of conflict resolution efforts, the thrust of the state governments and the affected local

governments is on the improvement of pasture through grazing reserves, land conservation and environmental protection, and improvement in facilities and veterinary and extension services. Nevertheless, while the objectives of the governments are sound, their efforts have not yielded many positive results. Conflicts have continued unabated, bringing insecurity, uncertainty, fear and disruption of production activities.

Further information

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Agricultural extension and research in Syria

In Syria, the agricultural knowledge and innovation system is almost totally in public hands. The Ministry of Agriculture and Agrarian Reform controls, directly or indirectly, all research stations but ICARDA and has local offices in 869 villages. Advisors are responsible for technical advice and for designing and implementing plans for strategic crops. The extension service co-operates with Peasants' and Women's Unions and also participates in input delivery and credit provision (managed by the state-controlled Agricultural Credit Bank). Each unit covers one or several villages, with farmers organised into groups. In recent years the economic and agricultural policy of the Syrian Government has been slowly changing and the pace of change has accelerated in recent months. Syria is discussing its membership in the World Trade Organisation, the currency market is becoming less rigid, some private firms have initiated operations for agricultural input supply and output processing, and some NGOs are expanding their activities.

Within the framework of the FAO Project 'Assistance in institutional strengthening and agricultural policy', a farmers' survey was carried out in Syria during December 2000. The survey had a training purpose and was intended to improve research skills of a group of local trainees. Sixty-nine farmers in five Governorates were interviewed in November 2000, to analyse their opinions about extension and research stations. In general terms, farmers believe that extension agents can answer most of their questions, and this opinion does not vary greatly among farmers of different educational levels. The information method most appreciated by the farmers is the visit of the advisor to the farm; less preferred methods include group meetings and field days. Training courses and visits to the office receive the lowest scores. In most cases, farmers are satisfied by the suggestions provided by the extension agents, and this opinion does not depend on the farmer's level of education. In case of problems, the information source most frequently consulted is the local government advisor (mentioned by 75% of farmers), whilst a minority take questions to other farmers and a very few go to members of the family or to the owner of the agricultural store. There is an indication that

educational level also affects the farmer's behaviour. Agricultural store owners are the last resort for the low and intermediate educational level, but this is not the case for the high education level. The respondents expressed a clear need for a closer relationship with the advisors, who 'should spend less time at office and more with us'. Farmers are also interested in obtaining more market-oriented advice and ask that extension agents be more open to listening and offer more practical experience.

Direct relationships between farmers and researchers are limited to a few cases. About 15% of the interviewed farmers claimed to have found solutions to their technical problems after a visit to the local research station, but most farmers live too far from the research stations to be able to exploit this opportunity. It is a concern that many farmers think that the research stations are doing experiments on subjects that are not useful for them.

More research is needed in order to acquire better knowledge about the behavior of Syrian farmers, *vis-à-vis* the different methods and media, and about the relationships between communication, adoption and impact of innovations. In the medium to long term, as further liberalisation is introduced in Syrian agriculture and agro-industries, it is likely that information delivery could become a tool for market competition used by private companies. In this context, it is also likely that civil society organisations (cooperatives, associations, chambers of agriculture) will be more active in this field, for the benefit of their members. In due time, the necessary steps will therefore be needed to re-evaluate the role of the state in the production of innovations and in the supply of information in order to establish a level playing field where all actors could play for the benefit of the country.

Further information

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The recent developments of the Albanian livestock sector and the role of Land O'Lakes in the dairy sector development

The agricultural sector dominates Albania's economy, contributing 50% of GDP. However, rural infrastructure remains poor and in need of development. After the Second World War, a process of land reform led to socialist collectivisation of agriculture and the establishment of cooperatives and state farms. The communist state created a system where agricultural production was realised by 600 agricultural cooperatives and 120 state farms. In 1991 the people of Albania toppled the communist government. The democratic government elected in 1992 decided on a massive privatisation of the land. The cooperatives were divided among the workers and the state farms were leased to their employees. This resulted in a new farming population of approximately 490,000 family farms with an average of 1.4 ha per farm in fragmented plots and varying from 2–3 ha/farm in low lands, to 0.5 ha/farm in mountainous zones.

All of the livestock were also distributed to the farmers. These changes have led to significant challenges for dairy and small ruminant production. Holstein – Friesian, Simmental, Charolais, Oberiental and Jersey, as well as crossbred cattle are the most common breeds in Albania. Most of the goats are of domestic breed and their milk productivity is low. The average number of dairy cows per farm family is only one, which means that the typical farming system in Albania is mixed farming and subsistence agriculture becomes the main orientation due to market deficiencies.

The International Development Division of Land O'Lakes Inc. (LOL) has been assisting the development of the dairy industry in Albania since 1993 with funding from the United States Agency for International Development (USAID). The programme includes a dairy improvement campaign and the establishment of Livestock Service Centres.

A dairy extension training campaign was to help rural women to increase their knowledge so that they could improve the health of their cows and improve rural incomes by increasing the quality and quantity of their milk. During the initial phase, the programme reached approximately 3800 women organised in groups of fifteen. The women received training in three waves: milk quality, herd health, and business management and marketing. The demonstrations focused on providing information on topics such as sanitation, prevention of mastitis and other diseases, record keeping, cheese making in household conditions and milk quality tests. Booklets developed by the dairy experts and adopted to the conditions of Albania accompanied each training topic. The programme was very successful and was extended beyond its pilot phase.

