

Learning for sustainability: incorporating participatory approaches into education for rural development in Ethiopia and Tanzania

O T Kibwana, Mitiku Haile and Firew Tegegne*

An approach to rural development through the promotion of local innovation will have a future only if college and university students are introduced to it and learn that this is an acceptable and effective way of working with farmers. The students will be the future researchers, extension agents, teachers and policy-makers in rural development. ISWC 2 collaborates with educationists in order to incorporate the concepts of farmer innovation and PTD into their teaching and research activities. In two of the eight countries in the programme, the lead agencies are institutions of higher learning: Mekelle University in Ethiopia and the Cooperative College Moshi in Tanzania. This chapter describes efforts in these two countries to influence teaching content and methods, and outlines the future challenges.

DEVELOPMENT-ORIENTED EDUCATION AT MEKELLE UNIVERSITY

In Tigray region in northern Ethiopia, Mekelle University was established, originally as a college, with the mandate to support dryland development.

* O T Kibwana is head of the Pilot Projects and Experimentation Department of Cooperative College Moshi, and coordinates the ISWC programme in Tanzania; Mitiku Haile is president of Mekelle University and joint coordinator of ISWC-Ethiopia, and Firew Tegegne is coordinator of the Practical Attachment Programme at Mekelle University

Since the beginning, it gave attention to farmers' knowledge. This was one reason why it became the lead agency in the second (ie farmer innovation and PTD) phase of ISWC. One of the programme coordinators is a soil scientist who had already studied indigenous soil classification systems, the other is a plant breeder with prior experience in farmer participatory research. As the former was dean of the college (now, president of the university), he could play an important role in further developing the practice-oriented system of agricultural education in Mekelle. A key feature of this system that has facilitated incorporation of an approach of learning from and with farmers is the Practical Attachment Programme (PAP). The topics and methods central to ISWC 2 are finding their way into the university courses and teaching approaches beyond the PAP. ISWC 2 has also influenced the concept and methods of agricultural research applied by MU staff and students.

The influence of ISWC-Ethiopia on the Practical Attachment Programme

Background

Before Mekelle College of Dryland Agriculture and Natural Resources (MCDANR) was set up in late 1993, almost all the Ethiopian curricula of higher learning in agriculture were reviewed. It was found that all lacked practical training. Students could graduate in agriculture without ever have set foot on a smallholder's farm. The founders of MCDANR wanted to bring about change in agriculture; this necessitated bringing about change in agricultural education so that the graduates would be able to make a real contribution in the field. For this reason, MCDANR placed great emphasis on courses related to agricultural practice. The aim was to produce graduates who understand the rural situation and can support farmers in solving practical problems. As the Ethiopian Ministry of Education (MoE) was hesitant initially to invest funds in launching this new approach, MCDANR approached the Norwegian Agency for Development (NORAD) with its proposal. NORAD understood the importance of practical education and approved a three-year trial period. Thus, with NORAD's support, the PAP could be set up at Mekelle College in 1996, starting in the Faculty of Dryland Agriculture.

The PAP cycle

The students go on practical attachment in the summer after their third year of BSc studies. By that time, they have covered most of the basic courses; in their fourth and final year, they will be taking more applied courses. The PAP gives them an opportunity to obtain first-hand experience in the field and to try to put into practice the theories they learnt in the classroom. Every year, each of the three departments in the Faculty of Agriculture – namely, Crop Science, Soil and Water Conservation, and Animal and Range Sciences – seeks organizations that will give field placements to its students. The host organizations set the topics on which they would like the students to work. The departments

check the relevance of the topics for agricultural education. The students then choose and compete. Each student prepares for the fieldwork and presents a work proposal at an 'exit' workshop for discussion and approval by their supervisors, before they go to the field.

