EFARD 2005 Conference, Zurich, 27–29 April 2005
Agricultural Research for Development: European Responses to Changing Global Needs

The Social Dimensions in Agricultural R&D: How Civil Society Fosters Partnerships to Promote Local Innovation by Rural Communities

Ann Waters-Bayer[1] and Wolfgang Bayer[2]
[1]*ETC Ecoculture, ETC Foundation, Leusden, Netherlands*
[2]*Agrecol Association, Göttingen, Germany*
email: ann.waters-bayer@etcnl.nl

Abstract

Agricultural innovation to alleviate poverty and achieve food security is a social process involving many actors and needs to take full account of social dimensions – referring to the motivations, attitudes, behaviour and beliefs not only of farmers but also of scientists and policymakers. Using the example of an international partnership programme, we show how the R&D capacities of resource-poor farmers can be strengthened and agricultural services can support them. It is based on the realisation that farmers, on their own initiative and using local resources, are innovating, that their innovations can provide a focus to examine development opportunities and research needs, and that recognition of this local creativity is a prerequisite for genuine partnership in R&D.

1. INTRODUCTION

While scientists and research managers and some research donors gather here in Europe to discuss agricultural research for development in the South, millions of resource-poor farmers are in the midst of doing their own informal research and development (R&D) – out of necessity and because it is a normal part of farming. It is no secret that formal agricultural research has not yet been very successful in alleviating rural poverty. Experience shows: if scientists cannot recognise the initiatives of resource-poor farmers, if they cannot appreciate the knowledge and reasoning behind the farmers' informal R&D efforts, if they cannot understand the social settings and motivations of the innovators, then they cannot be effective in engaging in R&D partnerships with rural communities to alleviate poverty, increase food security and seek sustainable development.

How can potential partners of rural communities – the people in formal research institutes, in extension agencies, in universities and training institutes, and in civil-society organisations (CSOs) – gain this understanding? How can they enhance the local R&D efforts? This is what we would like to reflect on here, using the example of a global partnership programme to promote local innovation in agriculture and natural resource management (NRM) – and using your own examples during the subsequent discussions.

We look first at concepts of quality in agricultural science and how this is socially constructed. We then take a closer look at the ultimate judges of quality of agricultural research – the intended end-users who enjoy (or do not enjoy) the fruits of the research. How can their own experimentation and innovation be linked with formal R&D? We focus on efforts being made through the PROLINNOVA Global Partnership Programme to strengthen links between informal and formal knowledge systems, to strengthen the R&D capacities of resource-poor farmers as well as the capacities of agricultural services – including research and extension services – to support local efforts. This leads to a discussion of social dimensions in agricultural R&D, which encompass culture and behaviour not only within farming communities but also within institutions of research, development and education that are meant to support them. This, in turn, brings us to political dimensions in agricultural R&D: how can resource-poor farmers have some power over decision-making about research topics, about the use of research funds? Finally, we examine the role of CSOs in South and North in facilitating multi-stakeholder partnerships in agricultural R&D and fostering change towards a new mode of agricultural science.

2. QUALITY OF AGRICULTURAL SCIENCE

If we look at guidelines for double-refereed journals, quality of research is judged according to clear experimental design, appropriate statistical methods etc. In research for development, technical excellence in science is necessary, but it is not sufficient. If the specific social, cultural and political conditions of the farmers are not recognised, technically excellent science will be useless in practice. No matter how exact the research may be, no matter how well adapted it may be to particular agro-ecological conditions – the fact remains that, in the end, it is the practitioners (the crop farmers, livestock-keepers, food processors, input producers, traders) and ultimately the consumers who will decide what is acceptable and therefore good. And they decide this within the context of the communities and societies in which they are embedded. Thus, the quality of agricultural science is socially constructed and is not universal.

To be classified as "good", agricultural science needs to be acceptable and accountable to the farmers and consumers and other resource users – and not just to scientists, research managers, commercial firms or donors.

