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Participatory technology development and local knowledge for sustainable land use in Southeast Asia – A workshop synthesis

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Abstract

In this paper the main highlights and controversial issues from the “International Workshop on Participatory Technology Development and Local Knowledge for Sustainable Land Use in Southeast Asia”, held in Chiang Mai, Thailand from 6-7 June 2001, are discussed. Most of the presentations dealt with the current paradigm shift from purely researcher-dominated to more farmer-oriented approaches in the Southeast Asian region. While some participants suggested that agricultural research should be entirely farmer-led, other presentations called for a more balanced approach, as farmers are not the only stakeholders and potential beneficiaries of agricultural research. Some authors warned against romanticising local communities by neglecting internal power structures and local conflicts. These are often disregarded by practitioners of participatory approaches who strive for consensus to facilitate planning. It was also stated in the discussions that uncritical use of Participatory Rural Appraisal (PRA) might become a tool for patronising local people instead of its original intention to empower them. The controversial question of whether the outcomes of Participatory Technology Development (PTD) should be considered private or public goods was also discussed. The most extreme view was that only those people directly involved in the cycle of technology generation should benefit from the results. However, most participants agreed that public support for PTD can only be requested if the outcomes in turn become public goods and are thus available for farmers working under similar agroecological and socioeconomic conditions elsewhere. On the other hand, the risk of misuse of local knowledge for commercial purposes has to be minimised. In a discussion group the question was raised whether researchers have to be accountable for all steps of the problem solving cycle, from problem identification to dissemination of technologies. It was argued that the roles of researchers have to change with increased involvement in participatory processes: they become facilitators of local people and mentors of new colleagues engaged in PTD. Finally, some authors emphasised that PTD should not be separated from more general questions of access to resources. The best technologies are of no use if institutional and political frameworks prevent farmers from getting access to land, knowledge and other vital resources.

Introduction

From 6-7 June 2001 an international workshop on “Participatory technology development and local knowledge for sustainable land use in Southeast Asia“ was held in Chiang Mai, Thailand. The workshop was jointly organised by the University of

Hohenheim, Germany and Chiang Mai University, Thailand. Co-organising institutions were Hanoi Agricultural University, Thai Nguyen University of Agriculture and Forestry, the Vietnam Agricultural Science Institute, the National Institute of Animal Husbandry, Vietnam, and Kasetsart University, Bangkok, Thailand.

The rationale of the workshop was that there is a lack of profound analysis of the advantages, problems and costs of participatory research. It has not yet been shown conclusively that participatory research approaches produce better and more adapted results than conventional research. Some of the success stories found in the literature remain 'islands of success' (Swaihy, Evans et al. 1999) and the difficulties and shortcomings of participatory research are rarely discussed. The organisers of the workshop felt that a critical and realistic assessment of the options and limitations of participatory research was urgently needed. The main objectives of the workshop were thus to gather experiences on the potentials and limitations of participatory approaches in agricultural research and rural development, and to determine factors of success and failure of participatory approaches in Southeast Asia. The workshop also aimed at identifying the appropriate institutional and political frameworks necessary for successful participatory research and development in Southeast Asian countries.

Around 60 participants from Belgium, France, Germany, Vietnam, Laos, Indonesia, Nepal, Thailand, the Philippines, Canada, USA and New Zealand joined the workshop. 24 papers were presented in three plenary sessions and four parallel sessions, covering experiences from six Southeast Asian countries as well as Nepal and China¹.

In the presentations and discussions we witnessed a wide range of positions from strong believers in participatory technology development to those who approach it with considerable scepticism. This paper intends to present the main controversial issues and hypotheses discussed during the workshop.

Farmer-driven agricultural research or multi-stakeholder approaches?