A survey undertaken in 1995 shows that the women participating in the LOL programme had indeed increased the quantity of milk produced and improved the quality, but this was not the ultimate goal of the project. The increased production must be translated into improved rural incomes before the intervention

can be considered successful. Therefore efforts have concentrated on institutionalising the cooperative undertakings already begun so that the participants receive tangible and measurable economic benefits. Credit unions are being formed, and LOL is assisting in the establishment of a cooperatively owned dairy processing plant in Korçe. Technical assistance to the newly emerging private dairy processing plants has ensured a growing market for raw milk.

LOL receives continuous requests from producers that would like to participate in the programme, as well as requests from owners of dairy processing plants to train their suppliers. To date over 2700 milk producers, including men, have participated in the fast-track training. Technical dairy extension for small ruminants was also added in 1997. Linking the producers of higher-value goat and sheep milk into the dairy system aids poverty alleviation in the poorer mountainous regions and opens up new product possibilities for local dairy processors. Vaccination campaigns have also been delivered by the small ruminant team, resulting in a marked decrease in spontaneous abortions among sheep.

USAID granted an additional extension through March 2000 to improve the milk collection system. The project installed milk cooling tanks and simple milk testing laboratory equipment at approximately 35 milk collection centres, some of which are owned and operated cooperatively by women dairy producers and others are run as private businesses. These collection centres have been linked with processors willing to pay differential prices based on milk quality, which has led to higher prices paid to farmers for quality milk.

The Livestock Entrepreneurs Association of Albania (LEAA) was established with the support of LOL. LEAA is active in 10 districts of the country and has nearly 800 members. LEAA has formed partnerships with micro-credit institutions to enable members to receive loans to purchase cows and/or other live animals and farm facilities as well. It has also organised seminars for private veterinarians to improve the services they provide to members. LOL has also helped dairy businessmen to establish the Dairy Entrepreneurs National Association (DENA). DENA works on behalf of its 58 members to lobby government on issues of importance to the local dairy industry and has also negotiated favorable loan terms for its members from the local commercial banks.

Further information

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Hitosa water supply, sanitation and hygiene education community management scheme, Oromia Region, Ethiopia

In Ethiopia various governmental and non-governmental institutions are involved in the water, sanitation, and hygiene education sectors. Despite this, about 85% of Ethiopia's population (over 56 million people) suffer from lack of safe drinking water. The majority of the population (89%) live in rural areas where most reports suggest that fewer than 12% have access to potable water.

For the last ten years WaterAid and Water Action have been supporting and implementing water supply and sanitation projects in the region. Water Action is an indigenous non-profit making non-governmental organisation (NGO) operating in developmental activities for poverty alleviation. It is mainly involved in the integrated development of water supply, sanitation and hygiene education, protection of natural resources and community development. Water Action, along with its major partner WaterAid has developed an effective model for community management of water supply and sanitation projects and schemes. Water Action works closely with the respective regional health and water bureaux, zonal water and health departments and health facilities in project areas. The health and sanitation and the water supply components of project/scheme activities are mostly implemented in collaboration with the local authorities through staff secondment from these offices.

The Hitosa scheme has been implemented in two phases over the last eight years. The construction of the water supply system and the establishment of the community management structures were completed during the first phase. The second phase project had the objectives of improving the effectiveness of the schemes and guaranteeing the realisation of planned impacts, ensuring a sustained operation and maintenance of the scheme and contributing to an increased role of women in rural development programmes.

The Hitosa water supply scheme is designed to provide 25 litres of water per day per person to a population of about 70,000 in a period of 15 years through a 140 km pipeline system. The income from the water sales can cover the management and the maintenance costs of the scheme. The people consider the cost of 5 Ethiopian cents per 60 litres reasonable. The hygiene education and sanitation activities also cover all the communities covered by the water supply system. The health and sanitation component activities include: conducting an orientation workshop for involved health staff, baseline health survey in sampled villages of the three schemes, training and deployment of village hygiene communicators in hygiene and sanitation promotion, continuous hygiene and sanitation provision to all project villages, construction of ventilated improved pit latrines, and the construction of traditional pit latrines for demonstration at selected sites.

A very strong feature of the Hitosa scheme is community management. Community management can succeed because the scheme is trusted and people accept its decisions and requests. The local people have shown that they have the potential to manage and maintain the system and there is sufficient income to pay the staff of the scheme a reasonable salary. The leadership of the scheme is responsible to the users, the leadership is committed and trusted and the supply system is well designed and constructed.

A recent evaluation of Hitosa community managed water supply, sanitation and hygiene education scheme has revealed that the activities undertaken by Water Action (through the second phase of the project) are already showing positive changes in:

- 1) The improvement of the health status of the communities as witnessed by:
 - the exclusive use of protected water supply sources by scheme beneficiaries;
 - the practice of protection of water from contamination as demonstrated by proper cleaning of water containers, safe storage and use of water at home;
 - the construction and use of own latrines and refuse disposal pits by project beneficiaries;
 - increased hand washing practices at critical times (after visiting latrines etc.).
- 2) The reduction of the time and energy spent by women and children and children in fetching unsafe and inadequate water which now allows more time to be spent in other important activities.
- 3) Improved efficiency and confidence of the beneficiary communities in managing the scheme.
- 4) Improved consciousness towards modern ways of life particularly related to hygiene and sanitation.
- 5) Sustained operation and maintenance of the scheme has been ensured and the scheme is managing its own bank account.
- 6) The scheme has contributed to an increased role of women in the management of the scheme and in hygiene and sanitation promotion.