As Helga Nowotny and her colleagues [1] have described, a new mode of science has emerged. The old paradigm of scientific discovery characterised by the autonomy of formal research institutions has been superseded by a new paradigm of knowledge production that is socially-distributed, application-oriented, trans-disciplinary and subject to multiple accountabilities. Most agricultural scientists are only gradually becoming aware of this – and what this means for the steering of research priorities, the assessment of the quality of their science and the funding of their work.

International agricultural R&D aimed at poverty alleviation is financed primarily out of international cooperation or development-aid funds, i.e. by the public sector. To be sure, this covers only a small part of the totality of the formal agricultural research being carried out in the world today – but it is especially this sector in which civil society puts hopes that the research will contribute to poverty alleviation, food security and sustainable development. Especially the quality of this research will be measured according to its social and political responsibility, to its contribution to achieving, e.g., the Millennium Development Goals – in addressing problems of poverty and hunger, in seeking environmental sustainability, in bringing about gender equality, in forging partnerships for development, etc. These are the criteria that are being – or, at least, should be – used by the international and national agencies that decide on research funding and research permission.

At the grassroots level, farmers are judging research according to their own criteria and – unless they are living under a coercive regime – they will accept only research results that suit their conditions, above all in economic and socio-cultural terms. Many scientists in agriculture and NRM have recognised this, as the numerous examples of Farmer Participatory Research bear witness. It is indeed encouraging to see how a growing number of scientists are using participatory techniques to learn about farmers' criteria and are conducting on-farm trials to see if the technologies developed by scientists suit farmers' conditions or can be adapted to suit them.

However, the technologies being tested still tend to be ones that require considerable amounts of external inputs. Farmers who are not rich enough to purchase the inputs will require credit services that cater to resource-poor farmers, but many of these are remote from such services. Moreover, this approach to research is based on the assumption that a single "best" innovation can be developed that can be widely applied by a large number of farmers. Neither the approach to nor the products from this research are suitable for resource-poor farmers in remote, marginal, diverse and highly risk-prone environments – mountainous areas with numerous different niches, drylands with irregular rainfall, areas with extremes of dry and wet and/or heat and cold, areas in which the producers depend highly on common property resources and/or where they are far from agricultural input suppliers and markets. Especially but not only in such areas, R&D approaches are needed that incorporate local peoples' intimate knowledge of the ecological and local socio-economic and institutional environment, that stimulate their inherent creativity so that their own efforts to develop can be enhanced. If they are "fed" with appropriate ideas – not perfected technologies – on low-external-input agriculture and NRM, they can then come up with their own site-specific adaptations and solutions.

Moreover, solutions to problems in agriculture and NRM are ephemeral: the solving of one problem reveals the next one, conditions change and farmers must adapt continuously. Therefore, approaches in R&D are needed that can enhance their capacities to adapt and help them link up with sources of relevant ideas and information.

Such capacity-enhancing approaches to R&D have been taken by many NGOs that are working closely with resource-poor farmers. They are based on the realisation that these farmers, on their own initiative and using their own resources, are innovating, that their innovations can provide a focus to examine development opportunities and research needs, and that recognition of local creativity is a prerequisite for genuine partnership in R&D.

3. FARMER INNOVATION

As Chambers *et al* [2] and Richards [3] vividly described already in the 1980s, experimentation is part of the performance of farming. A first step towards participatory research is to recognise this local experimentation and innovation and to appreciate the knowledge and rationale behind it all. Farmers are usually not innovating purely as individuals. They are building on the knowledge of their communities, as well as knowledge gained from elsewhere. They are interacting with other resource users, such as with livestock-keepers whose animals can provide manure for cropping, with neighbours who come up with bright ideas that stimulate their own thinking, and with traders and consumers who make new demands [e.g. 4]. As

Douthwaite [5] points out in his recent book *Enabling Innovation*, useful innovation is the result of social interaction between a myriad of concerned actors, of which formal scientists are only one group among many.