In her keynote address, Dr. Orapan Nabanchang from the Thai Ministry of Agriculture and Cooperatives (MOAC) described the paradigm shift in the principles and approaches of the MOAC. This shift involves a move from the long-established practice of purely supply-driven agricultural research and policy formulation to more demand-oriented approaches emphasising farmers' priorities, but also responding to market signals in a more globalised economic environment. She stated that the Ministry has too long ignored that farmers are, in many respects, "the most experienced field experts and are therefore prime resource persons". Dr. Avorn Opatpatanakit (Thai Research Fund, Chiang Mai) presented an innovative community-based research approach in which villagers can directly apply for funds to carry out research to help solve their locally perceived problems. While it was generally acknowledged by the participants that farmers should play a more significant role in determining research agendas, it was questioned whether agricultural research should be entirely farmer-driven. Prof. Dr. Dieter Neubert (University of Bayreuth, Germany) stated that farmers can express their needs but they usually would have difficulties in formulating relevant research questions. Dr. Andreas Neef and Prof. Franz Heidhues (University of Hohenheim, Germany) and Dr. Meine van Noordwijk (ICRAF, Indonesia) emphasised that farmers are not the only stakeholders or potential beneficiaries of agricultural research. There are other groups in society – consumers, forest officers and 'angry neighbours' who might suffer from negative external effects of agricultural practices such as pesticide residues in drinking water and agricultural products, or downstream sedimentation.

¹ The papers presented in the workshop and quoted in this paper are not listed in the references. All papers are available on the webpage www.mekonginfo.org/partners/juneworkshop/index.htm.

Their interests need to be considered equally in the design and implementation of projects, if the concept of long-term sustainability is regarded as a primary objective of research activities.

Prof. Jan Masschelein (Catholic University Leuven, Belgium) pointed to the necessity for members of research and development projects to be honest enough to identify themselves as just another stakeholder with their own views and interests. In making differing priorities and expectations between stakeholders transparent, projects should create “spaces of negotiation” that go beyond their formal framework which “implies the acknowledgement that project goals and objectives can be disturbed and that these spaces [...] are difficult to steer, control and evaluate within classical project cycles”. Neef/Heidhues concluded “that priority setting in agricultural research will always be based on a multitude of factors – donor preferences, government policies, consumers' needs, researchers' perspectives and farmers' priorities.” They suggested a number of ways to balance these different factors, such as by combining basic with adaptive and applied research, by conducting on-farm and on-station experiments simultaneously and by concentrating on commodities and agricultural practices that are acceptable by a wide range of stakeholders both on-site and in adjacent regions. They also emphasised that “given the relatively short half-life of technologies, more emphasis has to be placed on knowledge creation in cooperation with farmers” rather than on the mere development of new technologies.

People, power, participation - Participatory approaches revisited

In the presentations of Dr. Philippe Lavigne Delville (Groupe de recherche et d'échange technologiques - GRET, Paris) and Dr. Hans-Dieter Bechstedt (University of Hohenheim, Germany) the authors pointed out that proponents of participatory approaches show a tendency to idealise the local community as “a centre of peace, harmony and homogeneity“. The “myth of community” (Guijt and Shah 1998) is created by the wish to strive for a consensus among the target population to facilitate planning of research and development activities. It was shown that inadequate attention is being paid to social, political and economic differentiation and to conflicts within the community. There is need to understand the internal power structures of a community in order to reach out to the poor, the marginalised and the disadvantaged. In the discussion, however, participants stated that well-experienced PRA practitioners would have the methods² to overcome those biases.

There was criticism that development practitioners increasingly tend to standardise participatory approaches rather than systemising them in order to identify the common principles that are working across all these approaches. Participatory approaches are thus likely to become another inflexible set of tools and recipes for identifying and solving problems within a community. Participants emphasised that participation cannot be regarded as a toolbox but has to be seen as a goal in itself. If participatory approaches become instrumental to pre-set project objectives, they violate their original intention. As Mosse (2001) puts it, participatory rural appraisals have proven to be highly compatible with top-down planning systems. This view was supported by a paper from Oliver Puginier (Humboldt-University Berlin, Germany) who presented a case in northern Thailand where participatory resource management using three dimensional village models was initiated by the Thai-German Highland Development Program. After termination of the project in late 1998, villagers who had participated in the

² The most common method known among PRA practitioners is triangulation which should avoid biases based on gender, social and economic status among target groups and disciplinary background of outsiders.

project suffered from confiscation of land for reforestation by the Forest Department as it refused to recognise the land demarcations produced during previous participatory planning processes.