One supervisor is a person from the host organization who is judged by the faculty to be qualified to give technical guidance and to keep up the student's morale during the period in the field. The student also has a supervisor from the university who gives advice in planning the fieldwork, visits the student during the fieldwork, and guides the student in writing and presenting the report. The attachment was initially for six months, but was reduced to four and then to three months as it was difficult to fit in the full four-year programme of studies and to graduate the students on time. Originally, the supervising lecturer visited the student twice in the field but, when the period in the field was shortened, this was reduced to one visit. A system of group supervision has been introduced recently. A group made up of one lecturer from each of the three departments visits all the PAP students in a kind of travelling seminar. This became necessary when an increasing number of students were posted to other parts of Ethiopia (outside Tigray) and a single lecturer, who also gives in-service training during the summer period and might have three PAP students to supervise in three different regions, could not manage to visit them individually.

The students submit a mid-term report to their supervisors. After completing the fieldwork, they write a final report and, three weeks after returning to Mekelle, give an oral presentation about their experiences and findings at a 're-entry' workshop attended by all PAP students, the supervisors and other interested students and staff. These are usually from the departments concerned, especially the third-year students who will do the PAP the following year. The supervisors from the university help the students to edit the final reports and the faculty publishes a collection of abstracts from each batch of students. Copies of the student's report are sent to the host organization and the local office of the BoANR. The entire period of preparing for the PAP (setting the topic, arranging contacts with organizations in the field, arranging supervision), the actual period of practical attachment in the field, and the writing and presentation of the reports is referred to as one 'PAP cycle'. The supervisors from the university and the host organization evaluate the student's fieldwork (each gives 25 per cent of the mark), 20 per cent of the mark is for the oral presentation and 30 per cent for the final report.

Initial experiences with PAP

The first batch of students was sent to NGOs and governmental organizations in Tigray. The initial activities included socioeconomic surveys and studies of development project sites, eg for area enclosure or reforestation. The second batch was sent to places in Tigray as well as to other regions in Ethiopia immediately south and east of Tigray. In the third and fourth cycles, some students were attached to organizations in dryland areas in more distant parts

of the country. However, most PAP students (58 per cent) are still attached to organizations in Tigray region.

The initial responses by students and host organizations suggested that, after completing the PAP, students could:

- realize the realities of farming through experiencing the lives of farm communities;
- gain confidence for employment through several months of exposure to development, research and extension activities;
- gain satisfaction from actively participating in rural development endeavours; and
- identify and/or prove themselves to potential employers.

In addition to these benefits for the students, the university benefits by gaining information for the purposes of research and teaching. The host organizations benefit immediately from the work and findings of the PAP students, and benefit later by having access to a pool of potential employees who are better trained for development work.

Over the four cycles completed thus far in the Faculty of Dryland Agriculture, the PAP has gained a good reputation and has been continuously monitored. During the exit and re-entry workshops, seminars and graduate ceremony, many interested parties in Tigray, particularly the BoANR, have proposed improvements. At the end of the trial period in 1999, two professors from other regions of Ethiopia and one professor from Norway evaluated the PAP and found it to be highly relevant for rural development. All graduates who had taken part in the PAP gained employment and are performing well in their work. Some have already secured positions as researchers. When a national workshop on Community-Based Education and Academic Practical Exposure of Students to the World of Work was held on 20–21 March 2000 at Jimma University, the example of PAP in Mekelle was found to be so valuable that the MoE decided to include such practical training in the curricula of all institutions of higher learning in Ethiopia.

Incorporating recognition of local innovation

By the time that ISWC 2 commenced in Tigray in 1997, the Faculty of Dryland Agriculture had completed one cycle of PAP. With few exceptions, the students had been working together with development projects that were still operating according to the conventional transfer-of-technology paradigm. This tended to reinforce their sense of superiority: that students and ‘experts’ know better than the less literate rural people and that they need to teach modern agriculture to the farmers.

During each of the PAP cycles of 1998, 1999 and 2000, three students – one from each of the departments – out of a total of 137 have done their practical attachment under ISWC-Ethiopia. They worked on the following topics in a mixture of practical participation and observation:

- the impacts of land reform on farmers' innovativeness;
- intensified agriculture and indigenous knowledge: the implications for sustainable agricultural production;
- traditional bench terrace practices on hilly farmland and community-based efforts to prevent soil and water loss;
- community-based management of common property resources (two students);
- community initiatives in agricultural practices;
- women innovators in agriculture; and
- comparison of women and men innovators (two students).