The approach of Participatory Technology Development (PTD) recognises the dynamics of indigenous knowledge (IK) as well as the necessity to intensify partnerships between actors in the innovation system in order to speed up innovation processes. PTD refers to joint experimentation and investigation by farmers and development agents and, wherever possible, formal researchers, to discover ways of improving farmers' livelihoods. In recent years, the concept has expanded from PTD to PID (Participatory Innovation Development) to encompass not only technical innovations but also socio-economic and institutional innovations such as ways of gaining access to resource-use rights or organisation for marketing.

PID has been practised primarily by CSOs and by some national and international organisations in small pockets, but often – especially in the case of the work of development-oriented NGOs – has not been well linked with formal research. One reason has been that these NGOs have been disappointed in the past when approaching formal researchers to seek new technologies suitable for resource-poor farmers in marginal areas. However, good agricultural R&D requires the concerted action of all stakeholders. The farmers and the development NGOs in the field cannot to the job alone. Many of these NGOs have recognised that they need both: 1) to encourage formal researchers to engage in R&D with resource-poor farmers; and 2) to improve their own linkages with formal research, as there are many questions coming up in PID for which the skills and knowledge of scientists are needed. It is out of this recognition that several NGOs initiated a programme to foster multi-stakeholder partnerships to promote local innovation by rural communities.

4. PROLINNOVA – AN INITIATIVE OF CSOs

PROLINNOVA (Promoting Local Innovation in ecologically-oriented agriculture and NRM) is an initiative of CSOs that had been engaged for years or even decades in PTD/PID approaches – CSOs from both the North and the South that had been linked with each other for some time through other thematic networks, mainly concerned with sustainable agriculture and NRM.

The PROLINNOVA programme aims to:

- demonstrate the effectiveness of user-led innovation for sustainable development
- build strong farmer-extension-researcher partnerships
- increase capacities of farmers, extensionists and researchers in participatory approaches
- integrate participatory approaches to farmer-led innovation and experimentation into agricultural research, extension and education
- pilot decentralised funding mechanisms to promote local innovation
- stimulate national and regional policy dialogue to favour local innovation
- set up platforms for reflection, analysis and learning about promoting local innovation.

It must be stressed that the programme seeks not only to develop locally-appropriate technologies and institutions that improve the lives of resource-poor farmers. It also and primarily seeks to strengthen the links between farmers, NGOs, extension, research and other stakeholders in agricultural R&D and to increase the capacities of them all to work together to address the ever new challenges that arise in a rapidly changing world.

The NGOs that are facilitating PROLINNOVA are therefore trying to create or strengthen platforms of different stakeholders in agricultural R&D to reflect on current approaches, methods and policies, to analyse how these are enhancing or hindering local innovation and PID, and to plan and carry out activities to enhance agricultural innovation. The focus is on building partnerships at national and sub-national levels, while the international platform is used to learn from each other about how to do this better.

PROLINNOVA currently includes nine Country Programmes – in Cambodia, Ethiopia, Ghana, Nepal, Niger, South Africa, Sudan, Tanzania and Uganda. Each Country Programme is designed by stakeholder groups in that country on the basis of their own analysis of their experiences, strengths and gaps. Organisations in some other countries have prepared proposals and are seeking funds to be able to join. Although each Country Programme is unique, some common elements have emerged:

- developing inventories and databases of local innovations, innovators and organisations working with them
- bringing farmers, development agents and formal researchers together to plan and implement participatory experiments, starting from jointly prioritised local innovations
- creating national and sub-national multi-stakeholder platforms to share information about local innovations and to learn jointly about PID and its institutionalisation
- building capacity to identify and document local innovation and engage in PID, through training workshops for farmers and scientists

- participatory monitoring and evaluation of joint activities, outcomes and impacts
- creating awareness (through innovator fairs, radio programmes etc) and engaging in policy dialogue about agricultural research, extension and education, in order to create favourable institutional and policy settings for PID.