In general the project has strengthened the operation and maintenance capacity of the scheme, has enabled an extended effort in health and sanitation promotion, and has in turn promoted adequate awareness by beneficiaries that there is a strong correlation among water, sanitation and health.

Further Information

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Farmer to farmer extension for sustainable agriculture

Since 1993 the Uttar Pradesh Land Development Corporation has been implementing a World Bank funded project, Uttar Pradesh Sodic Lands Reclamation Project (UPSLRP) in 10 districts covering 64,414 ha and 156,000 farm families. Firmly believing in a participatory approach, USLRP has initiated the formation of farmers' organisations at the village level. The process included installation of minor irrigation infrastructure, building drainage networks, chemical amendments for crop/horticulture production, and training in leadership for the local communities. This work is being executed in collaboration with local NGOs.

Since 1998 an attempt has been made to evolve appropriate mechanisms to meet the challenge of long-term sustainability for such service-delivery. How do we ensure that the physical and social infrastructure created in rural communities will continue to function effectively and efficiently after withdrawing the project? Thus a strategy was developed to ensure sustainability of project interventions by building the capacity of the participating farming community, improving the functioning of local farmers' organisations, and strengthening the effectiveness of linkage mechanisms and networking.

The key organisations are Farmers' Schools (*Kisan Vidyalaya*) and Farmers' Clubs (*Kisan club*) that unite local progressive and innovative farmers to take up technology development and dissemination for sustainable agriculture in a post-project scenario.

To overcome the usual sense of dependency of the community on outside agencies the project is promoting a shift from a problem-oriented approach towards processes, building on community achievements, existing strengths and local skills. Trained resource persons of the community are being helped to create a shared vision of an equitable and sustainable future and then encouraged to move towards the vision through the activities initiated and managed by themselves.

There are four steps, which are being followed during such interventions:

- **Discovery.** Farmers are facilitated to identify their own as well as their club's or school's strengths and achievements. They are further enabled to re-discover and restore forgotten human values through various exercises.
- **Dreaming.** At this stage farmers are encouraged to build up their personal as well as their organisation's dream. The whole process is so devised that they are able to synchronise their personal dreams with the organisation's dreams and also see that most of their personal dreams will be achieved automatically if the club's or school's dreams are fulfilled.
- **Designing.** Farmers then draw an action plan, emphasising which activities can be performed by

the club or school independently, which can be performed with some help from outside institutions, and which can be performed by outside institutions only. This action plan is prepared with measurable indicators of success for each activity.

- **Delivery.** The activities are then initiated.

Both the UPSLRP and NGOs are learning how to manage such an approach that tries to enhance farmers' position through farmer-to-farmer extension. Farmers' Clubs have internalised the self-help philosophy and they have initiated various ventures for their betterment based upon available resources. Some of the initial outcomes are summarised below.

- (a) All these Farmers' Clubs or Schools have developed a small fund through voluntary contributions from member farmers and other willing farmers to meet day-to-day expenses.
- (b) A pro-active role has been adopted by these institutions in approaching knowledge resource like KVKs (Farm Science Centres) or state agriculture universities for conducting varietal trials on their fields and exchange visits with scientists. Seeds of successful varieties from these trials are being multiplied and distributed to farmers at affordable cost.
- (c) Large-scale adoption of sprinkler irrigation and polythene pipes for surface transportation of irrigation water has increased net irrigated area to a large extent at reduced cost.
- (d) Adoption of practices of organic farming such as composting and IPM in paddy. This has lowered the cost of cultivation by reducing the use of chemical fertilisers and pesticides.
- (e) Cultivation of other crops like sugarcane, pigeonpea and several vegetable crops, in place of the usual wheat-paddy rotation, has increased income level and also meets family consumption needs.

The Uttar Pradesh Diversified Agriculture Support Project (UPDASP), another World Bank funded project, also saw the progress of these farmers' organisations and consequently adopted the self-help concept in their operational area (32 districts). The State Agriculture Department has also accepted this approach in principle for sustainable agriculture extension.

Further information

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Honeybee not for honey only: the yield raising role of honeybees in agriculture

The focus of agriculture in the Hindu Kush-Himalayan region is slowly shifting from traditional cereal crops to high value cash crops such as fruits and vegetables. This transformation from subsistence to cash crop farming poses new challenges for maintaining crop productivity and quality. One of these challenges is crop failures due to inadequate pollination. This paper discusses this lesser-known ecological dimension that is severely affecting apple production.

Apple is the lead cash crop in several areas of the HKH region. It may account for 60 to 80 per cent of total household income. Over 140 hilly and mountainous districts of India, Pakistan, Bhutan, China, and Nepal grow apples on sloping and marginal land covering about 367,000 hectares. However, for the past decade farmers have been complaining about declines in apple production despite various agronomic inputs and orchard management practices. Studies were conducted to investigate pollination-related productivity problems and farmers' management practices in selected apple valleys. The findings revealed that apple productivity is declining in many areas as a consequence of inadequate pollination. Farmers are aware of it only in Maoxian County of China and Himachal Pradesh in India and are managing pollination in different ways.