In order to be able to do their work, the PAP students need a subsistence allowance of at least 420 *Birr* (circa \$US50) a month to cover food and lodging, transportation and some materials for their fieldwork. ISWC-Ethiopia provides an allowance of 500 *Birr* (circa US\$60) per month, while some host organizations provide as much as 900 *Birr* (circa \$US110). Thus, there is no great financial incentive for the students to focus on farmer innovation and PTD; they do so out of their own interest. Although the MoE had agreed to institutionalize the PAP as part of higher education throughout Ethiopia, no financial commitment from this source is available. Thus far, the host organizations are obliged to cover these basic expenses. In exceptional cases, if an organization is interested in hosting a student but cannot pay the subsistence allowance, NORAD covers it. Funding for students to continue studying farmers' knowledge, innovation and experimentation under the PAP will have to be sought from other sources when ISWC 2 ceases. This means that institutionalization will be assured only when other public or private organizations become willing to carry these costs. It cannot be expected that students without income could pay their own way.

The PAP students supervised by ISWC-Ethiopia work primarily with innovative farmers or communities. The close communication between ISWC and the farmers ensures that these are involved in determining the PAP topics and collaborate with the students. During their stay in the field, the students not only carry out studies, but they also experience the living and working conditions of the rural people and physically work together with the farming families.

Impact

In 2000, ISWC-Ethiopia and the PAP coordination unit assessed the influence exerted by ISWC concepts and supervision on the PAP. They found that the students who were assigned to discover indigenous knowledge and innovations were highly motivated to search in the literature in MU's well-stocked library. The students compared and married their field observations with academic scientific knowledge. Their presentations during the re-entry workshops gave a good opportunity to disseminate information about indigenous knowledge and promising local innovations to other students, lecturers

and the host organizations, both government agencies and NGOs. Now that the PAP students are also posted in other parts of Ethiopia, this information is reaching different corners of the country.

The reports of the students supervised by ISWC-Ethiopia are made available to the BoANR at *woreda* (district) level. The experts and development agents (DAs) communicate the students' findings to the farmers who were involved and to other interested farmers. This feedback was introduced after the first year of PAP on the request of the DAs. The BoANR also uses reports about farmer innovation and experimentation in one village area to inform DAs and farmers in other village areas with similar economic and environmental conditions. It is hoped that this dissemination of information about farmers' ingenuity and initiatives in land husbandry will contribute to development and policy change at district and regional level in Tigray, in other regions and eventually at national level.

After returning from their practical attachment with ISWC-Ethiopia, some students commented, both in their reports and at the re-entry workshops, that the experience relieved them of an 'entrenched superiority complex'. They felt that they had learned a great deal from the rural people who have tremendous local knowledge, often far ahead of the students' knowledge. The students appreciated that many farmers are applying sophisticated and appropriate indigenous farming technologies and that they know the observable environment in great detail. The experience gained by working within the ISWC programme enriched the practical knowledge and skills of the students and changed their attitude towards rural people.

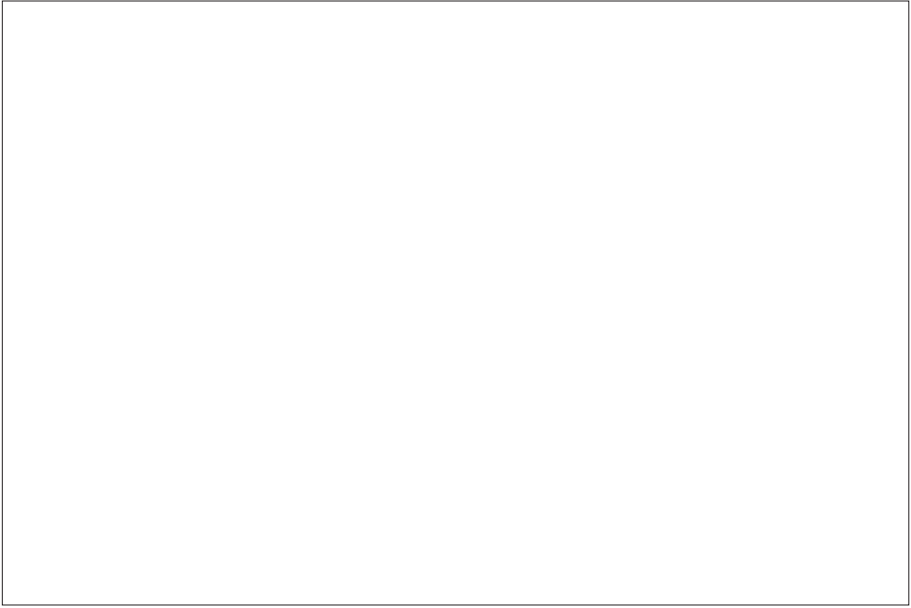
Moreover, staff members have observed that students who have made this experience during the PAP have become more active in questioning, answering and relating their studies to the local context and to specific problems at the grassroots. This makes the learning relationship between students and teachers in the university much more interactive than in the past.