5. ADDRESSING SOCIAL DIMENSIONS

5.1 In research, extension and education

In attempts to build closer partnerships among NGOs and other actors in R&D in agriculture and NRM, the PROLINNOVA partners have found that the easiest linkage is with grassroots development workers or extension agents. These people welcome the farmer-innovation and PID approach as more effective than the conventional approach of trying to transfer (inappropriate) technologies from research stations to diverse and risky environments. They find PID to be a more satisfying way to work with farmers. They are excited about discovering farmers' innovations and sharing these with others, also helping farmers share their good ideas. They prefer to encourage farmers to experiment on a small scale with new ideas, rather than trying to convince or even force farmers to accept new technologies without local testing and adaptation.

Also many heads of agricultural extension see PID as a way to improve how they are going about their work and fulfilling their mandate. In many cases, however, it is proving somewhat more difficult to deal with middle-level management in extension services. The biggest challenge faced when trying to foster partnerships to promote local innovation consists, however, in the structure, attitudes and behaviour in institutions of agricultural research.

Innovations for poverty alleviation and sustainable development can be generated only if the social dimensions are taken into account. This we all know. Normally we assume that these "social dimensions" refer to the motivations, attitudes, behaviour and beliefs of rural people. But the motivations, attitudes, behaviour and beliefs of formal scientists and policymakers are equally if not more important. This is the major challenge we have to address. Individual scientists may become involved and highly stimulated to support innovation processes in farming communities. But how does one deal with obstacles such as [6]:

- the prevailing view of what "good" science is
- organisational culture, such as resistance to new ideas and limited emphasis on cultivating a learning culture
- lack of incentives and rewards for researchers who engage in PID
- limited attention within the institutions to process and approaches, as compared to technologies for transfer.

Ways of thinking cannot be changed merely by theorising, writing articles and presenting papers. An effective way to trigger change in the attitudes and values of partners and to build commitment to the partnerships is to learn together on the basis of jointly implemented activities on the ground. That is why the NGOs are trying to draw people from research institutes, including universities, into identifying local innovation and engaging in PID. Recognising local innovation initially destabilises the scientists, because they begin to realise that formal research is not the sole source of knowledge. Encouraging reflection on this fact leads them to re-examine their own identity and role and how they interact with other actors in agricultural R&D. This experience is not demoralising, and the scientists become stimulated by the new ideas and energies of the farmers. The personal change among these individuals in formal R&D creates energy, in turn, to stimulate institutional change [7, 8].

5.2 At rural community level

At the level of rural communities, the PID approach addresses social dimensions through recognition of local capacities and raising the local people's self-esteem. When farmers, otherwise regarded as "poor", are recognised by scientists as being "rich" in ideas and ingenuity, the farmers are keen to listen to scientists and to learn from them, and vice versa. Many of you will be aware that farmers – and not only resource-poor ones – often regard scientists and extensionists with quite some scepticism and reservation. Interacting in PID with scientists and extensionists who appreciate farmers' knowledge and efforts, who assist farmers in exploring their priority questions greatly improves the relationship between these different actors and makes farmers more prepared to try out even some new ideas suggested by scientists and extensionists. The approach also reinforces the farmers' feeling of ownership of the R&D process.

In PID, the capacities of men and women farmers are strengthened to do their own experiments and investigations and to encourage other farmers to try out new ideas. Farmers who may still be wary of information from extensionists are more likely to accept what other farmers have tried themselves. This reinforces the informal system of information dissemination among farmers, a system that has existed since the beginning of agriculture, through family, community and other local institutions and – over time – through markets. It also helps link the informal "extension" system with the formal one.

