



# Preparing scientists for society A PhD training programme at Wageningen University, the Netherlands

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## 5. Preparing scientists for society

### ***A PhD training programme at Wageningen University, the Netherlands***

*Conny Almekinders, Jet Proost and Jürgen Hagmann*

#### 5.1 Scope

In the area of agricultural development, as in many other areas, there is considerable pressure to combine good research with a direct impact in the field. This pressure has generated a call for another type of research, with a different role for researchers (e.g. German and Stroud, 2007). To address farmers' problems, and rural societal needs at large, researchers should break away from the paradigm in which generation of knowledge is seen as an exclusive activity of scientists. This call is voiced particularly strongly on the African continent where the labels like Innovation System approaches (Sanginga *et al.*, 2008) and IAR4D (Integrated Agricultural Research for Development) are attached to it (ICRA/Natura, 2003; Starks *et al.*, 2005). This research is an applied type of research, asking for interdisciplinary approaches to be integrated into frameworks for participatory learning and action research. In this article we refer to such research as 'integrated agricultural research'. Academics that should carry out this research are expected to be effective team players, able to handle complex situations with the involvement of multiple-stakeholders (Chambers, 1997, Patel *et al.*, 2001). While the call for this new type of scientist is fairly loud, less attention has been paid to the competences that researchers should be equipped with (Levin and Martin, 2007) and how these competences can be developed (Patel *et al.*, 2001; Kibwika, 2006). This contribution describes the case of a PhD programme at Wageningen University, the Netherlands, mostly with African students, aiming to prepare PhD students for a role in the new type of agricultural research advocated. The purpose of the multi-year PAU programme (Participatory Approaches in agricultural (technology) development and their Up-scaling) is to investigate how participatory approaches work and how successful experiences can be scaled up. In addition to training the PhD candidates in the conventional academic competences, the programme piloted competence development that emphasised human interaction, communication and collaboration as part of the curriculum. This involved a range of cross-cutting social skills, the related deeper understanding of human (and one's own) behaviour and values, and how these play a role in research work, in particular interdisciplinary research (see also Box 1 and 2).

The implementation of a series of Learning Workshops offered the opportunity to explore the competences for integrated research and how they can be developed. The competences involved far more than social skill training; it is also about mindset and attitude, being conscious of one's personal learning process, built-in reflection in interaction with others, providing and receiving feed back (see Box 1). The experiences in and after the Learning

**Box 1. Competences for integrated agricultural research (adapted from Hagmann *et al.*, 2003).**

Competences for integrated agricultural research can be considered the product of knowledge, skills and attitude. The skills involve interpersonal skills, academic skills and the skills to apply those in combination in interdisciplinary and transdisciplinary contexts.

- Related to interpersonal interaction (in research):
  - emotional intelligence' in personal development: self-awareness, empathy, critical self-reflection, social interaction;
  - communication;
  - concepts of team dynamics (team functioning, team building, feedback and learning culture);
  - facilitation concepts and practice;
  - negotiation and conflict management (concepts and practice/skills).
- Related to the application of new concepts:
  - process and systems thinking to understand change and how to make change within the context of participatory development;
  - action research: linking theory, practice and learning;
  - interdisciplinarity and transdisciplinarity – in conceptual and team perspective;
  - organisational development;
  - management, planning and design, quality assurance.

Workshops emphasised the importance of inter- and transdisciplinary context in which these interpersonal competencies have to be used. The idea of the 'reflective researcher' was taken on board.

The series of workshops in which the authors were actively involved, also yielded (unexpected) experiences on how such competence development fits into and interacts with an academic environment that holds varying views and expectations regarding PhD research and an appropriate curriculum. This chapter reflects the learning case of the PAU programme and is relevant for academics who are confronted with demands to tailor curricula for the new type of professionals. It is not only of specific relevance for PhD programmes of Northern Universities who train scientists from developing countries, but can be applied in the Northern academic research context as well. And the experiences can easily be expanded to MSc programmes where, for instance, community service learning (see also Bringle and Hatcher, 1995) becomes a valued part of the curriculum.

## Box 2. Learning Workshops.

*The First Learning Workshop 'Facilitating change in upscaling of participatory approaches' (2002)*

The PhD candidates from the 1<sup>st</sup> and 2<sup>nd</sup> cohort of the PAU programme participated, together with three other participants, also with scholarships from Rockefeller Foundation, in the first off-campus workshop. Two trainers/facilitators (3<sup>rd</sup> author) and the coordinator of the PhD programme (1<sup>st</sup> author) were responsible for the design and implementation, and documentation. The Rockefeller Foundation financed the workshop.

In the 9-day workshop a combination of methods was used, addressing both the content of the PhD research programme and competencies building needed for this type of research. Through various monitoring committees the participants took ownership for the training process. The two trainers/facilitators implementing the workshop followed the priorities of the PhD students in terms of skills they liked to be introduced to and practise, and topics they wanted to further elaborate. They gave input by presenting concepts and theory. The underlying idea was that research on participatory approaches in agricultural research and development would require a range of skills and insights related to personal qualities and interactive communication: listening, building team relations, facilitation group discussions, etc. These are cross-cutting social skills, related to empathy, emotions, beliefs and elements of personal character. To get insight into one's own performance and skills different role plays, exercises and reflection sessions were used, followed by practising ways in which to improve one's own performance. These skill-based competencies were woven through a programme that also addressed the research issues in the programme and the individual PhD projects. The trainers/facilitators, being involved in several institutional change processes in Africa themselves, could present many illustrative examples from their own work. This helped participants identify the relationship with their own research context.

All techniques used in the workshop were combined in a 'toolbox report' and the entire workshop process/design was documented in a report.

- Content of the PhD programme.
  - SWOT analysis of the PhD programme.
  - Envisaging the outcome of the programme and PhD research projects.
  - Presentation of research cases: how to study change, how to use research information for bringing about change, action research.
- Competencies.
  - Getting to know yourself: reflection on values and beliefs.
  - Team work: personalities and team roles, origins of tension, how to improve team work, provide feedback.