Wider influence of ISWC-Ethiopia on agricultural education

The identification of indigenous knowledge and its dynamics by students and staff has influenced the process of curriculum design, the content (syllabus) and the teaching methods at MU.

Professionals conceptualize the real world in an assumed model that usually separates the 'professionals' from the practitioners. The practical world demands breadth, intelligibility and usefulness, but the academic professionals often have only peripheral knowledge regarding the practical world. Exposure to how rural people manage to be creative under great pressure to survive broadens the knowledge of the academics.

Some of the staff members in Mekelle have received their higher education overseas. They often find it difficult to translate what they have learnt elsewhere into forms that fit the local needs and to identify the local priorities for training, research and development. In addition, the curriculum has been strongly influenced by expatriates from developed countries in temperate



Credit: Teshome Gebrekidan

Plate 31.1 *Farmer innovator in Tigray, Ethiopia, demonstrating an improved plough to students and staff of Mekelle University*

areas. Both the Ethiopians educated overseas and the external advisers who are designing and reviewing the curriculum for teaching and who are identifying problems and setting priorities for research have tended to emphasize what they themselves have been trained in. Moreover, the methods of training have been transferred from the overseas institutions.

The introduction of concepts of farmer innovation and farmer-led experimentation into the PAP and the encouragement also of teaching staff to identify and document local innovations have led to a discernible change from a tradition of learning purely by way of lectures and reading books to a new approach of learning by listening to and working with practitioners. Academic staff members who travel to the field to supervise the PAP students, to comment on their reports and, in some cases, to do follow-up research into what the students discovered are likewise exposed to rural realities. The involvement of students and staff in the ISWC programme has made them more open to recognizing local knowledge and is bridging the divide between this and scientific knowledge. It has also helped the academics to recognize the problems, needs, opportunities and priorities of the farmers. This experience is narrowing the gap between the academic professionals and the practitioners, ie the practising professionals.

Besides the activities in identifying and documenting local innovation, the workshops organized by ISWC-Ethiopia for MU researchers have influenced the content and form of agricultural education. University staff members have participated in workshops on Concepts and Processes of Farmer Innovation

(three days), Action-Oriented Research (three days) and Training in PTD (four days). Six workshops of two or three days each were held for DAs and extension supervisors on identifying and documenting farmer innovation and informal experimentation, innovation by women and methods of supporting farmer-led experimentation. All these workshops were facilitated by people from MU, the BoANR and NGOs who had been trained by the ISWC 2 programme in Zimbabwe in 1997 or were subsequently trained by ISWC-Ethiopia. A module on PTD has been incorporated into the course on Research Methods given to all students of agriculture at MU. Both national and international MSc and PhD students are making field studies on farmer innovation and experimentation. In addition, documents produced by ISWC 2 on farmer innovation and PTD are being used as learning materials in various courses, such as agricultural extension, rural sociology, plant breeding and SWC.