Local innovations serve as concrete examples that can be used by development agents and formal researchers as a focus for jointly analysing the local situation. Groups within the community – if necessary, separated according to gender, age, ethnic group or other social differences – can examine what problems an innovation seeks to solve, what opportunities it reveals, what socio-economic or cultural implications it may have, and how local people want to deal with these. The gender dimension can easily be brought in – not only by identifying innovations by both male and female farmers and by husband-wife teams, but also by examining the roles of different household members in the farming practices and local institutions involved, and the gender roles in joint experimentation to explore or further develop those innovations which interest other local people. This helps the outsiders – the development agents and scientists – to gain more insight into gender issues. It also stimulates a community-level process of analysing and reflecting on gender roles and their implications for agricultural development. This is a form of participatory action research that can open up space for changing roles, e.g. taboos on men or women doing certain types of work, new forms of household and community collaboration that transcend traditional division of responsibilities or access to resources. Thus, in PID it is assumed that not only technical but also social change is possible – and the approach itself stimulates social change.

The same applies to social change in agricultural institutions. An external study – no matter how intellectually deep it may be – will be much less effective in stimulating change than a participatory approach to learning within the institutions of research, extension and education. PID is thus an approach to institutional innovation, whether at grassroots level or in large formal institutions.

6. FARMER INFLUENCE ON FORMAL R&D

An important goal in PID is to strengthen the role of smallholder farmers in determining what is done in formal R&D. In conventional agricultural research, decisions about research questions and methods and about the use of research funds have been made by research managers and donors. How can farmers exert some influence on these decisions – referring not to the large-scale and middle-class farmers, but to the small-scale farmers whose poverty is supposed to be alleviated by the agricultural R&D activities being funded?

The small-scale farmers' innovations already indicate their priorities in R&D, using the ideas and resources available to them. The only limitation is their scope of imagination as to what might be possible, but even these limits are not nearly as narrow as many scientists assume. Especially farmers who have had a chance to see other areas – e.g. as refugees or soldiers, while selling their agricultural products in towns in other farming areas or in long-distance trade, and during farmer-to-farmer visits arranged by NGOs or projects – are quick to recognise what might be applicable in their own situation, usually after some informal experimentation and adaptation.

Using these local innovations and informal experiments by resource-poor farmers as starting points for R&D partnerships is thus already one way to increase the influence of such farmers in determining the direction and content of R&D. Encouraging several farmers with similar interests to plan and assess experiments together, by forming a Farmer Research Group which may ask a few individuals to carry out experiments on behalf of the group, is a concrete way of strengthening local institutions and building the capacities of farmers to discuss research matters with other stakeholders outside the community. Engaging in PID builds up farmers' confidence to express themselves in front of scientists and policymakers, e.g. the men and women innovators who spoke at national multi-stakeholder meetings on agricultural R&D and at the international PROLINNOVA meeting held last year in Ethiopia [9]. These experiences prepare resource-poor farmers to interact with other stakeholders in platforms to set research priorities, such as national Research and Extension Councils and sub-regional and regional research fora.

In addition to this, PROLINNOVA partners are exploring other ways to increase farmers' influence on formal R&D, such as farmer-controlled media (e.g. participatory video) and funds managed by NGOs and farmers for local experimentation and innovation. These new funding mechanisms are based on equal partnership by stakeholders in R&D in decision-making about the use of the funds. The "Innovation Support Funds" will be governed not just by "experts" but also by farmers. The intention is to bring about a shift in the current power relations between stakeholders in agricultural R&D.