- System Change, bringing about change in human systems and responses to change.
- Analysis of personalities and styles.
- Methods/tools used.
  - Group work and plenary brainstorming and discussions.
  - Role plays combined with theory: observing and interpretation, experiential learning.
  - Facilitation: principles and practice (through group work and discussion).
  - The art of questioning: interview techniques.
  - Visualisation.

The following Learning Workshops had similar set ups, incorporating the lessons learnt from earlier workshops. They differed in length, composition of facilitation-training team and students participating.

*Second Learning Workshop* in 2003 targeted the 3<sup>rd</sup> cohort of the PhD programme. It was a 5-day workshop, also at a venue out in the Dutch countryside. The same consultant-trainer (3<sup>rd</sup> author) was involved. This time, however, the design and implementation was a joint effort with the programme coordinator (1<sup>st</sup> author) and four of the PhD students who participated in the first Learning Workshop, a year before. In this way they could practise and further develop their competences. The participants were again foreign PhD students from Wageningen University, coming from one chair group; the 3<sup>rd</sup> cohort of the PAU PhD programme was the core of this group.

*Third Learning Workshop* in 2004 targeted the 4<sup>th</sup> cohort of the PAU PhD programme. It was also a 5-day workshop, at the same venue as the third. This time the trainer/facilitator (3<sup>rd</sup> author) teamed up to design and implement the programme with the programme coordinator (1<sup>st</sup> author) and another facilitator/trainer (2<sup>nd</sup> author) who also worked as university staff member. This workshop was attended by a combination of PhD students from various PhD programmes and chair groups, foreign and Dutch. In addition, two Dutch MSc students in development studies participated.

## 5.2 The academic curriculum for agricultural development-oriented research in Africa

After the realisation that the Green Revolution of the '60-70s did not bring the expected improvement in the livelihood of small-scale farmers in developing countries, participatory approaches became the advocated way of working in development-oriented agricultural research. The 'participation' paradigm called for researchers to work directly with farmers in farmers' fields and deal with their problems. Farmers' collaboration in experiments and their expertise about the local situation transformed the farmers from recipients of

technologies into co-researchers. A large number of different forms of participatory research have since emerged, e.g. Participatory Extension Approach (PEA), Participatory Learning and Action Research (PLAR), Farmer Field Schools (FFS), and Local Agricultural Research Committees (LARCs). All these forms contain elements of action research; they combine research, learning and action in different forms. Increasingly, with the move from farmer participatory research into system innovation, other stakeholders such as service providers and intermediaries became part of the research processes as well.

The participation of farmers and other stakeholders also brought along the use of a broad range of interactive techniques that are relatively new in the arena of agricultural research (focus group discussions, transect walks, participatory rural appraisals, ranking and rating exercises, etc. (see Pretty *et al.*, 1995)). The mode of working in participatory research has become pre-dominantly group-based. Knowing how to be a team-player, organise workshops and facilitating group-based discussions have become essential skills for development-oriented agricultural researchers in Africa.

Many feel that universities are currently not focusing sufficiently on the competences that researchers need in order to play their new role in research (Patel *et al.*, 2001; Kibwika, 2006). Universities traditionally excel in research training for scientific knowledge production – in many instances within a paradigm that considers knowledge production an exclusive domain of scientists (Gibbons *et al.*, 1994). In this paradigm, generating disciplinary knowledge through data collection and analysis, reasoning and theorising are the core competences of a scientist. In such a paradigm, there is no space in an academic curriculum for competences which relate to skills for human interaction. However, there are also many examples of groups in universities which deliberately engage in interdisciplinary research, aiming to bridge the gap between generating scientific knowledge and societal impact. Several PhD programmes at Wageningen University seek the integration of natural and social sciences to address complex problems. This type of research often implies that the scientist is 'embedded' in ongoing change projects and processes. Many researchers – like those participating in the PAU PhD programme described in this chapter – are thus participating in some form of action research, like open-ended collaborative experimentation with agricultural technologies (see for example Ramaru *et al.*, Chapter 3), but also in processes particularly focusing on social change (for example Mutimukuri, 2005). Therefore it is very important to make students understand the competences needed to implement such research. The following sections elaborate on the experiences and learning from the PAU PhD programme, which provided a protected space for developing an unconventional module in the academic curriculum.

### 5.3 Background of the PAU programme and the university context

In the year 2000, a Chair group in the Social Science department of Wageningen University, Technology and Agrarian Development (TAD) obtained financial support from the Rockefeller Foundation for a special PhD programme. Eventually this resulted in grants

for 24 sandwich scholarships and special activities. TAD recruited for the programme over a period of four years (2001-2004), four cohorts of 6 PhD researchers each. The majority of the recruited PhD candidates were researchers with a natural science background from international and national agricultural research institutions and universities in East and Southern Africa (see Table 1). Most of the organisations involved receive(d) support from the Rockefeller Foundation, among others, for participatory technology development with

*Table 1. Back ground of PhD candidates of cohort 1, 2, 3 and 4 of the PAU programme (compiled by I. Ruisch).*

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Institutional affiliation

Cohort 1

- Lecturer, Dept Extension, Makerere University, Kampala, Uganda
- Researcher, Network for Rural Development Studies (NGO), Mexico
- Lecturer, Dept Extension, Makerere University, Kampala, Uganda
- Senior researcher, Kenya Agr.Research Institute, Nairobi, Kenya
- Researcher Multiple Cropping Centre Chiang Mai Univ, Thailand
- Researcher, CIFOR, Harare Zimbabwe

Cohort 2

- Lecturer, Dept. Animal Sciences, Mekelle University, Mekelle, Ethiopia
- Researcher, CIMMYT/Bunda College of Agriculture, Lilongwe, Malawi
- Lecturer, Dept Extension, Makerere University, Kampala, Uganda
- Lecturer, Limpopo Dept. of Agriculture, Limpopo, SA
- Researcher, African Highland Initiative, Kampala, Uganda
- Researcher, KARI, Embu, Kenya