Lack of appropriate polliniser proportion in orchards and inadequate populations of pollinating insects in apple growing areas (owing to alteration in the insects' food and nesting habitats caused by shrinking natural ecosystems, increased areas under cross-pollinated crops and varieties, and excessive use of pesticides by the farmers) – are important factors responsible for inadequate pollination of apple crops. Another important reason for pollination failure is a drop in temperature and rainfall during apple flowering caused by the global climate change.

In Himachal Pradesh in India, farmers have started increasing polliniser proportion in their orchards by planting/grafting pollinisers. Farmers have even devised a short-term solution called 'bouquet pollination'. They put bunches of flowering branches of pollinisers in plastic bags filled with water and hang them on the trees of commercial varieties. Farmers are also using honeybees for apple pollination. As a result, a system of renting and hiring bee colonies is evolving in Himachal Pradesh. Apple farmers have created a heavy demand for honeybees for pollination, which has created a tremendous scope for beekeeping entrepreneurship in Himachal Pradesh.

Farmers of Maoxian County of China pollinate the apple crop by hand to make sure that it is properly pollinated. Hand pollination is a massive exercise in the valley in which every family member is involved. As they do the work otherwise done by honeybees, they can be better termed as 'human bees'. Families with small orchards pollinate their apples themselves, while others employ labourers for this purpose. The practice of using honeybees is surprisingly absent, even though beekeeping is common in the area.

Use of beekeeping for crop pollination is a new effort in HKH region. Even though beekeeping is common, farmers in most of the pollination problem areas are not aware of the value of honeybees for crop pollination. The practice of using honeybees for this purpose is limited to very few areas. One reason is that in the past beekeeping awareness and promotion were focused on honey production only. Neither policies nor institutions ever supported development of beekeeping from a crop pollination service viewpoint. There are only isolated examples, such as that of Himachal where special efforts have been made by

government agencies to strengthen the research and extension systems to enable them to promote beekeeping for crop pollination. Governments in other countries of the region need similar initiatives.

The preceding discussion clearly shows that crop pollination has become one of the limiting factors of apple productivity. The pollination problem is relatively new in the region and it needs due attention at this early stage. Apple is only one example of a number of cash crops grown by the HKH farmers, which require management of pollination for better production and quality. Vegetable seed production is yet another crucial sector where pollination management is essential. The preferred solution to this lies in promoting honeybees for pollination. Thus, there is a need to change the focus of beekeeping from conventional honey production to crop pollination.



Farmers of Maoxian County of China pollinate the apple crop by hand

Further information

This material is extracted from the book entitled 'Warning Signals from the Apple Valleys: Pollination Issues faced by the Himalayan Farmers' by Uma Partap and Tej Partap (2001; in the process of publication by ICIMOD).

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Farmer led development and extension in the Free State Province in South Africa

The land reform process in South Africa has resulted in numbers of new black farmers acquiring land and farms. Some acquired freehold developed farms and others obtained secure rights to use municipal commonage. The new farmers formed groups to buy the land, mainly because of the nature of government funding under land reform, but group formation also applied on the commonages where there was no such imperative. The apartheid history of South Africa meant that the new farmers had no experience of independently operating farming enterprises, even though they may have had experience as farm workers. The group ownership of enterprises added to the management complexities faced by the emerging farmers. As a result, many enterprises soon faced difficulties. Production was low to non-existent, in many cases debt incurred with the Land Bank was not being repaid, infrastructure and equipment was inadequate or misused and group tensions made it difficult to find solutions. Past racial policies also meant that the new farmers were isolated in a sea of experienced white farmers, and there were no social or commercial relationships needed to support the new farmers. Traditional extension services were not able to cope with the array and complexity of problems faced by the new farmers.

The Departments of Agriculture and Land Affairs commissioned Mngcunube Consultants to find a way of dealing with the problem. Mngcunube set up a farmer to farmer mentoring programme. Its design was influenced by farmer led development practice in Asia, and by principles of facilitated learning and sustainability. Mngcunube believed that the key was to carefully select suitable experienced farmers who could 'walk the road' with the new farmers in a mentoring relationship. Given the history of South African race relations it was necessary to train the mentors in facilitation skills to be absolutely sure that the relationship between the mentors and the farming groups promoted independence and learning and avoided paternalism. They also believed that formal training offered by extension services needed to be complemented by farmer field days and exchanges, where new farmers could learn from one another and the private sector in the form of marketing and supply agents. The mentoring programme was carried out from late 1999 to mid 2001 with 22 farmer groups, rising to over 40 as demand grew. It proved to be successful in that most farmers generally succeeded in overcoming their problems.

A key aspect of the mentoring relationship was the ready availability of the mentors to the groups. Frequency of interaction was emphasised. This meant that isolation was reduced and that problems were identified before they grew too big, and opportunities were identified sooner. It also helped develop a pattern of interaction where the presence of the mentor was

felt to be that of a dependable colleague and avoided the 'classroom' climate that can prevail where interaction is infrequent but intense.

Another key aspect related to the emphasis on facilitation, where the new farmers were assisted to identify and solve their problems as opposed to being told what to do or having things done for them. Independent enquiry confirmed that the groups were aware of and appreciated this approach. In some respects the support offered by mentors was similar to that which could be obtained from a conventional extension officer. In addition the mentors brokered new and favourable relations between the new farmers and local service and materials suppliers and helped overcome communication barriers.