7. MAJOR ROLES OF CSOs

7.1 Facilitating multi-stakeholder partnerships

In fostering R&D partnerships to promote local innovation and in building farmers' capacities to influence R&D, CSOs are playing a pivotal role. PROLINNOVA is based on the assumption that field-based NGOs are in a good position to help build partnerships by facilitating "interactive processes for social learning, negotiation, accommodation and agreement" [10]. Through their long experience of working directly with farming communities, these

NGOs can serve as a bridge between farmers and formal R&D. Many NGOs have developed skills in not only technical aspects but also social issues such as local organisational development, conflict management and gender equality. In PROLINNOVA, national NGOs are facilitating the interaction of the various stakeholders in each Country Programme and are ensuring that farmers are treated as peers with the other partners. International NGOs are facilitating exchange and learning between the Country Programmes and linking the local and global spheres. Particularly the national NGOs do not find their position an easy one: they are keenly concerned with issues of R&D in agriculture and NRM and have strong views based on their own experience, but must focus on mediating partnerships between the various actors in the innovation system and assuming as neutral a role as possible. By analysing, documenting and discussing these experiences, e.g. at last year's international workshop in Ethiopia, the PROLINNOVA country partners are learning from each other [9].

In each country, the facilitating NGO creates space for potential partners to come together and find common ground where they can work towards a common goal. Stakeholders as diverse as farmers, NGOs and government agencies will clearly have different perspectives. The process of building and maintaining partnerships must go through many phases of contesting theories and assumed "truths", deconstructing beliefs (e.g. about the abilities and roles of different actors in rural innovation), mediating disputes and negotiating agreements. This is part of the joint learning process [11].

7.2 Offering "learning grounds" for educational and training institutions

If participatory innovation systems are to continue to deal with change, then approaches to building multi-stakeholder partnerships based on recognition of local creativity must be integrated into curricula of agricultural education and training institutions that are producing new research and development agents. The relevant skills need to be learned and practised. Therefore, the country partners who are promoting local innovation are trying to engage people from these institutions in action learning.

This starts with encouraging both teachers and students to identify local innovations and innovators and to study and document them. Concepts and methods of IK, local innovation and PID are being incorporated into agricultural research and extension course. As one example of how this is done: in Mekelle University in northern Ethiopia, where students in agriculture and NRM must do several month's practical training, they are being assigned to discover IK and local innovation and to report on this in written and oral form to their fellow students and their teachers [12]. The NGOs working directly with farmers are hosting the students, who are also involved in studying and documenting PID processes.

The interaction between the hosting CSOs, the students and their teachers leads to discussion of curricula and how they need to be and can be adjusted to prepare students better for learning with farmers. There are promising signs of a change from a tradition of learning purely from lectures and books to an approach of learning by listening to and working with practitioners. The workshops that the facilitating NGOs have been organising for their PROLINNOVA partners are influencing not only the content of formal education but also the methods of teaching and learning. The participatory methods used during the multi-stakeholder workshops, such as brainstorming, small-group work, sharing and jointly analysing observations and experiences, working with visualisation techniques (flipcharts, cards etc) and incorporating fieldwork to stimulate learning by doing are being applied by teachers in their own work [12, 13]. Thus, the facilitation, communication and learning techniques of both teachers and students are being enhanced.

Identifying local innovation is the entry point into PID and this in turn serves as a basis for stimulating policy dialogue and institutional change. This is done by exposing people at different levels in research, extension and education to the concrete experiences of PID on the ground, engaging them in reflection on conventional and other approaches to R&D and, if alternative approaches are deemed useful, deliberating on what needs to be done to integrate them into the regular work. This does not mean that conventional approaches to scientific research are replaced, as these definitely have their place. It means that alternative approaches that are needed to support development in certain types of farming systems, for certain types of innovations – especially in socio-institutional innovation – can complement conventional approaches.

7.3 Policy lobbying

CSOs in the South and North have traditionally played an important role in drawing attention to policies that are disadvantaging the poor, as well as to inconsistencies between what may be good policy and its actual implementation – or rather, non-implementation. The CSOs engaged in PROLINNOVA have found partners in governmental organisations who likewise see the weaknesses in existing policy frameworks or their implementation, and have included policy dialogue as a key part of their Country Programmes. They try to achieve this by analysing existing policy and how its constrains

or encourages farmer innovation and poverty alleviation; by making case studies to highlight how issues of gender, equity and socio-cultural diversity are addressed; by developing key messages for specific groups in research, extension, education and donor organisations; and by developing their own capacity for advocacy, e.g. skills in listening, negotiation and effective communication.