The presentation of Prof. Frank Bliss (Remagen, Germany) seemed to confirm that participation remains rhetoric in most development projects that carry the 'participatory label'. He stated that the "isolated use of participatory elements in the project cycle can prevent projects from becoming truly participatory". If this applies already for many development projects - which under the current mainstream are never funded unless they contain a strong commitment to participation - as agricultural researchers with 'participatory ambitions' we have to be even more careful. Is it not somewhat naïve to think that we can empower local people by walking transects and drawing village maps? As Rhoades (1999) reminds us, "ironically, much participatory methodology becomes condescending and patronising of local populations, just the opposite of the original intent of dispensing with researcher-driven agendas which once alienated local people. Rather than treating local people with respect and as colleagues, participatory methods sometimes treat them more like school children by playing titillating games, drawing exercises, and other fly by night remedies". In participatory research we "tend to replace sound and profound research by a series of rapid appraisals" as Prof. Masschelein emphasised in his presentation. He also challenged the widespread view that there is a body of commonly shared 'local knowledge' in a community that is just waiting to be brought to light in a five day PRA exercises. He showed an interesting case of a project in Vietnam conducted under his guidance in which local working groups were asked to do formal village surveys during a period of six months. Being themselves members of the community they were investigating, the participants of these local working groups "were surprised by the results of the extensive and systematic interviews that they carried out." This is in line with Rhoades' conclusion that "depth and precision in understanding social aspects [within a community] are all too often sacrificed to the participatory fetish" (Rhoades 1999).

In moving beyond the more general criticism of participatory approaches, Prof. Dieter Neubert (University of Bayreuth, Germany) questioned the existing uni-dimensional typologies of participation (cf. Biggs 1989; Pretty 1995). He presented an innovative concept for the evaluation of participatory agricultural research projects by means of a 'participatory profile' taking into account the multidimensional scale of participation. By looking at individual elements of participatory technology development in the innovation development process, this profile should facilitate the evaluation of participation by using several attributes such as type of research, type of innovation, qualification and skills acquired by farmers and researcher-farmer interaction. It thus allows formulating specifically suited indicators and leads to more differentiated judgements.

Outcomes of participatory technology development – private or public goods?

In a discussion group moderated by Prof. Uwe Jens Nagel (Humboldt-University of Berlin, Germany) the question was raised whether the outcomes of a participatory technology development process should be considered private or public goods. Most participants agreed that local people who invest time and other resources should directly benefit from the outcomes of a participatory technology development process, but participants had contrasting views on whether local people should be the only ones to reap the benefits. Prof. Nagel concluded that "owing to the fact that financial and scientific support from outside has helped to achieve positive results, it seems

reasonable that outcomes in turn become public goods”. If PTD has - at least partially - the character of a public good, there is a strong argument for public support of PTD. However, scientists from international programs especially, have to explain frankly to participating farmers that while their research is carried out at the local level, their results might be published internationally. Knowledge produced in international research programs is likely to become generally accessible. The success of the research can thus not only be measured in terms of a welfare increase of the rural population under study. For instance, even when research results are gathered in cooperation with fruit growers in a watershed of northern Thailand, the main beneficiaries of the results may be farmers in southern China if extension workers in this area make use of the published results. Moreover, if Chinese farmers have a comparative advantage in producing certain types of fruits at lower costs than in Thailand, they can become fierce competitors to those Thai farmers who previously were actively involved in the process of technology development.