Possibly the aspect most valued by the new farmers was access to 'know how' – simple things that make a big difference. For example, instead of borrowing to buy new equipment, the group could learn where to get old equipment and repair it, which resulted in major savings. Many other events, modest on their own but important as a whole, could be cited. The significance is that they are the things a successful practical farmer has to know in order to survive and that new farmers, who have been denied the opportunity in the past to develop such knowledge, can get only from other farmers. In addition to the role carried out by mentors, Mngcunube itself successfully took on the task of resolving the tensions and complexities arising from group ownership. Several months after the end of their role in the programme, a short survey suggests that the approach taken can lead to sustainable change and improvement beyond the phase of direct and intense intervention.

Although the gap between experienced farmers and new farmers in South Africa is probably greater than that between farmer leaders and farmer learners in Asia and Latin America, the centrality of farmer-to-farmer interaction and learning appears to be the same.

Further information

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Unsustainable livelihoods? The impact of globalisation on groundnut producers in Andhra Pradesh, India

The authors undertook a study in 2000 of the livelihoods of rural people in Anantapur district, Andhra Pradesh, based on a field survey and literature review. The study was part of a research project on Household Livelihood and Coping Strategies in Semi-Arid India, funded by DFID's Natural Resources Systems Programme¹. There are two principal livelihood groups in Anantapur district, namely small and marginal farmers (SMFs) and landless labourers. For the last 20 years almost the entire area of dry arable land has been devoted to groundnut production, which became the dominant activity in the livelihood system of SMFs.

Groundnut gave good profits in the 1980s, but profitability was greatly reduced during the 1990s. The fall in profitability was largely due to the growing cost of cultivation, coupled with stagnation/decline in output prices. Other factors have been a drought in 1997, and pest problems in 1999 and 2000, exacerbated by adulteration of pesticides. On the input side the cost of purchased inputs has increased drastically, and is now equal to about 50% of the value of the output. This was partly due to the removal in 1992 of government subsidies on fertilisers.

On the output side, groundnut prices increased sharply in the 1980s, slowed down significantly in the early and mid-1990s, and have declined in real terms since 1997. The main reason for the slump in the groundnut price has been the opening of the Indian edible oil market to imports, as part of the Government's trade liberalisation policy. The import duty on edible oils was reduced from 65% in the mid 1990s to 15% by the end of the 1990s. Palm oil, primarily from Malaysia, is the main imported product. The value of imports increased by a factor of 35 between 1993/4 and 1999–2000, from \$53 million to over \$1,844 million; while the quantity increased by a similar factor. The share of imported edible oils has increased from less than one percent in the early 1990s to about 45 per cent now.

As a result of the various factors described above producers have become heavily indebted to input suppliers, who provide credit for purchase of inputs. Pressure from creditors for repayment of loans has been causing acute stress among producers, leading to about 30 suicides in 2000.

Since December 1999 the Indian government has responded to the situation with successive increases to the import duties on edible oils. The impact of the initial hikes was negligible because: (a) international prices declined further; and (b) the Malaysian and Indonesian governments have started to give concessions to exporters, as the two countries vie for the Indian market.

In theory, globalisation should result in these farmers switching to another crop in which they have more of

a comparative advantage. However, until now groundnut producers and government agricultural services have been unable to identify an alternative rainfed cropping system that is viable for small and marginal farmers in this semi-arid region. Thus, farmers are currently faced with the choice of running the risk of greater indebtedness by continuing with groundnut production; or moving out of agriculture altogether. Their experience shows the need for government programmes to cushion the impact of globalisation on certain groups, and to assist them in identifying new livelihood activities.

Households whose livelihoods depend predominantly on wage labour have a more varied portfolio of activities than SMFs, doing both agricultural and non-agricultural (e.g. construction, quarrying) labour; and they are also more mobile. As a result, their livelihood systems are more robust, and they have been less affected by the 'groundnut crisis'. Nevertheless, some of these households also grow groundnut, and hence have been directly affected; and the reduced profitability of groundnut production has exerted a downward pressure on real wage rates (which grew more slowly in the 1990s), affecting all labouring households indirectly.

Further Information

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¹ The project's main report is: *Household Livelihood and Coping Strategies in Semi-Arid India: Adapting to Long-Term Changes*, by Czech Conroy, Sudarshan Iyengar, Viren Lobo and G. Bhaskara Rao. Copies can be obtained from SPWD's main office in New Delhi. *Email:* ptyagi@gmx.net

Some recent experiences in rural development in Western Kenya

The Mt Elgon Integrated Conservation and Development Project operated in Trans-Nzoia and Mt Elgon Districts in Western Kenya from October 1998. Although it was designed as a ten-year project, a shift in donor priorities meant that it was terminated at the end of 2001. The principal purpose of the project was biodiversity conservation on Mt Elgon, a 4,300 metre dormant volcano that straddles the border between Kenya and Uganda. The project was designed to work with people living adjacent to the National Park and Forest Reserve. The project aimed to have communities adjacent to the protected areas involved in the management of these areas, and also sought to decrease their dependency on natural resources that had traditionally been obtained from the mountain.

Because the project team was requested to achieve results in the short term, and to ensure that project activities could either be phased out or else handed over to other organisations, it was decided that rural development activities would be confined to only four communities. Rural development activities undertaken with the target communities consisted of participatory rural appraisals, entrepreneurship training, leadership training for women, the promotion of crop diversification, support for honey production, an environmental education programme in schools, the establishment of community conservation teams, steps to improve livestock management, and community-based tourism initiatives.