7.3 Specific roles of CSOs in the North

In this EFARD meeting, we give specific attention to the roles of CSOs in the North in fostering R&D partnerships to promote local innovation.

International networking and learning. A major task of Northern CSOs is to facilitate networking and learning. We are facing similar challenges in trying to bring in new perspectives on science, development approaches, research priority setting and funding modalities. Northern CSOs are in a good position to facilitate learning across countries in the South and the North, about how organisations in different institutional and policy settings are building effective partnerships for farmer-led R&D. In PROLINNOVA, international NGOs give training in methods of identifying farmer innovation and facilitating PID and Participatory Monitoring and Evaluation, and help analyse country experiences and develop strategies for institutional change. One of our tasks is to engage in international policy dialogue about R&D in agriculture and NRM – which is why we are here today.

Creating space for Southern partners to be heard. We are also trying to open up more space and take advantage of every possibility to bring in Southern partners to present their own experiences, just as they, in their own Country Programmes, are bringing people from the field – men and women farmers and development workers engaged in local innovation and PID – to share their experiences in national and regional meetings. At this EFARD meeting, in the workshop on agricultural R&D partnerships this afternoon, you will be able to find out how PROLINNOVA CSO partners in Nepal and South Africa are promoting local innovation. In a parallel workshop, local partners of the Swiss NGO Intercooperation will bring examples of farmer-led experimentation and extension in Bangladesh, Bolivia and Mali. This role of creating space for Southern partners to be heard is diminishing, as Southern CSOs – both local NGOs and farmer organisations – become more strongly linked with international bodies, thanks to the possibilities opened up by ICT, and are themselves demanding to be heard.

There is no hierarchy in the relationship between the Northern and Southern NGOs – each has its own strengths. The Southern NGOs usually have a much better understanding of the local socio-institutional and political situation, have better communication skills in contact with local farmers, and have built up good rapport with a few farming communities. The northern NGOs often have closer contacts with international debates and sources of information on, e.g. methodology development and sources of funding. They have links with a larger number of funding organisations in the North. They are capable of building certain capacities, e.g. in new methodologies, and are often more proficient – at least, at the moment – in documenting in English and in policy dialogue at international level. They can do this convincingly only if they can analyse "grounded" experiences together with the Southern-based organisations that are directly involved. Here, it becomes obvious that we are not referring to international NGOs that are implementing their own development projects on the ground, but rather to northern NGOs that act as intermediaries in agricultural R&D, working in partnership with local NGOs and farmer organisations in the South.

8. CONCLUSIONS

To conclude, we repeat our main points:

- The quality of research in general, and of agricultural research in particular, is not just a matter of technical scientific excellence but also has strong socio-economic, cultural and political dimensions.
- Many rural poor live in marginal and diverse environments for which blanket technical solutions do not work. The diversity of ecological and social conditions indicate the need for multiple innovations and local adaptation of farming practices
- Recent research had drawn attention to the resourcefulness of farmers and the richness of local innovation. Partnerships between extension services, formal research and farmers in improving rural livelihoods hold far more promise than the conventional top-down approach to R&D, but genuine partnership is possible only when the external actors can appreciate local creativity. In shaping these partnerships, CSOs have important roles to play as facilitators and intermediaries.
- We introduced an international programme, PROLINNOVA, that promotes local innovation and stimulates PID processes by farmers, development workers and formal scientists and seeks to increase the influence of small-scale farmers on decision-making in formal R&D. In this programme, CSOs not only facilitate the building of R&D partnerships but also provide learning grounds for educational and training

institutions, and engage in policy dialogue with the aim of integrating this approach into formal agricultural research, extension and education.