Perhaps just as important as the content of the workshops have been the participatory methods used during the workshops. These include brainstorming, working in small groups, sharing and jointly analysing observations and experiences, working with visualization techniques (flip-charts, cards, sheets of paper on the wall on which the participants' contributions during the workshop are written) and incorporating field activities to stimulate learning by doing and experiencing. The workshops have created situations of interactive learning in which all participants can offer what they know and think, can practise what they are learning and can reflect on this experience. Staff members who had been involved in ISWC-Ethiopia workshops are now applying these methods in some teaching situations and workshops outside the ISWC programme.

The influence of ISWC-Ethiopia on agricultural research methods

The ISWC 2 programme centres around research for development. As Mekelle University is the lead agency in Ethiopia, the country has felt an impact not only because of its teaching but also its research activities. In most colleges and universities throughout the world – and Mekelle is no exception – scientists have tended to choose research priorities on the basis of their own values, perceptions and limited experience of rural people's problems and knowledge. The results of this research, if they were conveyed at all to farmers, did not usually lead to sustainable solutions to their problems. ISWC-Ethiopia is playing an important role in bringing farmers and scientists together as partners in seeking solutions.

Twenty-two MU lecturers who also conducted some research and ten scientists from Mekelle Research Centre took part in workshops on participatory research organized by ISWC-Ethiopia. These people are incorporating the philosophy and methods of participatory research into their regular work. For some, the ISWC workshops were not their first exposure to participatory methods, but the opportunities offered by the programme allowed them to apply what they had learnt. The researchers submit proposals to make more

detailed studies of innovations discovered by PAP students or DAs and to carry out joint research with farmers. ISWC-Ethiopia provides transport or travel allowances and pays the researchers a sum not exceeding half their salary. This sum, which is the equivalent to \$US150 per month, is paid for the duration of the study which may take from three to six months, depending on the subject and the distance of the study area from Mekelle. Thus far, eight MU staff members have studied farmer innovation and seven proposals involving farmer-led experimentation were submitted to ISWC-Ethiopia and have recently commenced.

Among academic and research staff, there is a growing awareness of the importance of involving farmers, community leaders, DAs and scientists of different disciplines to identify problems and set priorities for research. In the past, there were strong institutional barriers in communication between these various stakeholders in agricultural research and development. Activities were often duplicated or overlapping. The participatory approach promoted by ISWC and the practical attachment of students to ISWC have helped to overcome these barriers and are building the necessary forum where the stakeholders can coordinate the planning and implementation of problem-oriented research. ISWC-Ethiopia has deliberately not focused strictly on SWC as its name would imply; it has encompassed all aspects of crop and animal husbandry and natural resource management. The forum is thus laying the foundation for a concerted research effort at the grassroots level to address rural problems in a holistic way.

As mentioned above, ISWC has influenced the content of the course on Research Methods at the university. The course instructor used to deal only with conventional methods, but his involvement with ISWC staff, in-service students, DAs and innovative farmers led him to include PTD and participatory monitoring and evaluation in the course as accepted approaches for mainstream research. He now promotes the involvement of farmers as recorders of technical data of interest to both the farmers and the scientists, and joint analysis of the data and observations. He encourages students to write proposals for this course that pertain to indigenous knowledge, innovation and experimentation. He is a prominent educator who gives the same course at other colleges and universities in Ethiopia. In this way, the ISWC programme is influencing the research methods that are being taught in other institutions of higher learning and, thus, the concepts and attitudes of people who will later join research institutes.

The university has organized interdisciplinary seminars at which the results of research into farmer innovation and PTD were presented and discussed. These seminars included staff from both MU and MRC. The international workshop on farmer innovation in anglophone Africa, which was organized by ISWC 2 in Mekelle in February 2000 and was attended by people from several countries in Africa as well as Europe and America, gave high status to the farmer innovation approach to PTD.

DEVELOPMENT-ORIENTED EDUCATION AT COOPERATIVE COLLEGE MOSHI

In the case of the ISWC 2 programme in Tanzania, the lead agency – Cooperative College Moshi (CCM) – is an institution of higher learning, but does not deal with technical aspects of agriculture. Rather, it was founded with the mandate to support the organizational and business development process of rural cooperatives in Tanzania. The focus of the college's work in the ISWC programme has been on facilitating and coordinating the work of the partner organizations in a transparent way. After all, ISWC is not just about technical innovations in land husbandry, but it is also about institutional collaboration, PTD, monitoring and evaluation, policy development and networking. The influence that the programme is exerting on the contents and methods of teaching in the college is part and parcel of an ongoing learning process about farmer innovation, participatory processes and the totality of the organizational environment that supports sustainable agriculture.