Some contributors warned that there is the possibility of misuse of local knowledge, such as extracting local knowledge for use by outsiders without due recognition of local people’s property rights. This links up with the international debate on intellectual property rights (IPR) and their relation to farmers’ rights. Originally, the concept of farmers’ rights was rooted in the concerns of developing countries that “strengthened intellectual property rights in agriculture are harmful to small-scale farmers” (Alker and Heidhues 2001) through the continuous replacement of genetically diverse traditional varieties by more uniform ‘improved’ varieties, and was thus developed as a counter-concept to IPR. In participatory technology development the situation presents itself as even more complicated, as those farmers who become partners in agricultural research and technology generation would also be in the position of claiming a share in the ‘intellectual property rights’ that were previously an exclusive domain of outside ‘experts’. The workshop did not provide a clear answer to this particular issue, leaving a wide scope for future discussions.

Participation in research, extension and development – Do we need different methods and approaches?

The above question was raised in a discussion group facilitated by Dr. Peter Horne (CIAT, Laos). Participants stated that some technologies spread on their own, if the need is great or if the options that are offered are providing substantial benefits quickly. In these cases, technologies might be rapidly adopted through farmer-to-farmer informal exchange. But there are also clearly many cases where this is not the case, for example in remoter areas or if we deal with issues that are more complex than just single technologies, such as integrated natural resource management in which participatory approaches are increasingly adopted.

There is also the problem of differential access to technologies, if we move up the scale from participatory research to extension and dissemination: in farmer-to-farmer exchange large sectors of the community might be missed as information is not uniformly spread among farmers but through particular social networks and communication channels. Participants felt that in these cases there was a need for different approaches as we cannot rely simply on some talented individuals to reach each farmer.

Closely related to this issue was the question of commitment of researchers engaged in participatory technology development, which came up in the parallel discussion group moderated by Prof. Nagel. To what extent are researchers responsible to follow all the steps of the problem solving cycle, from problem identification to dissemination of

technical innovations? There was a general consensus in the group that researchers committed to participatory technology development have to identify the problems jointly with farmers before working on possible solutions. However, whether or not researchers must also be involved in the implementation of solutions and the dissemination of innovations was discussed controversially. Apart from insisting on a moral commitment of researchers to the local communities they are working with, supporters of a wider responsibility argued that assessing the impact of PTD research is only possible if researchers are involved in implementation. Dr. John Connell (CARE International, Laos), on the other hand, suggested in his presentation that applied research activities should be handed over from researchers to agricultural extensionists. This position was supported by Dr. Luong Tat Nho and Dr. Dinh Xuan Tung (National Institute of Animal Husbandry, Vietnam) who called for not only involving “farmers, but also extension workers in all stages of on-farm research (diagnosis, design, testing and verification) to ensure sustainability of the project.”

It was stated that with increased involvement in participatory processes the roles of researchers and development practitioners changes: they become facilitators of information exchange and mentors of new people who are involved with farmers in the process of the expansion of “islands of success“. Dr. Peter Horne emphasised that “it is important to keep in mind that in diverse smallholder environments, the concept of sustainability is less concerned with the perpetuation of technologies than with the actors having the skills, knowledge, technology building blocks and information that they need to respond to a diverse and ever changing environment“. This calls for flexible approaches that can cope with the diversity and perhaps even take advantage of it.

Participation in a non-participatory environment – mission impossible?

Lack of food can be overcome through improved agricultural practices, new technologies, and, in the worst case, by emergency aid and food programs but “lack of voice and lack of empowerment remain a daily truth for large numbers of people in Southeast Asia” as Dr. Meine van Noordwijk (ICRAF, Indonesia) emphasised in his paper. Dr. José Pardales (Leyte, The Philippines) criticised many government agencies of Southeast Asia where participatory research is not being actively promoted. In reporting from the Philippines he stated that “there are no policies that advocate its adoption nor are there guidelines that encourage researchers to use the approach.” As a consequence, “institutional resources are not being made available to be used in such an undertaking [and] incentives for its adoption whether institutionally or individually by researchers do not exist.” In drawing on the case of the Thai Ministry of Agriculture and Cooperatives (MOAC), Dr. Orapan Nabangchang (Bangkok, Thailand) raised the concern that the paradigm shift from supply-driven to farmer-oriented research “cannot be achieved overnight but requires a substantial overhaul of the institutional, financial and legal frameworks within which a large bureaucracy such as the MOAC operates”. Since the late 1990s, Thailand’s institutional environment has become more receptive to participatory approaches following the 1997 constitution which puts more emphasis on people’s participation and decentralisation of political processes. In Laos, the Ministry of Agriculture and Forestry (MAF) opened the door for ‘mainstream’ participatory research and extension by releasing a policy document in 1999, in which it is recognised that the MAF is a partner with farmers and supporting farmers’ needs, as Dr. Vanthong Phengvichith (Vientiane, Laos) stated in his paper.