Cohort 3

- Researcher NARO, Kampala, Uganda
- Researcher, Kenya Forestry Research, Nairobi, Kenya
- Researcher, TSBF-CIAT, Nairobi, Kenya
- Staff member, Coast Development Authority, Mombassa, Kenya
- Research Fellow, Institute for Development Studies of Nairobi, Kenya
- Researcher, National Institute for Soils and Fertilisers, Hanoi, Vietnam

Cohort 4

- Researcher, Industrial Ecology Institute (NGO), Nairobi, Kenya
  - Researcher, WARDA, Cotonou, Benin
  - Lecturer, Co-operatieve College, Moshi, Tanzania
  - Researcher, KARI, Nairobi, Kenya
  - Researcher, Limpopo, Dept. of Agriculture, Limpopo, SA
  - Researcher, Honeybee Network/National Innovation Foundation, India
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and for small-scale farmers in the region. The linkage with these research institutions would allow the programme, through PhD training and research, to contribute directly to capacity development in the home organisations of the PhD researchers and the rural communities they were working with.

Previous academic training	Year of birth
MSc Ag. Extension and Education, Makerere University, Uganda	1968
MSc Agronomy, Colegio Postgraduados, Montecillo, Mexico	1972
MSc Ag. Extension and Education, Makerere University, Uganda	1973
MSc Agronomy, Texas University, USA	1957
MSc Agriculture, Chian May University, Thailand	1970
MSc Agricultural Knowledge Systems, Wageningen University	1975
MSc Animal Sciences, Wageningen University	1971
MSc Agroforestry, Bunda College, Malawi	1965
MSc Agricultural Extension and Education, Makerere University	1965
MSc Home Economics, University of Christian Higher Education, Potchefstroom	1972
MSc Arts in Anthropology, University of Nairobi, Kenya	1966
MSc Agricultural Economics, University of Nairobi, Kenya	1963
MSc Development Studies, University of East Anglia, UK	1970
MSc Environmental Forestry, University of Wales, UK	1968
MSc Anthropology, University of Nairobi	1973
MSc Agricultural Knowledge Systems, Wageningen University	1960
MPhil. Environmental Studies, Moi University, Kenya	1966
MSc Agriculture, Hanoi Agricultural University, Vietnam	1974
MSc Arts, University of Amsterdam	1971
MSc Crop Science, University of Benin	1960
MSc Arts – Women and Development, Institute of Social Studies, The Hague	1958
MSc Arts – Urban and Regional Planning, University of Nairobi	1965
MSc Soil Science, University of Reading, UK	1962
MSc Plant Pathology, Ravishankar University, Raipur, India	1963

### *The research theme and PhD candidates*

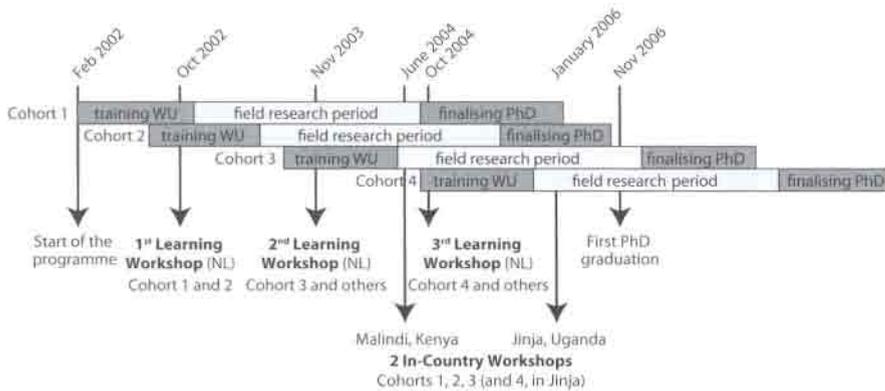
The thematic scope of the PhD programme was ‘Participatory Approaches in agricultural (technology) development and their Up-scaling’ (PAU). Since the Rockefeller Foundation had been supporting many projects and institutions in the development and application of participatory approaches in agricultural technology development, they were interested in understanding which participatory approaches worked best and how they could most effectively be scaled-up, to reach more farmers in a shorter period of time with the benefits of agricultural research. The research in the PhD programme would be instrumental in giving answers to those questions. Most recruited researchers had some years of professional experience in projects that applied participatory approaches. TAD staff felt that these PhD researchers would bring in the real experiences from the on-the-ground participatory work and the agronomic background of many of the PhD candidates could be an asset in the studying of this theme. The theme of study fitted very well in the core interest of the TAD chair group which finds itself at the intersection of science and technology studies and development.

### *The tailor-made curriculum*

The recruited PhD candidates were provided with a sandwich scholarship which consisted of a 10-month preparation programme in Wageningen University and another 10-month period to finalise the writing of the thesis. The field research was to be carried out in their home country during the 2-year in-between period (Box 3).

The 10-month preparation programme at Wageningen University was intended to support the PhD candidate in the development of a full research proposal and strengthen the weaker competences of the candidates. Normally, PhD candidates pick and choose from existing international MSc programmes, special PhD courses, seminars and workshops that are offered during the period a PhD student happens to be in the University. Having cohorts of 6 PhD students with a similar time schedule offered TAD opportunities to ‘tailor’ a PhD programme through the organisation of special workshops and courses.