College mandate and structure

Cooperative College Moshi was established in 1963 by Act of Parliament which gives the college a semi-autonomous status as a parastatal organization. It has its own governing body (above the college management). Although placed under the Ministry of Cooperatives and Marketing, CCM has considerable room to formulate and implement its own training policy.

Essentially, CCM was established as a training, research and consultancy institution catering for the cooperative sector. In recent years, it has broadened its clientele to include other forms of people's organizations. It has become a reputable institution for cooperative education and training at community and grassroots level, as well as a leading proponent and practitioner of participatory approaches to development in general and to training in particular. It was primarily for this reason that it became the lead agency of ISWC-Tanzania.

The college is divided into four directorates: one for administration and three academic directorates, these being:

- Directorate of Studies and Programmes (DSP) which is responsible for long residential courses, ranging from two-year certificate courses (for secondary school leavers) to postgraduate courses. Awards conferred include certificates, ordinary diplomas, advanced diplomas, postgraduate diplomas and an MSc in Cooperative Studies (by distance learning in collaboration with Leicester University in the UK).
- Directorate of Field Education (DFE), the core activities of which are based at field level. Unique among the institutions of higher learning, CCM, through this directorate, has branches (or wings) in nearly all regions of the country. These branch colleges, complete with training facilities, are headed by wing tutors who are responsible for developing training materials and for training grassroots and community-based organizations.

- Directorate of Research and Consultancy Services (DRCS) which is responsible for coordinating the research and consultancy services offered (through paid contracts) by CCM. It also offers tailor-made courses which are developed and conducted at the request of clients. These include cooperatives, other forms of people's organizations and development programmes.

Of particular interest to the ISWC programme is the Pilot Projects and Experimentation (PPE) Department which falls under the DRCS. The key function of PPE is to coordinate pilot projects aimed at testing new models of organization and new approaches in training and research activities, particularly those focusing at grassroots level. The PPE Department collects, synthesizes and disseminates the experiences generated from the pilot projects. The ultimate aim is to infuse these experiences into the mainstream of college training, research and consultancy activities. ISWC-Tanzania comes under the PPE Department and the national coordinator is the head of this department. However, the programme has taken advantage of the DFE structure to appoint wing tutors in Iringa and Mbeya (the areas in which the ISWC-Tanzania field programmes are being implemented) who work as assistants to the national coordinator.

Strategies of influence on college curricula

The curricula of CCM fall under three broad categories: those for the long residential courses (offered by the DSP), the short-term courses (offered by the DFE) and the tailor-made courses (offered by the DRCS). ISWC-Tanzania has had different degrees of influence on these three types of curriculum.

The college is categorized as an institution of higher learning because of the courses offered by the DSP. The quality standards that the college is expected to meet are set by statutory organizations at national level. The curricula of the DSP courses must be endorsed by a national committee composed of representatives from other institutions at the same level (including the universities) and government officials. The curricula must also meet standards set by various professional bodies (accountancy, materials management, etc) in order that they can recognize the degrees awarded. All of these external influences have a bearing on the content and method of delivery of the courses. These bodies are not renowned for their flexibility and innovativeness. The choice of what is included in the syllabi is determined by the requirements of the professional bodies rather than by the students' learning needs or even by the requirements for their future jobs. As the syllabi are usually tightly packed, the preferred mode of delivery is the lecture.

In the case of the curricula for courses offered under the DFE and DRCS, however, the college enjoys more latitude. These curricula do not have to be endorsed by any external organization. Curriculum development is guided by demand and the college's own philosophy.

As in all policy-influencing efforts, influencing the curricula of the college is a slow and complex process. Essentially, it involves the changing of attitudes at both institutional and individual (lecturer) level. Within a relatively short time, ISWC-Tanzania has been able to make considerable progress, largely because of two sets of factors, described below.