The project was designed to work through other agencies and to facilitate their implementation of project activities. Kenya Wildlife Service and the Forest Department, responsible for protected area management on Mt Elgon, were project partners, together with the IUCN (the World Conservation Union, which had a contract with the Dutch government to execute the project). But the bulk of the project's work in communities neighbouring the mountain took place with partners not contractually tied to the project. For example, government agriculture and livestock officers together with local farmers implemented activities supported by the project; and the District Education authorities, with support from the Kenya Institute of Education, implemented the Environmental Education programme. One important lesson from the project has been the feasibility of successful collaboration with a wide range of partners co-opted into the project as needs were identified. This has important implications for others who may wish to implement flexible, adaptive, development interventions in this region.

One means for decreasing dependency of the project communities on resources traditionally obtained from the mountain was to increase agricultural productivity and profitability. Poor road access impedes access to markets for agricultural produce and tends to put

farmers at the mercy of a limited number of intrepid 'middle persons'.

Maize is the predominant agricultural crop, but in recent years prices have fluctuated extensively, at times reaching low levels, especially immediately after harvest. Farming is less profitable if farmers sell all their produce at the time of harvest, rather than waiting until prices are more attractive. The project sought to make farmers aware of the potential benefits and risks of the timing of their crop sales. Efforts were made to improve the profitability of livestock production by subsidising some demonstration 'zero-grazing units' and the rehabilitation of community operated cattle dips. The project also sought to improve the profitability of farming by encouraging farmers to at least partially diversify into other crops; potatoes, onions and soya bean production trials were supported and honey production was encouraged. In the promotion of onions as a cash crop, considerable effort was expended making farmers aware of seasonal price variations and also in teaching them appropriate storage techniques.

The environmental education programme conducted in primary and secondary schools is potentially a very versatile entry point into rural communities. In collaboration with Kenya Institute of Education and local teachers, Teachers' Manuals on the subject were produced and distributed to schools, and teachers were given training in environmental education. Besides biodiversity conservation, this topic also extended to conservation-related activities associated with farming. Several Environmental Education field days were held in which representatives from schools participating in the programme took part in drama and other entertainments with environmental themes.

Although the project lasted for less time than originally intended, it would be of interest at some point in the future to assess what lasting impacts the project may have had. One unplanned outcome from the project has been reconciliation in communities that had been riven by ethnic tensions in the early 1990s. People who fled their land at that time have returned to resume cultivation.

Further information

This paper is based upon the author's experience as Chief Technical Advisor in the project. The project was funded by the Dutch government.

The views expressed herein are not necessarily those of the funding or implementing organisations. Responsibility for the views and any errors or omissions in this paper resides solely with the author.

'Grey literature' from the project is available in the Mountain Forum's On-Line Library (www.mtnforum.org).

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Websites

<http://www.fao.org/ag/ags/AGSM/marketin.htm>

This site provides online marketing extension guides produced by the Marketing Group of FAO. These include:

- Marketing costs and how to calculate them
- Understanding and using market information
- Maize marketing (for Eastern and Southern Africa)

The guides are intended to be used by extension workers, and translation into local languages is encouraged. They are free of charge and the first two can be downloaded from this website.

<http://www.web-agri.com>

Initially produced in French (www.web-agri.fr), this site is now available to English-speakers. Web-agri is a specialised agricultural search engine which allows internet users to search for information on over 760,000 web pages.

<http://www.ngoc-cgiar.org>

AgREN's July 2001 newsletter included a report from a meeting of the NGO Committee (NGOC) of the Consultative Group for International Agricultural Research (CGIAR) in Durban earlier in the year. Further information relating to this may be obtained from this website.

<http://www.odi.org.uk/agren>

The AgREN website contains a full list of network papers together with details of how to join, the benefits of membership, how to submit material for publication, and contact details for network personnel. Back issues of papers dating back to July 1999 and the current newsletter are available on this site.

The site links to the home page of ODI's Rural Policy and Environment Group, and to other websites which may be of interest to members.

Announcements

Special Issue of *Development Policy Review*

The latest issue of *Development Policy Review* (Volume 19, Number 4) is devoted to 'Rethinking Rural Development'. It is edited by Caroline Ashley and Simon Maxwell and includes 12 papers that address challenges for rural development policy. This special issue is available for £9.00 and discounts are available on larger orders. Further details are available on the ODI website (www.odi.org.uk). To order this publication please contact Judy Cornish, DPR, Blackwell Publishing, PO Box 805, 108 Cowley Road, Oxford, OX4 1FH, UK. Tel: +44 (0)1865 244083, Fax: +44 (0)1865 381381.

Contracting for agricultural extension: Good practices worldwide. Edited by William M. Rivera and Willem Zijp

CABI International is scheduled to publish a volume of case studies on 'Contracting for Agricultural Extension: Good Practices Worldwide' edited by William M. Rivera, Associate Professor, University of Maryland, College Park, and Willem Zijp, Lead Specialist, Operational Quality and Knowledge Services, Africa Region, in the World Bank.

This compilation of case studies on contracting for agricultural extension services results from an initiative by the editors to identify a wide variety of cases germane to the subject, discover what impact they have had to date; ascertain the likelihood of sustainability and replicability; and determine what lessons had been learned. The Agricultural Knowledge and Information

Systems (AKIS) Thematic Group of the World Bank, in collaboration with the University of Maryland, College Park then decided to compile a volume on contracting for extension services. The present compilation is the result of that original initiative and collaboration.