The idea of organising a special workshop to address the competence development for participatory research, stemmed from the perception of the PhD candidates and programme coordinator (first author of this chapter) that the training programme should make PhD students more effective professionals, competent to carry out a better job in the field. For them doing a better job meant ‘working (i.e. ‘participating’) more effectively with farmers’. Participatory research with farmers was for most of them part of their job at home and presumably their PhD research would involve similar work. Thus, as PhD researchers they would not only study participatory approaches as a subject, but many of them would also be part of it as member of a project or research team. Since they knew Wageningen University as one of the most respected universities in the world, they expected this to be the place

**Box 3. Structure and characteristics of the PAU Phd programme (2001-2008).**

The programme recruited 4 cohorts of 6 PhD candidates each who started in February 2002 (cohort 1), September 2002 (cohort 2), September 2003 (cohort 3) and September 2004 (cohort 4). Each cohort followed a 4 year plan: 10-month training period in WU, followed by app. 2 years of field research and a final period of PhD writing in WUR. Three Learning Workshops were organised in Netherlands, and 2 In-country workshops to support the PhDers in their competence development and progress research work. The first PhD candidate graduated in November 2006.

where they could get the best training in doing participatory research. Within the regular PhD training programme of the University there was no module or provision that seemed to meet this expectation, and therefore the obvious option was to organise such training within the context of the PAU programme. The Rockefeller Foundation provided an extra grant for this purpose with which the programme coordinator (1<sup>st</sup> author) contracted a trainer/facilitator (3<sup>rd</sup> author) to design and implement an action learning module. This resulted in the first Learning Workshop, in the fall of 2002, when the 12 PhD students from both the first and second cohort were both present in the Netherlands. Later more workshops followed, in which the 2<sup>nd</sup> author became involved as a trainer/facilitator.

## 5.4 The Learning Workshops and their context

### *The First Learning Workshop*

The motto of the first Learning Workshop was *to know yourself as a basis for understanding others*. During the 9-day workshop the PhD students reflected on the aims of the PhD research and their participation in the PAU programme, and to what extent their research

would or could contribute to societal change. They were encouraged to reflect on the importance of human behaviour in team work, institutional change, collaborating with communities, at the same time understanding their own behaviour in these situations through exercises, group work, and plenary discussions. A central element was the question as to what participation and change means in reality and in research. Participants were stimulated to challenge their perceptions and realities, and their behavioural patterns around participation and change. Throughout the programme methods and techniques were used that provided participants with opportunities to practice skills and understand underlying concepts that are specifically associated with effective team work, collaboration with farmers and personal reflection and feedback (See also Box 3). An output of the workshop was a group vision of what the PhD programme should entail. They saw how a research process can be appreciated as a learning process.

This Learning Workshop was highly appreciated by the PhD students and the programme coordinator (1<sup>st</sup> author), as was clear from the discussions and evaluation. Examples and role plays were taken from situations participants were familiar with, which increased the impact of the sessions. Participants felt they had been filled-in on issues and meanings of 'participation' and their research; on how to do things differently. They had also been practising doing things differently, for example, giving each other feed back and facilitating group sessions. The workshop experience motivated them even more to ensure that colleagues and farmers back home would directly benefit from their PhD project. The exchange of personal experiences, values and beliefs had felt like a 'warm bath' after having been in the university for some months, in which lectures and reading had been their central activity. Sitting for long hours in their student room or office, away from their family, during a Dutch winter had not been encouraging either. When the PhD students returned after the workshop to daily life in the university to resume the regular course work, they were even more critical about the need to read up on the big social science theories. These texts were difficult to read for them, using vocabulary and frames of thinking with which they were not familiar. Their main interest was in studying human behaviour and the implications of change.

The differences with their own academic culture became apparent as well. Where in most African universities professors hold the truth and power over decisions regarding the PhD work, in the Dutch university system PhD students were considered scholars and were challenged in discussions with staff. Instead of feeling challenged however, they felt at times intimidated or not taken seriously in their new learning. In addition, finding their way in the administrative and educational system – which may have been more straightforward for Dutch students - was challenging as well. For example, not only did they have to define and write their PhD research proposal, they were also expected to find themselves a supervisor whom they considered most appropriate. At the time, this added to the struggle of understanding social sciences. In retrospect we can say these struggles have helped PhD students to realise that it was not their own weakness, but apparently part of the difficulty of understanding the system and becoming an interdisciplinary type of scientist.

An important factor was that other staff members had little information on the content of the Learning Workshop and the expectations of the PhD students. Some staff members emphasised that PhD training means to prepare PhD candidates in the first place on 'how to research participatory approaches,' the purpose of the PAU programme. The recruited PhD students obviously needed to strengthen their competences to carry out good scientific research; they therefore needed a lot of scientific reading, training of their skills in theorising, reasoning, conceptualisation and synthesis. Everyone agreed that although the PhD candidates were becoming interdisciplinary hybrids rather than genuine social scientists, they were after all doing a PhD. And, this implied that they would eventually have to successfully defend a PhD thesis, which is essentially proof of academic research competences. Some TAD staff considered that the focus on competence training as in our first Learning Workshop came at the expense of time spent on literature study and proposal writing. The content was seen as relevant, but something that should stay outside the academic curriculum and be picked up elsewhere in life or from other training institutions. In addition, there was doubt about the effectiveness of such training for doing better PhD research: there was (still) no evidence to prove for it. The views of the staff regarding roles of scientists and development-practitioners were not formulated explicitly, but students and the programme coordinator overheard and interpreted loosely made comments over lunch or other informal events. For instance, the professor jokingly used the term 'bean-bag-throwers' when he referred to the professionals working in the development scene.<sup>8</sup> From the students' perspective, this showed the professor's aversion to this world of professionals of which they felt part. Several PhD students, for their part, felt that quite a number of academics did not know 'the reality on the ground' and provokingly used the term 'ivory-tower-dwellers' to label university staff. Comments and incidents confirmed the lingering impressions of students and programme coordinator and blocked them from freely discussing their views and ambitions.