- We pointed to the specific roles of Northern CSOs, which include international networking and support for learning platforms and well as creating space for Southern "grassroots" partners to be heard in policy dialogue.

How can other European institutions contribute? – by reflecting on our approaches to agricultural R&D, on our attitudes to the value of different sources of knowledge and innovation, on our behaviour in collaboration with different actors in agricultural R&D and on our procedures to find out what resource-poor farmers are wanting and trying to do to improve their situation. Europeans make generous use of the words "participatory" and "poverty alleviation" but how are we translating these words into practice? Are we setting good examples? Are we learning from the good examples being set by our counterparts in the South? Are we integrating these concepts and practices into the content and approaches of our institutions of higher learning? Fora such as this EFARD conference give us a good opportunity to reflect on our approaches and to learn from each other. Addressing the social dimensions of agricultural R&D takes place already here when we examine our own attitudes, behaviour and beliefs with regard to resource-poor farmers and processes of innovation.

9. REFERENCES

[1] Nowotny H, Scott P & Gibbons M. 2002. 'Mode 2' revisited: the new production of knowledge. *Minerva* 41: 179–194.

[2] Chambers R, Pacey A & Thrupp LA.1989. *Farmer first: farmer innovation and agricultural research.* London: Intermediate Technology Publications.

[3] Richards P. 1985. *Indigenous agricultural revolution.* London: Hutchinson.

[4] Tchawa P, Kamga P, Ndi C, Vitsuh C, Toh S & Mvondo Zé A. 2001. Participatory Technology Development on soil fertility improvement in Cameroon. In: Reij C & Waters-Bayer A (eds), *Farmer innovation in Africa* (London: Earthscan), pp221–233.

[5] Douthwaite B. 2002. *Enabling innovation: a practical guide to understanding and fostering technological change.* London: ZED Books.

[6] Lizares-Bodegon S, Gonsalves J, Killough S, Waters-Bayer A, van Veldhuizen L & Espineli M. 2002. *Participatory Technology Development for agricultural improvement: challenges for institutional integration.* Silang, Cavite: International Institute of Rural Reconstruction / Leusden: ETC Ecoculture.

[7] Waters-Bayer A. 2001. Prolinnova: the path from local initiatives to a global partnership programme. GFAR/IFAD Technical Workshop, 9–10 October 2001, FAO, Rome.

[8] De Leener P. 2003. Self-analysis of professional activity as a tool for personal and organisation change. Workshop on the Impact Assessment Study on Research Partnership, 15–16 January 2003, Cairo.

[9] PROFIEET. 2003. Proceedings of the First International PROLINNOVA Workshop, 8–12 March 2004, Yirgalem, Ethiopia. Addis Ababa: Promoting Farmer Innovation and Experimentation in Ethiopia (PROFIEET).

[10] Röling NG & Jiggins J. 1998. The ecological knowledge system. In: Röling NG & Wagemakers MAE (eds), *Facilitating sustainable agriculture: participatory learning and adaptive management in times of environmental uncertainty* (Cambridge University Press), pp283–311.

[11] Waters-Bayer A, van Veldhuizen L, Wettasinha C & Wongtschowski M. 2005. Developing partnerships to promote local innovation. *Journal of Agricultural Education and Extension* (in press.)

[12] Kibwana OT, Mitiku Haile & Firew Tegegne. 2001. Learning for sustainability: incorporating participatory approaches into education for rural development in Ethiopia and Tanzania. In: Reij C & Waters-Bayer A (eds), *Farmer innovation in Africa* (London: Earthscan), pp 331–346.

[13] Kibwana OT, Mitiku Haile, van Veldhuizen L & Waters-Bayer A.. 2001. Clapping with two hands: bringing together local and outside knowledge for innovation in land husbandry in Tanzania and Ethiopia. *Journal of Agricultural Education and Extension* 7 (3): 133–142.