

10 key stages towards effective participatory curriculum development

Learning from practice and experience in the Social Forestry Support Programme, Vietnam, and other Helvetas-supported projects

2

EXPERIENCE AND LEARNING IN INTERNATIONAL COOPERATION



10 key stages towards effective participatory curriculum development

Learning from practice and experience in the Social Forestry Support Programme, Vietnam, and other Helvetas-supported projects

2

EXPERIENCE AND LEARNING IN INTERNATIONAL COOPERATION

10 key stages towards effective participatory curriculum development

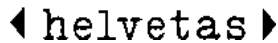
This Helvetas publication no. 2 describes a methodology to improve the quality of education and training in international co-operation: "Participatory curriculum development" is an emerging approach which builds on the experiences of Helvetas in the Social Forestry Support Programme in Vietnam and other Helvetas-supported projects in Sri Lanka, Nepal, Bhutan, Lesotho and Kyrgyzstan.

Experience and Learning in International Cooperation (Helvetas Best Practice Publications):

Publication No. 2: 10 key stages towards effective participatory curriculum development, December 2001
Author: Dr. Peter Taylor, Education Consultant, Ireland
Text and cover drawings: Nguyen Tung Lam, Vietnam
Editor: Helvetas Zürich, Switzerland
(Remo Gesù, Markus Heiniger, Esther Oettli, Hans Schaltenbrand)
Layout: SKAT St.Gallen, Switzerland
ISBN: 3-908156-03-3

Publication No. 1:

25 steps to safe water and sanitation. This publication describes the successful "community-oriented stepwise approach", developed by Helvetas in Nepal in an integrated project which includes the construction of drinking water and sanitation facilities as well as the introduction of better hygienic practices.



Helvetas, the Swiss Association for International Cooperation works towards the elimination of the causes of marginalization and promotes solidarity with the poor in the south and east. Its mission is to actively contribute to the improvement of the living conditions of economically and socially disadvantaged people in Asia, Africa and Latin America. Currently Helvetas runs programmes of cooperation in 20 countries. We concentrate on three working areas, i.e. infrastructure in rural areas, sustainable use of natural resources, and education and culture. Helvetas was founded in 1955 as the first private Swiss development organisation. Much of what was pioneering in our work has become common practice within the Swiss Development Cooperation agencies, a trend which continues today.

Through its publications, Helvetas hopes to contribute to the process of learning through sharing in international co-operation. For more details or comments, please contact our head office:

Helvetas, Swiss Association for International Cooperation
St. Moritzstrasse 15
P.O. Box 181
CH-8042 Zürich, Switzerland

Phone: +41 (0)1 368 65 00
Fax: +41 (0)1 368 65 80

e-mail: helvetas@helvetas.ch
website: www.helvetas.ch

Layout of this brochure:



Swiss Centre for Development Cooperation in Technology and Management
Vadianstrasse 42
CH-9000 St.Gallen, Switzerland

Phone: +41 (0)71 228 54 54
Fax: +41 (0)71 228 54 55

e-mail: info@skat.ch
website: www.skat.ch

List of abbreviations

AVEP	Agricultural Vocational Education Project
CI	Collaborating Institution
CIPP	Context, Input, Process, Product
DACUM	Developing a Curriculum
DRWS	Department of Rural Water Supply (Lesotho)
GO	Governmental Organisation
HRD	Human Resource Development
KSA	Knowledge, Skills, Attitudes
M&E	Monitoring and Evaluation
MARD	Ministry of Agriculture and Rural Development (Vietnam)
MoA	Ministry of Agriculture (Bhutan)
MoET	Ministry of Education and Training (Vietnam)
NGO	Non-Governmental Organisation
NRTI	National Resources Training Institute
PCD	Participatory Curriculum Development
PLA	Participatory Learning and Action
PME	Participatory Monitoring and Evaluation
PRA	Participatory Rural Appraisal
PSU	Programme Support Unit (Nepal)
PTD	Participatory Technology Development
RECOFTC	Regional Community Forestry Training Centre
RNR	Renewable Natural Resources
SA	Sustainable Agriculture
SDC	Swiss Agency for Development and Cooperation
SEANAFE	South East Asian Network for Agroforestry Education
SFSP	Social Forestry Support Programme
SKILL	Skill and Know-how Imparted at Local Level
SSMP	Sustainable Soil Management Programme
SU	Support Unit (Vietnam)
SWOT	Strengths, Weaknesses, Opportunities, Threats
TNA	Training Needs Assessment
TOT	Training of Trainers
VDC	Village Development Committee
WPI	Working Partner Institution
WPT	Work Process Training

Table of contents

	List of abbreviations	4
	Introduction	6
CHAPTER 1	<i>Curriculum development and the learning process - some basic principles and approaches</i>	8
	1.1 Describing curriculum development	8
	1.2 Why is sound curriculum development important?	8
	1.3 Why Participatory Curriculum Development (PCD)?	10
	1.4 The embedding of PCD in the Helvetas foreign programme strategy	11
CHAPTER 2	<i>Participatory curriculum development in the social forestry support programme, Vietnam</i>	13
	2.1 Social forestry in Vietnam	13
	2.2 Human resource development and capacity building for the forestry sector	14
	2.3 Helvetas and the social forestry support programme	15
	2.4 The 10 key steps in PCD	17
CHAPTER 3	<i>Other Helvetas experiences related to PCD</i>	31
	3.1 Helvetas experiences	31
	3.2 Sri Lanka – curriculum development for training of trainers in sustainable agriculture	31
	3.3 Nepal – participatory curriculum development in the Sustainable Soil Management Programme (SSMP)	32
	3.4 Nepal – Skill and Know-how Imparted at Local Level (SKILL Nepal)	34
	3.5 Lesotho – experiences from the rural water supply sector	36
	3.6 Kyrgyzstan – the Agricultural Vocational Education Project (AVEP)	37
	3.7 Bhutan – curriculum development for the National Resources Training Institute (NRTI)	39
CHAPTER 4	<i>Key issues arising from Helvetas experiences of PCD</i>	41
	4.1 Costs of PCD	41
	4.2 Benefits of PCD	43
	4.3 Constraints to PCD	45
	4.4 Factors which facilitate the PCD process	46
	References and further reading	49