Conversations between the PhD students and the programme coordinator showed a growing uneasiness with the situation from the point of view of the PhD students and the programme coordinator. The question 'but who will milk the cow?' became metaphorical for their concern about the usefulness of so much theoretical reading for solving the problems of the African farmer. How could reading the work of Durkheim and other social scientists change the functioning of their institutions, help them in their ambition to participate better with farmers and have impact on farmers' livelihood in their home country? And what would happen if they wanted 'to do action research' – which was so much advocated in circles they were part of back home; what were the consequences if they did not design and frame their research the way the professor wanted? These perceptions and frustrations persisted when the PhD students started their field research in their home countries. In a meeting with the programme coordinator and representatives of the Rockefeller Foundation in Uganda, June 2003, the PhD researchers vented their concerns about the alienating

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<sup>8</sup>Based on the professors' notion; those professionals often hold workshops in which participants frequently throw around a bean-bag – as a way of energizing and breaking the monotony of a meeting.

theoretical orientation of the programme. The question as to whether the programme could 'blossom' and achieve its objectives in the current academic environment became a point of discussion. The representatives from the Rockefeller Foundation felt that the PhD students had a valid argument. Their involvement in the agricultural research and development scene in Africa showed them the need for a new type of professional. The programme coordinator (1<sup>st</sup> author) advocated that this new type of professional would not be able to purposefully engage in the action if they could not at the same time be critical analytical researchers, able to interpret the situations they found themselves in. To this end, theoretical understandings of the issues at stake are a necessary component of research training.

### *The third and fourth cohorts and their Learning Workshops*

While the PhD students of the 1<sup>st</sup> and 2<sup>nd</sup> cohort were doing field research in their home country, the newly recruited PhD candidates of the 3<sup>rd</sup> and 4<sup>th</sup> cohort started their PhD training in Wageningen in September 2003 and September 2004, respectively. The curriculum of both cohorts was similar to that of the first two, except for the fact that these latter cohorts were not present at the same time in Wageningen (Box 3). The PhD students also took courses from the regular PhD and MSc programmes, read up on literature, worked and interacted on the development of their research proposals. For each of the two cohorts the programme coordinator (1<sup>st</sup> author) organised learning workshops similar to the one described above (Learning Workshops 2 and 3, respectively, see Box 1 and 2), now also inviting PhD and MSc students from other programmes with an interest to develop their competences for integrated agricultural research. The two Learning Workshops for the 3<sup>rd</sup> and the 4<sup>th</sup> cohort were considerably shorter than the first one (41/2 and 5 days respectively) because of limited financial resources and supervisors of the participating students considered that 9 days was taking too much time from the students' programmes.

Because the 3<sup>rd</sup> and 4<sup>th</sup> cohort of PhD candidates went through a training programme comparable to the first two cohorts, experiences with the Learning Workshops and reactions of the environment were more or less similar. The most salient observation was the absence of signs of tension in the relationship between PhD candidates and staff. The PhD students from the 3<sup>rd</sup> and 4<sup>th</sup> cohort seemed more appreciative about the studying of social science theories and the application of them in their research proposal than the students from the first two cohorts. In addition, the TAD staff seemed more open to the experiences of PhD students, including their experiences in the Learning Workshops. There was a more relaxed situation with more interaction between PhD students and staff members. The input of staff members in response to queries and draft research proposals were important stimulations.

### *Comparing experiences between cohorts*

How could the absence of conflicting expectations be explained? Had the experiences with the first two cohorts helped to improve the training period of these two subsequent

cohorts? The situation of the last two cohorts of PhD students differed from those of the first two on several points:

- First of all, the recruited students from the 3<sup>rd</sup> and 4<sup>th</sup> cohort had a somewhat different background. Whereas several of the PhD candidates from the 1<sup>st</sup> and 2<sup>nd</sup> cohort were involved in ambitious institutional-change projects, in which the process consultant (3<sup>rd</sup> author) was involved as well, the PhD candidates of the 3<sup>rd</sup> and 4<sup>th</sup> cohort included several persons with training in social sciences (see Table 1). This may have cushioned the shock in the cohort of being exposed to social sciences literature and theoretical reflection.
- Programme coordinator and professor were better prepared for the expectations of the next PhD candidates: the curriculum with proposal development, reading and course work was better structured, and theory was presented to the PhD students in a more comprehensive way. Attention was given to bridging the usefulness of having a theoretical framework for data collection and interpretation and the nature of their PhD research work.
- The coordinator took time to talk with the students about the purpose of a PhD, Dutch academic culture, and university organisation to avoid misunderstandings and false expectations with talks about Dutch academic culture. She explained to the students that other staff members of the group were interested in the research plans of PhD candidates, but that staff could not always help with their proposal presentations because of their high workload.
- The programme coordinator made efforts to explain to PhD students and university staff her view on the relevance of the Learning Workshops for PhD research. She pointed out that in the modules a broad range of learning activities was offered, to accommodate different learning styles and multiple intelligences. Students explored their own styles and reflected on their own behaviour. At the same time students trained their skills of observation and interpretation of body language, group dynamics, etc. She made it clear to staff members that in the workshops students would also practise interviewing skills by means of a range of assignments. Particular concepts described in behavioural models were illustrated by experiencing reactions and emotions in the role plays and through assignments. It was also emphasised that action research can take the form of 'embedded research' and is not necessarily 'activist research'.
- The two following Learning Workshops were shorter and included students from other programmes. This reduced the cohort feeling, i.e. the 'bonding' effect within the group, but at the same time reduced a potential feeling of frustration and alienation from the university environment.
- A plan was made for the workshop participants to share their experiences with the professor (3<sup>rd</sup> cohort) and a wider circle of university staff (4<sup>th</sup> cohort, see Box 4). The appreciation of the PhD researchers for what they had experienced in the workshop and the importance it had for them as people and as researchers was undeniable and hard to ignore.

### Follow-up workshops

A follow-up workshop was organised in June 2004 in a hotel in Malindi, Kenya for the

#### **Box 4. Bringing the learning to a wider academic audience: Gallery Walk.**

The programme coordinator was concerned about defiant comments from university colleagues reluctant to accept the Learning Workshop as an essential part of the PhD curriculum. Toward the end of the 2<sup>nd</sup> Learning Workshop, the 1<sup>st</sup> and 3<sup>rd</sup> authors in their roles as programme coordinator and trainer discussed with the participants how they could improve the understanding among university staff about the Learning Workshop. The participants decided to organise a meeting with the professor, to brief him and share their views on the importance of this workshop for their PhD process.