Conducive environment based on previous experience

The college already had considerable experience in using participatory methods. Over a period of more than ten years, CCM had executed the FAO-supervised People's Participation Programme (PPP). The basic philosophy and principles of PPP are congruent with those of ISWC 2 which encourages participatory research and development by scientists and farmers. The experiences from PPP created the desire for college and staff to be exposed to a more systematic application of participatory approaches. To that end, the college had organized relevant training for its lecturers, sometimes in collaboration with international organizations. For example, for three weeks each in 1997, 1998 and 1999, the college collaborated with the German Foundation for International Development (DSE) to train lecturers in participatory techniques and tools. During each training event, the 30 participants were exposed to theory for two weeks, punctuated by a week of practical fieldwork carried out in areas where the college already had projects on the ground. In this way, the field training did not raise undue expectations within the communities and more lasting relationships could be built up between the lecturers and the respective communities. The current national coordinator of ISWC-Tanzania was the national coordinator of the PPP.

Specific strategic measures

ISWC-Tanzania has instituted specific measures that were strategically made in order to influence the college curricula. These include:

- The principal of CCM is a member of the National Steering Committee of the programme. The NSC not only deals with policy issues related to the programme, but also discusses conceptual and methodological issues, thus allowing the principal greater insight into the farmer innovation approach. On numerous occasions and in numerous platforms involving CCM lecturers, the principal has referred to the ISWC-Tanzania experiences.
- The coordinator of ISWC-Tanzania also heads the PPE Department at the college. In this capacity, he is responsible for disseminating experiences gained from pilot projects, including ISWC-Tanzania. To that end, regular exposure workshops are organized for the lecturers.
- The ISWC-Tanzania coordination team includes the two college wing tutors at Iringa and Mbeya. These persons, like all other wing tutors, are responsible for developing and conducting training courses at the grass-roots level. The experience gained by working within ISWC-Tanzania constitutes a critical input into their work.

- College staff have attended and benefited from PTD training workshops both within and outside the country. Two lecturers from CCM attended the anglophone PTD training-of-trainers workshop in Zimbabwe in 1997. Others have attended PTD workshops organized in Tanzania.
- A recent development has been the hosting and supervising of college students doing their research work. So far, four students (advanced diploma and postgraduate diploma level) have chosen action areas of ISWC-Tanzania for their research work. The programme offers no additional financial incentives. The research is part of the course requirements and the expenses are covered out of the course fees. The fees of in-service students are paid by their employers, while those of pre-service students are covered by a government bursary or other sponsors.

Areas of influence on college curricula

The influence of ISWC-Tanzania on CCM curricula is discernible in three main areas: the curriculum development process, the contents (syllabi) and the methods of teaching. The degree of influence exerted differs within the range of courses and subjects taught at the college.

Curriculum development process

The syllabus is a very important component of a curriculum. As in all training institutions, the syllabi at CCM are reviewed periodically. Traditionally, this was done by the professionals: the subject specialists. With the evolvement and nurturing of a participatory culture, the most recent (1999) syllabi revision at the college was carried out in a more participatory manner. Many more stakeholders were involved, including students, prospective employers and lecturers from other specializations. The entire process was consultative, including the organization of joint workshops.

For the short-term and tailor-made courses, the process starts with a Learning Needs Assessment. Such flexibility is built in; as the learning progresses, the syllabi can be revised.

Contents

In the past, the lecturers have tended to include in the courses all that they themselves had learned at university. The aim was to meet some externally defined professional standards. As a result of the more participative approach to curriculum development, the course contents now reflect better the learning needs of the students.

The contents for short-term and tailor-made courses focus on solving specific problems identified during the Learning Needs Assessment. Because of the nature of the participants, the contents are more practice-oriented than theoretical. Most participants want 'to be able to do' rather than just 'to know'. Issues covered include group processes, local organizational development and PRA tools as they are applicable in this connection.

Teaching methodology

All college lecturers are highly qualified professionals. They are specialists in fields such as economics, management, accountancy, cooperative development, etc. Most of them were not trained to be teachers. During the late 1970s and early 1980s, the college, with the assistance of the International Cooperative Alliance, organized teaching methodology courses for the college lecturers. This did help at the time. However, this initiative ended a long time ago, only a few lecturers attended and a good number of them have since retired.