However, there is still strong resistance in government agencies of most Southeast Asian countries against greater participation of local people in research and

development. National governments are often reluctant to support participatory approaches as they fear that people's participation would be less controllable and would slow down the land use planning process (Pretty, 1998). On the donor's side it is often criticised that participatory research and development is too slow and too site-specific while its results remain highly erratic. In quoting a colleague from the University of Queensland, Dr. Peter Horne (CIAT, Laos) stated that "we are involved in a complex conjunction of people, events, technologies and luck" often with unanticipated outcomes. If outcomes of PTD are more unpredictable than results of conventional research, it is more difficult to find funding agencies willing to engage in such an 'adventurous' undertaking. A participant from Vietnam emphasised in the discussions that participatory technology development is mainly applied in the most marginal and most complex environments (e.g., in mountainous regions) where successes are more difficult to achieve than in the high-potential lowland areas. This puts additional pressure on 'participatory researchers' to prove that their approaches are more effective than conventional approaches of the transfer-of-technology type.

Moreover, questions of access to natural resources arise in such complex settings. In dealing with resource-poor, economically marginalised farmers or with ethnic minority groups who are denied the most fundamental rights, such as citizenship and political representation, researchers (and development workers) committed to participatory approaches might feel uneasy to see their role reduced to a mere 'functional' context of participation. As long as the institutional environment in some Southeast Asian countries remains largely resistant to the participation of local people in the sense of real decision-making and empowerment, the 'application' of participatory tools in research and development risks either to serve as a mere alibi or to create an artificial and temporary 'island' of participation in a 'sea' of marginalisation and disempowerment. In drawing conclusions from the meeting, Prof. Franz Heidhues (University of Hohenheim, Germany) stated that "the workshop provided evidence that both technology development as well as a fair, reliable and integrating institutional environment in the broader sense of the term 'institutions' is necessary. Obviously, the best technology is of no use to the poor if bad governance and a distorted legal and political system prevent farmers from getting access to it; but it is also clear that even with the best governance and institutions the poor also need technical solutions to their land management problems. Specific circumstances then determine where priorities are to be placed."

Outlook – What's the way forward?

Two of the major challenges that remain unresolved are the issues of (1) scaling-up and (2) institutionalising participatory approaches. Both questions are related to the problem of combining the depth of participatory approaches with the necessary breadth of reaching a maximum of farmers. A way forward could be the adoption of multi-agency partnerships, as proposed by Farrington (1998). While NGOs and certain development projects have been successful in the more 'empowering and face-to-face types of participation', the public sector, including national and international research institutions, with its much wider mandate is supposed to have a stronger potential in the more 'functional' types of participation. Participatory research approaches can only be reduced to a functional role if the primary objective is to enhance the efficiency of research services in delivering more suitable and easily adoptable technologies. Wider issues of natural resource management, however, require more 'empowering' approaches as collective action among members of a local community or between various villages in a given watershed is needed to ensure the sustainable success of

participatory approaches. In combining the respective comparative advantages and complementarities of NGOs, national and international research institutions and government agencies - instead of emphasising competition and contrasting ideologies - at least some of the constraints encountered in scaling-up and institutionalising participatory research (and development) could be overcome and farmer participatory research would become more effective. An important prerequisite for success, however, is that there is the political will on the national level to engage in these approaches encompassing all relevant groups within the society.

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