In the 3<sup>rd</sup> Learning Workshop the participants themselves came up with the idea of informing others. They wanted to make the university see the importance of a competence training of the kind they were experiencing. For this purpose, the trainers organised what they called a 'Gallery Walk' towards the end of the workshop. All posters and other visualised products from the workshop were plastered on the wall, following the sequence of the programme they had gone through. By revisiting posters and visuals participants got a good overview of the entire workshop programme. This deepened their understanding of the interconnection and meaning of the course elements. Returning from the venue of the Learning Workshop, the PhD students organised a similar Gallery Walk in the University. They invited supervisors and other important people they wanted to inform about the competence training. The students guided the audience through the poster series, indicating how the various products had come about, how they related to each other and what the importance was for them. The posters included the ones in which they had documented their own evaluation of the workshop (see below). Each Learning Workshop was evaluated by the participants. Below are some of the participants' comments on the third Learning Workshop.

If I had to explain to my supervisor the importance and role of such a workshop, I would say...

- That it made me realise the importance of thinking/looking at research from an *impact*-oriented approach. And that I learned what is needed (skills) to conduct such research
- I would like to do a PhD that has/brings life (making a difference to the system I am coming from)

- This workshop changed something in me and made me more oriented towards field research
- Ask if she/he is able to put her/his head out of his/her body (heart and imagination)
- I will think in another definition of an holistic approach
- Development of my competence
- Integration of one's personal & professional goals in a PhD
- Better to develop both sides of the brains than developing only one side
- The outcome of research could make a difference to society, who think and solve problems in their own way
- That the most important thing to consider during the PhD work is how it impacts (anchor)
- Relating personal development & impact
- Personal development + relevance of research
- A different view on reaching impact
- The workshop was important and that many people after their PhDs do not make it in life because they lack the skills I learnt.
- A new perspective on system theory
- I want to include all the human messy part in my thesis



*Photos: (left) participants filling in evaluation posters; (right) PhD students present their workshop experiences in the form of a Gallery Walk to interested University staff.*

PhD candidates in the first three cohorts and a number of supervisors. They came together to exchange experiences and discuss progress in the fieldwork. The mode of working in this follow-up workshop was similar to earlier workshops: the same trainer/facilitator (3<sup>rd</sup> author) helped to design the workshop programme in such a way that the participants took active part and practised some of the skills introduced in the Learning Workshops. This follow-up workshop was also the first occasion for PhD students of the 3<sup>rd</sup> cohort to

meet with PhD students of the first two cohorts. The start of the workshop turned out to be a landmark in the programme. There was tension among PhD students of the 1<sup>st</sup> and 2<sup>nd</sup> cohort. Some of them felt the same frustrations from the Wageningen period coming back. They were not confident about the appreciation and respect from the supervisors. The lack of trust was felt more strongly now because they had their first field data. Could they freely discuss their findings and ideas? Stories about professors stealing their students' findings were common in their universities. The 3<sup>rd</sup> cohort seemed unhindered by such feelings: they had no field data to protect and also had no reason to distrust intentions of supervisors. The facilitator decided to throw it onto the table. A serious discussion flared up, which led the professor, sitting in front of the group to publicly announce that whatever the orientation of the thesis was, he would only judge it on its 'academic defensibility'. Even if there was an approach or topic he could not be sympathetic with, he would lead the PhD candidate to promotion. This public statement re-assured the students and removed the tension that a couple of them struggled with. Since then, differences of opinion have remained, but have now become a topic of fruitful academic discussion, not hindering the finalisation of PhD theses in the programme.

In January 2005, a second follow-up workshop was organised in Jinja, Uganda. In this workshop all four cohorts participated and a set-up similar to that in Malindi was used. For PhD researchers it was an important event to reflect on the progress of their research, identifying challenges and exploring difficulties in consultation with colleagues and friends. The fact that participants were at different phases in their PhD research and their challenges varied accordingly resulted in valuable exchanges of experiences among the PhD students.

### *Last phase of the PhD research*

After their fieldwork PhD researchers returned to Wageningen University for the final writing up of the thesis. PhD students returned to Wageningen University at different times, depending on the cohort and the individual progress of the thesis work. Consequently, the composition of the group of PhD students present in Wageningen varied as well: PhD students from the first cohort were now sharing offices at the university with those of 2<sup>nd</sup>, 3<sup>rd</sup> and even 4<sup>th</sup>, etc. In this last phase of the PhD, students struggled to sort their information, interpret findings and write thesis chapters. Taking a critical stance on the situation in which they had been working and collecting data was a challenge. Also, to develop a way of writing in which empirical data are the foundation for any conclusion appeared to be rather difficult for some of the students who had become very skilled in progress report writing for donors. For the integration of theory and empirical data, and developing conclusions, they now relied on conventional academic skills. Appreciation for more theoretically-oriented discussion and literature grew – this was the only way they could 'make sense out of their findings'. Although we expected peer learning after the sequence of workshops to continue, interaction among PhD students diminished: they did not want to waste time on discussing each others' findings, or going out together, or on other activities

which distracted them from their own individual piece of work. They concentrated only on finishing within time.

### 5.5 Reflection on the experiences

Looking back and analysing our experiences, we can say that we have learned from the competence development initiative in two ways: how to develop a curriculum that addresses competences for integrated research and how piloting something new interacts with the institutional academic environment.

#### *Learning from the learning*

At the level of skills training, offered in the workshop, it was obvious from the evaluations of the workshop participants that there is a demand for such 'learning' (see Box 1 and 2). The Learning Workshops served the participants in different ways. For the majority of the participants the workshops were eye-openers which they considered important for their research and personal life. The eye-openers related to the entire range of topics in the workshop programmes: communication- and behavioural models, one's own strengths and weaknesses in interaction with others, ways to continue developing one's skills, reflections on one's own research and theoretical concepts like process and systems approach, learning, action research.