The editors contacted various specialists worldwide knowledgeable about the current developments shaping agricultural extension as well as experienced in the policy and operations of particular developments in their country involving contracting for extension services. The editors received over 30 case studies, kept 26 for analysis, but limited the selection to 18 examples for the purposes of this volume, which focuses specifically on contractual arrangements aimed at procuring agricultural extension services.

The volume presents the growing body of experience worldwide with the contracting approach and its usefulness for improving the financing and delivery of agricultural knowledge.

The volume presents the cases that served as the basis for the findings and discussion in the AKIS Good Practice Note issued in February 2001 titled 'Contracting for Extension: Review of Emerging Practices'. What that text and this volume suggest is that contracting for extension services – albeit not without disadvantages and not prescribed as a panacea for deep-seated system failures – is nonetheless a positive development and a vital strategy for the advancement of knowledge transfer in the agricultural domain.

The cases in this volume highlight a number of generalities, namely that contracting for extension is widespread, a strategy employed by all sectors, and

utilised in a variety of extension situations. An analysis of the cases uncovers a number of facts regarding the technical criteria, the social and environmental consequences and the impacts of contracting for extension.

The findings on technical criteria relate to the selection, monitoring and evaluation and certification of advisory consultants, payment/cost sharing of the consultant service fee, the funding of programmes providing contractual advisory services, who decides the content of extension messages, and who decides who will receive the advisory service. The consequences for societies and the environment indicate effects regarding stakeholder participation, poverty, equity, food security, natural resources management, capacity building and other concerns, such as women and children; judging from the cases these effects tend to be positive. Additionally a number of considerations emerge: (i) the importance of political will to promote system reorganisation and contracting for extension, (ii) the institutional roles, opportunities and benefits of contracting for extension, and (iii) the impact of contracting for extension on capacity building, changed roles, and the utilisation of providers.

For further information please contact CABI Publishing, Nosworthy Way, Wallingford, Oxon OX10 8DE, UK tel: +44(0)1491 829279; (www.cabi.org/publishing), quoting ISBN 0 851995713. The price for the volume will be £40 (US\$65.00)

The AKIS publication on 'Contracting for Extension' is available online at: www.worldbank.org.

Farmer innovation in Africa: A source of inspiration for agricultural development. Edited by Chris Reij and Ann Waters-Bayer

One of Africa's major untapped resources is the creativity of its farmers. This message comes through clearly in this volume of studies on how, in spite of adverse conditions and lack of appropriate external support, small-scale farmers – both men and women – are able to experiment and innovate in order to improve their livelihoods.

Written primarily by African extension workers, researchers and farmers, the studies that form the basis of this book stem from fieldwork conducted in a wide range of farming systems throughout the continent. Numerous lively examples show how a participatory approach to agricultural research and development – one that builds on local knowledge and innovation – can stimulate the creativity of all those involved, and not simply the farmers themselves. This 'bottom-up' approach provides a much-needed alternative to the conventional 'transfer of technology' paradigm.

Farmer Innovation in Africa is a rich source of case studies and analyses of how agricultural and development policy can be changed. It will be invaluable for development workers, researchers and policy-makers, as well as for students and teachers of agriculture, environment and sustainable development. It presents evidence of the strength and perseverance of rural communities in Africa and indicates a promising path for future development.

Chris Reij is a Fellow of the International Co-operation Centre of the Free University of Amsterdam and co-editor of *Sustaining the Soil* (Earthscan, 1996). Ann Waters-Bayer is an agricultural sociologist with the development agency ETC Ecoculture Netherlands.

This publication may be obtained from Earthscan Publications Ltd, 120 Pentonville Road, London N1 9JN Email: earthinfo@earthscan.co.uk Fax: +44(0)20 7278 1142, www.earthscan.co.uk, priced £18.95. Please quote ESCB 99, ISBN: 1 85383 816 0 when ordering.

Second regional course in sustainable agriculture

The Sustainable Agriculture Centre for Research, Extension and Development in Africa (SACRED AFRICA) is an NGO that works with rural farmers to improve their lives through increased agricultural production and income while protecting and enhancing the environment.

Through this process, the staff of SACRED AFRICA and its partners have gained valuable knowledge and experience in sustainable agriculture that is critical and valuable for other development partners in East and Southern Africa. This is why the NGO has teamed up with other players and is organising the second regional course in sustainable agriculture to be held in Jinja Uganda from 13th to 18th October 2002.

The course, which will be facilitated in a participatory and lively way targets project managers, extensionists and researchers from East and Southern Africa. It will be limited to 30 participants and will cost US\$ 500 per participant. These fees will only cover the costs of food, accommodation, tuition and educational materials. The course builds on the very successful first regional course in sustainable agriculture that was held at Soy Country Club, Eldoret, Kenya from 28th October to 3rd November 2001 and was attended by 37 participants from 8 countries (South Africa, Zimbabwe, Zambia, Malawi, Uganda, Sudan and Kenya among others)

Course content:

- Agriculture and natural resource management issues in E&SA
- Sustainable resource management
- Principles of sustainable agriculture
- Organic resource management
- Agro-forestry in food production and environment conservation
- Designing and interpreting on-farm research/experiments
- Farmer-to-farmer extension
- Globalisation and African agriculture
- Participatory approaches in agriculture
- Conservation of biodiversity
- Indigenous technical knowledge
- Agricultural marketing, collaboration and net-working
- Gender issues in agriculture