Out of the PPP experience, the college had developed a training strategy for both development agents and community leaders. This strategy, known as the Comprehensive Participatory Training Process (CPTP), includes the following features:

- It is based on an action–reflection–action process of experiential learning. Course contents are based on identified needs as perceived by the participants. The course programme is of the ‘sandwich’ type: residential training is followed by a practical exercise, followed by another period of residential training, over four iterations.
- The whole process is designed to bring about a change in attitude in both the trainers and the trainees. The facilitation process therefore focuses on promoting dialogue and respect for all involved in the dialogue.
- Courses are facilitated, as much as possible, by a team, ideally composed of two persons, not only because two minds may work better than one but, more importantly, because it demonstrates and promotes a participatory working culture.

There is obviously much in common between the philosophy of CPTP and ISWC 2. A notable weakness of CPTP was, however, the lack of specific tools and techniques to make participation operational in the field. With its rich experience with PRA and PTD, ISWC-Tanzania has helped to fill this gap.

As a result of being exposed to the methods and tools of PRA and PTD and of related training events, CCM lecturers are now more adventurous with the teaching methods they use in their (non-ISWC) work. A growing number of them supplement the conventional lectures with other, more participative methods, such as using case studies and learning games in the class. Some sessions are even conducted outside the lecture rooms. This allows for the more active involvement of the students.

THE NEED TO BROADEN THE INCORPORATION

It can thus be seen that, in the countries where the lead agency was an institution of higher learning, ISWC 2 was able to influence the curricula and teaching practices. In Tigray, there is already evidence of change in the behaviour of teachers, researchers and trainees/students. They are abandoning the

attitude of ‘we know it all’. An appreciation of indigenous knowledge is growing and the stimulation of indigenous knowledge creation (local innovation) is becoming incorporated as an integral part of the agricultural education system. It is being stressed – particularly by the agricultural extension service (BoANR), the head of which is in the ISWC-Ethiopia Steering Committee – that appreciating indigenous knowledge is not an end in itself. The challenge to educators is to help students and trainees to find ways to add value to this knowledge by initiating participatory situation analysis, providing scientific validation and explanation of local technologies, proposing improvements that can be tried out by experimenting farmers, and facilitating the collaboration of farmers and scientists as equal partners in research.

In Chapter 29, it was shown how the past experience of Tigray created fertile ground for participatory approaches. Similarly, in Tanzania, the ISWC programme coordinated by the CCM could build on and complement existing programmes that had an in-built participatory philosophy, such as PPP. An important strategy taken by both country programmes was to make use of the existing mechanisms, such as the Practical Attachment Programme at MU and the Pilot Projects and Experimentation Department in CCM, when trying to incorporate participatory approaches into agricultural education. Similar mechanisms will need to be sought in other organizations of education and training to facilitate a broader incorporation of such approaches.

A promising development in Tanzania is the emerging network – as informal as it still is – among institutions that are concerned with agricultural education and training. These include the Sokoine University of Agriculture in Morogoro, INADES Formation (the training arm of the African Institute for Economic and Social Development) in Dar es Salaam, and several other NGOs. Like the CCM, they have developed the interest and the capacity to apply participatory tools in programmes that address the needs of rural communities. Exchanging the experiences of CCM with these other participatory approaches to learning in the classroom and in the field is already proving to be mutually enriching.

Through the influence of ISWC 2 primarily in the Faculty of Dryland Agriculture of Mekelle University in Ethiopia and in the Cooperative College Moshi in Tanzania, only the first step has been made in incorporating the promotion of farmer innovation and PTD into teaching and research in these countries. Great efforts must still be made to raise awareness in other colleges and universities about the effectiveness of this approach in stimulating rural development. There is a need for an exchange between universities about teaching methods and curricula and their relationship to rural realities. In this connection, it would be useful to develop guidelines that would help these institutions to monitor the extent to which indigenous knowledge, farmer innovation and PTD are being included in the curricula and reflected in research activities.

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