In addition, several PhD graduates referred in their final briefings after graduation, to the workshops as the most relevant activity in their PhD training. At least three PhD graduates applied elements from the workshops in their research with farmers. Several others have mentioned that what they learned about themselves and about human behaviour in general has helped them in their personal as well as in their professional life. In addition, several PhD students have adapted their research or even completely changed the research topic because of the learning and inspiration they got from the workshops. Most of the PhD research in the programme is interdisciplinary and quite a number of students deal with action research or research that critically reflects on the projects and institutions of which they themselves are part. Two PhD studies specifically include the study of interpersonal and communication skills development for research and extension. Several graduates are now regularly invited as professionals in the organisation and facilitations of workshops.

The experiences with the Learning Workshops do not yet tell us enough about the most effective way to develop the skills we are talking about. A four- to five-day Learning Workshop is a good start for developing the competences involved, but more time and effort is needed. Such a workshop can only help to open Pandora's box: show the participants what kind of skills are involved, the concepts behind them and how they can possibly improve their competence in the various areas. A workshop can be helpful in reflecting on the candidate's ambitions in terms of the impact (s)he strives for with the PhD research and

explore the opportunities to accommodate these ambitions in setting up the research work. The consequences of choices in terms of competences that are needed to successfully carry out the research can be discussed. The longer, 9-day version of the Learning Workshop could offer more time to practise the skills, deepen insight and further develop the competences the PhD students were interested in. In the 4-5 day version, there was only a brief time to practise and indicate how one could further develop the competences.

The development of interactive skills was confined to special workshops, separated from the course work in which the more conventional academic skills were central. This has not been helpful in showing the complementarities of the various types of skills and related conceptual views involved. Because of the separation, and the focus on what they needed in field research, the interpersonal skill element dropped out of sight later when analysis and writing required the PhD researcher to work in a highly individualistic mode. Finding an effective way of integrating interactive capabilities development into the more conventional academic skill training could also help in an understanding of particular social theories and the usefulness for PhD research work. Experiential learning in role plays based on the students' cases proved useful in this sense. Also the drawing of parallels between what took place in the Learning Workshops, at the level of the PhD programme in the university, in their own research institution and at community level provided useful entry points for showing the usefulness of social theory in formulating research questions and research process design, planning of field work and interpreting situations.

### *Learning from the institutional environment*

The experiences also showed us some of the pitfalls of pilot projects and change within institutions. In our case, the project created a protected space for trying out new things: the project was brought in with external funding and could therefore operate fairly independently. The TAD group discussed and planned the orientation of the programme, but the meanings of the 'tailor-made' element in the programme and differences in underlying visions and goals did not surface until the activities were implemented. As a result, the Learning Workshops were crucial for everybody to understand that concepts such as tailor-made curricula and integrated or impact-oriented research can be taken in different ways. The emerging different views created tensions which in turn led to another dilemma. On the one hand the project coordinator and PhD students needed a protected space to freely experiment with new competence development, unhindered by criticism. On the other hand, there was a need to share ideas and experiences with the wider environment. The high workload among staff members was, however, a factor which did not favour the exchange of ideas: busy daily programmes left little space for focusing attention on innovative things.

Another point of consideration is the importance of the background and expectations of the PhD candidates. In the PAU programme all PhD candidates were from developing countries, most of them from Africa, with training in crop or soil management, plant production

and development of rural communities. They were used to hierarchical organisational cultures and academic cultures that tend to be very static. In addition, many of them had a background in natural sciences and were used to seeing social sciences seriously criticised in their environment for their supposed lack of relevance and impact. While not suggesting that only and all African universities are hierarchical and follow the conventional 'scientific' paradigm, this background was not helpful to the PhD students for interpreting and positioning themselves in the environment of Wageningen University.

Apart from the differences in expectations of the parties involved, the reluctance to change has probably played a role. The university, perhaps even more than other types of institutions, is rigid in the face of change: without evidence of usefulness it tends to be difficult to convince scientists of the need for new approaches (see for instance Bawden, 1995). When pilot projects are implemented for the purpose of providing experiences, and testing new concepts in the curriculum, it is desirable to involve people in leadership positions, in order to champion the ideas and experiences, create space and ownership for continuation or wider application. This insight – the need to involve crucial institutional players – has been particularly useful in shaping the strategic planning and initiative so that it incorporates the kind of competence development for IAR4D type of researchers in the curriculum of Makerere University, Uganda (Kibwika, 2006, Hagmann *et al.*, 2007).

It is worth noting that another four-day Learning Workshop was implemented in 2007 with a group of PhD candidates of predominantly Asian origin with financial support from Wageningen University. The programme was adapted, on the basis of earlier experiences, to connect more closely with the PhD research and the type of interactions that the PhD candidates expect to deal with. A new Learning Workshop is planned for the 2008/2009 season, again with financial support from Wageningen Graduate School.

### Conclusions

When we started out with the objective to fill a gap in the PhD programme and address the more interpersonal competence development for an integrative researchers' profile, we placed a great deal of emphasis on relational competences, visions and values, on 'knowing what' (the concepts and theories) in combination with 'knowing how' (the practising of interaction and reflection). These are without doubt the essential ingredients of a reflexive researcher. However, as we gained experience, not only with the Learning Workshops, but also with the competences of the PhD students in doing their actual research work, including the writing-up phase, it became clear that these interpersonal competences are very much intertwined with the academic competences.

The ability to relate and communicate is crucial in the application of specific research tools like interviewing, facilitation of group discussions, etc. But there is more. To be able to analyse, conceptualise, and discuss content matter these competences are most relevant in

the formulation of (interdisciplinary) research questions, planning of a research process with others, and communicate findings to other audiences. The new type of professional mentioned at the start of this chapter needs to have the ability to handle different types of knowledge, frameworks of thinking and patterns of interaction. (S)he is capable of selecting the appropriate research methodologies related to purpose of study and context. This ability asks even more from a researcher when dealing with other scientific disciplines and with other (non-scientific) audiences. The reflexive researcher integrates it all: personal social skills, disciplinary knowledge and skills, and the translation and application of these in the interdisciplinary and transdisciplinary research field. The learning case described in this chapter serves as an interesting example of the way in which these different competences come together. The development and implementation of the pilot project, but also the interpretation of the unfolding process in the university environment asks for a combination of soft and hard academic skills also on our part, coordinator and trainers/facilitators: personal characters and relational skills, knowledge about research methods and methodological stances in research, all in practice and in theory, were relevant in an integrated way.