For further details contact: The Training and Extension Coordinator, SACRED AFRICA, P.O Box 2275, Bungoma, Kenya. Tel. 254-0337-30788 Email: sacred@africaonline.co.ke

**Dimensions of participation:
Experiences, lessons and tips from
agricultural research practitioners in
sub-Saharan Africa by Alistair
Sutherland, Adrienne Martin and David
Rider Smith**

This book explores three dimensions of practical participation in agricultural research – farmer participation, teamwork and engaging with other stakeholders. Sixteen chapters, organised under topical headings, include practitioners' candid accounts of their experience on agricultural research and extension projects in Africa, sharing the difficulties they faced along with the progress they made. These case studies contain many first hand accounts of aspects of design and implementation that are not covered in currently available books and manuals. Principles, lessons and tips to facilitate good practice are drawn from these experiences and highlighted throughout the book. The book is for all those interested in the practical aspects of agricultural research and development, including practitioners, project managers, development specialists, advisors, donors, academics involved in development teaching and research and students of agricultural development.

To obtain a copy of this publication please write to the Office of the Director, Natural Resources Institute,

Central Avenue, Chatham Maritime, Kent, ME4 4TB, UK. The price is £25, plus postage and packing, with discounts for customers in developing countries, booksellers and bulk orders.

**Request for information on the impact
of food shortages on agricultural
practices**

I am pulling together more than 25 years of experience working in projects that benefit smallholder producers for a book entitled *Smallholder Agriculture*. We are increasingly aware that many smallholders face food shortages, often at the time of the greatest demand for farm labour. Farmers respond in different ways. They may try to earn cash by working for others, thereby delaying their own farm operations; or they survive with reduced food intake and hence jeopardise the quantity and quality of crop management they are able to do. I would be interested in hearing of any experiences regarding the degree to which research and extension programmes for smallholders take account of (or ignore) farmers' nutritional and labour constraints during the hungry season.

Richard Lee Tinsley, Department of Soil and Crops Science, Plant Science Building, Colorado State University, Fort Collins, CO 80525 USA.
Email: r.tinsley@cgnet.com

Guidelines for contributions to AgREN publications

AgREN members and others are encouraged to submit material for publication in both the Newsletter and as Network Papers. The type of material that is most suitable for submission is described below. Articles submitted as potential Network Papers will be assessed by an Editorial Committee and, where necessary, guidance will be given to authors in revising their papers for publication.

a) Newsletter Contributions: AgREN welcomes news from members that describes their work relating to the development of small-scale agriculture and sustainable rural livelihoods. AgREN would particularly like to hear about specific, on-going projects which are particularly innovative or other activities of interest to AgREN members. Contributions to the newsletter should be no more than 800 words, and may include photographs or illustrations. Shorter contributions are also appropriate. Please note that articles may be edited prior to publication.

b) Network Papers: AgREN Papers are broadly concerned with the design and promotion of appropriate agricultural technologies, with specific attention focused on the methods, processes, institutions and policies that promote pro-poor technical change and support equitable improvements in agriculture for developing countries. The principal focus of AgREN Papers should be adaptive research, extension or supporting mechanisms such as credit, marketing and producer organisations. Network Papers should seek to explore and promote the role of increasing agricultural productivity, resource conservation and farmer empowerment in the context of diversified rural livelihoods.

Content:

- Papers should focus on practical experience in research and extension methods as well as innovations in the public or private provision of other agricultural services.
- Papers may make reference to current theoretical issues in the field of rural development, but their principal focus should be on the provision of well-written descriptions of practical and innovative experience that will be of use to other practitioners.
- Although AgREN has an interest in novel diagnostic and evaluation methods that help practitioners understand farmers' priorities and contexts, papers that follow through on such diagnosis and illustrate applications and outcomes are particularly welcome.
- Papers may be based on a broad range of sectors relating to agriculture, e.g. crop and livestock production, aquaculture, agroforestry, extension, natural resource use, environmental management, credit supply and marketing.
- Most AgREN papers describe an experience from a particular time and location, but they are written in such a way that practitioners on other areas can draw useful implications.

Word length and referencing:

Network Papers should be between 6,000 and 12,000 words long, and include an abstract of 500–750 words highlighting research findings and policy implications. References should follow the examples below.

Books:

Carney, D. (1998) *Sustainable rural livelihoods: What contribution can we make?* London: DFID.

Journal articles:

Sanchez, P.A. (1995) 'Science in agroforestry'. *Agroforestry Systems*, No. 30, pp. 5–55.

Other information:

- Material submitted to the Network will be considered for publication on the understanding that it has not been submitted elsewhere.
- Material published by AgREN may, with acknowledgement to ODI, subsequently be published elsewhere.
- Contributors will be asked to sign a form transferring copyright for published material to ODI. This enables us to give others permission to photocopy Network material.
- Newsletter items may be submitted to the Network at any time. If it is not possible to include an item in the next newsletter it may be held over for use in a subsequent edition.
- Photographs may be submitted to accompany newsletter items. These should have a minimum resolution of 200 dpi.
- Papers should be submitted both in hard copy and on 3½" disk or by email, in one of the widely used word-processing packages.
- All material should be submitted to the Network Coordinator at the address given below:

Agricultural Research and Extension Network, ODI,
111 Westminster Bridge Road, London SE1 7JD, UK. Email: agren@odi.org.uk