Not all questions raised in relation to the development of the competences that researchers need to operate in interdisciplinary situations can be fully answered. We learn as we go, and integrate our learning in the concept of the Learning Workshops for PhD students. More PhD projects have to be completed first, before we can track the usefulness of the concept. Furthermore, the way the various competences can be integrated and trained is a challenge which we need to address more specifically. For example, addressing personal relational skills in isolation seems a suboptimal option. The relationships a researcher has to deal with go beyond daily-life interactions. It involves relationships with local and university supervisors, colleagues in interdisciplinary research teams, stakeholders in projects or communities. It also involves communication about disciplinary knowledge and theories, construction of shared meanings of problems and solutions with colleague-scientists as well as non-scientists. For that reason, the interpersonal skills should be closely intertwined with the scientific paradigms and knowledge frameworks used by different actors. Considering the need for integration has implications on the way training is organised. For example, in relation to the question about whether participants should preferably be from similar colliding disciplinary fields, i.e. working in the same research arenas, or not. While we see the disadvantage of having confined these skill elements to workshops, we do not want to advocate that all PhD researchers should embark on the same type of research. In relation, not all students will feel the same need to develop their expertise in group dynamics, process management, etc. To introduce specific competences in a Learning Workshop mode is therefore a pragmatic option for the moment. Interested students can sign up and workshops can be tailored to the specific research domains and background of the students in order to achieve maximum impact. In any case, we consider that a university that takes interdisciplinary and research-for-impact on board as important concepts in its research programme should have provisions in its curriculum for those who want to engage in such research.

## 5.6 Note from the authors

The PhD programme was an open-ended initiative and not set up as an action research project. When the programme started, it did not have the objective to change the PhD curriculum or the way to go about things. Neither did it have the prior intention to turn the PhD students into reflexive researchers. The experimental character of the programme, as it unfolded, did however invite reflection. We have not wanted to prove anything but wanted to make sense out of what we experienced and draw useful lessons. The programme had a 'participatory' character in the sense that PhD candidates had an important say about their own learning and the programme activities and orientation. Their comments and reflections on the experiences have been captured by the programme coordinator through individual interviews or as they emerged in discussions and workshop sessions. At the moment of submitting this text all PhD students and staff members have been invited to read the draft text of this contribution. Based on their reactions text has been added or altered on some points. We hope this provisional final version will generate even more learning from the process we have experienced together.

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## References

- Bawden, R., 1995. Systemic development: a learning approach to change. Occasional Paper no. 1, Western Sydney Univ. Centre for Systemic Development, Australia.
- Bingle, R.G. and J.A. Hatcher, 1995. A service-learning curriculum for faculty. *Michigan Journal of Community Service Learning* 2: 112-122.
- Chambers, R., 1997. Whose reality really counts. Putting the first last. Intermediate Technology Development Group, London.
- German, L., and A. Stroud, 2007. A framework for the integration of diverse learning approaches: operationalizing agricultural research and development (R&D) linkages in Eastern Africa. *World Development* 35: 792-814.
- Gibbons, M., C. Limoges, H. Nowotny, S. Schwarzman, P. Scott and M. Trow, 1994. The new production of knowledge: The dynamics of science and research in contemporary societies. Sage, London.
- Hagmann, J., P. Kibwika and A. Ekwamu, 2007. Learning to make change. Developing innovation & change competence in African Universities. Paper presented at 'Farmer First Revisited', December 2007. Available at: [http://www.future-agricultures.org/farmerfirst/files/T3c\\_Hagmann.pdf](http://www.future-agricultures.org/farmerfirst/files/T3c_Hagmann.pdf) (accessed July 2008).

- Hagmann, J., C. Almekinders, C. Bukenya, F. Guevara, A. Halemichael, P. Isubikalu, G. Kamau, G. Kamanga, P. Kibwika, B. Limnarankul, F. Matiri, T. Mutimukuru, H. Ngwenya, C. Opondo, L. Zhang and U. Breitschuh, 2003. Developing 'soft skills' in higher education. *PLA Notes* 48 (Dec 2003): 21-25.
- ICRA/NATURA, 2003. Proceedings of ICRA-NATURA workshop on Mobilising partnerships for capacity building in integrated agricultural research for development (IAR4D). Wageningen, the Netherlands.
- Kibwika, P., 2006. Learning to make change. Developing innovation competence for recreating the African university of the 21st century. Wageningen Academic Publishers, the Netherlands.
- Levin, M. and A. Martin (2007). The praxis of educating action researchers. The possibilities and obstacles in higher education. *Action Research* 5: 219-229.
- Mutumukuru, T., R. Nyirenda and F. Matose, 2005. Learning amongst ourselves. Adaptive Forest Management through social learning in Zimbabwe. In: Colfer, C.J.P. (ed.). *The equitable forest: diversity, community and resource management*. Resources for the Future and CIFOR, Washington DC., USA, pp. 186-204.
- Patel, K.B., M. Maina, J. Hagmann and P.L. Woomer, 2001. Curriculum development and transformation in rural development and natural resource management: a strategy workshop conducted at the Rockefeller Foundation's Bellagio Center in Italy, November 12-16, 2001. Rockefeller Foundation Nairobi.
- Pretty, J., I. Guijt, J. Thompson and I. Scoones, 1995. *Participatory learning & action. A trainer's guide*. IIFD, London. 267 pp.
- Sanginga, P.C., A. Waters-Bayer, S. Kaaria, J. Njuki and C. Wettasinha, 2008. *Innovation Africa enriching farmers' livelihoods*. Earthscan, London. 384 pp.
- Starks, A., M. Jones and R. von Kaufmann, 2005. The sub-Saharan Africa challenge program: an experiment in mainstreaming institutional learning and change. ILAC Brief 9. Available at: <http://www.cgiar-ilac.org/downloads/Briefs/Brief9Proof2.pdf> (accessed July 2008).