Introduction

***To improve the quality of education and training
in international co-operation***

10 key stages towards effective participatory curriculum development

Helvetas, Swiss Association for International Cooperation, is implementing a range of education-oriented projects in many of its 20 partner countries in Asia, Africa and Latin America. In addition, all other Helvetas-supported projects, while focusing mainly on rural infrastructure or on natural resource management, also contain important components which concentrate on education and training. While a whole range of special didactic and pedagogical techniques and methods are applied in these projects, they all conform to the Helvetas model called "Global Learning". "Global Learning" means a holistic and systemic way of learning and teaching. It aims at integrating a global perspective with local knowledge, and promotes thinking and acting within networks and in various contexts. Participatory Curriculum Development (PCD) is one methodology which fulfils these requirements. "10 key stages towards effective participatory curriculum development" describes this methodology with the intent to help improve the quality of education and training in international co-operation.

There is increasing concern about the lack of relevance and effectiveness of many training courses. It is well known that training, particularly in natural resource management, sometimes fails to meet the needs of different stakeholders and can be of poor quality, resulting in unsustainable outcomes. Participatory curriculum development is an emerging approach which builds on our experience of participation in rural development programmes and is becoming recognised more widely as a critical element in the success of education and training. Those who are interested in giving the PCD approach a try should be aware that many critical issues remain and demand careful consideration. This document does not constitute a blueprint or a list of strict recommendations for PCD. Instead, it provides some basic guidelines and aims at helping those interested in adopting the PCD process ask the right questions rather than try to come up with all the right answers.

The brochure introduces and describes basic principles and approaches of curriculum development and the learning process, and presents as well a case study of PCD in the Social Forestry Support Programme in Vietnam (this project is implemented by Helvetas on behalf of the Ministry of Agriculture and Rural Development, MARD, and the Swiss Agency for Development and Cooperation, SDC). Experiences of PCD in education and training from Helvetas projects in five other developing countries are used to illustrate some important lessons learnt. A set of key issues arising from PCD is examined, with particular emphasis on the methodology's costs and benefits. Furthermore, some critical constraints which have been encountered in Vietnam and other countries are discussed. Finally, a number of guidelines are offered to those who may wish to facilitate a PCD approach in their own particular situation.

This document will be useful for trainers, for example:

- community extension workers in NGO or GO projects and programmes;
- teaching and lecturing staff of formal and non-formal educational institutions;
- staff of curriculum development units;
- subject matter and technical specialists;
- workers in pre-service and in-service training institutions;
- those working in the fields of agriculture, forestry, fisheries, health, nutrition, community and rural development;
- personnel involved in or interested in promoting participation, facilitation and the development of education and training programmes.

Curriculum development and the learning process – some basic principles and approaches

Curriculum development can take place in traditional university buildings and in farmers' fields or forests.



If curriculum development is carried out efficiently and effectively, the learning needs of learners will be met, teachers will teach more effectively, using suitable, relevant methods and materials, a good service will be delivered, satisfying the demands of different stakeholders, and the goals and aims of the education and training programme will be achieved.

1.1 Describing curriculum development

The following is a description of curriculum development which has been used quite frequently in the Social Forestry Support Programme in Vietnam:

Curriculum development is central to the teaching and learning process, and includes all the planning and guiding of learning by a training or teaching organisation, whether it is carried on in groups or individually, inside or outside a classroom, in an institutional setting or in a village or field.
(Rogers and Taylor, 1998)

This description takes into account several important principles:

- Curriculum development is a flexible, dynamic process leading to products such as new or revised curriculum frameworks or detailed curricula which include objectives or learning outcomes, content and means of assessment and evaluation of learning. It can also involve identification and use of appropriate teaching and learning methods and materials - it is not a list of content.
- Curriculum development is about planning and guiding - it is not a blueprint or a recipe.
- Curriculum development can include anyone and occur anywhere - it is not exclusive.

Unfortunately, many people involved in education and training do not view curriculum development this way. They often see it as simply the compilation of a list of content meant to be taught by teachers. As the above principles show, however, curriculum development is usually a complex process which integrates different approaches, concepts, methods and activities. It is vital that attention be paid not only to the quantity of outputs, such as those mentioned above, but also to the quality of both, products and process.

1.2 Why is sound curriculum development important?

Curriculum development provides an opportunity for institutionalising a systemic approach to learning. It aims at integrating the recognition of the needs for learning, the ways in which learning is organised and delivered, and the way in which learning is monitored and evaluated within a particular context of location, values and beliefs. If curriculum development is carried out efficiently and effectively, the learning needs of learners will be met, teachers will teach more effectively, using suitable, relevant methods and materials, a good service will be delivered, satisfying the

demands of different stakeholders, and the goals and aims of the education and training programme will be achieved.

There is a growing perception world-wide that curriculum development so far has not led to effective education and training, especially in the natural resources sector, as the following quotes suggest:

Over the years, the world has changed and, in many of the developing countries, agricultural education and training have failed to adapt and respond to the realities of rural societies. Curricula and teaching methods and tools often have been developed that are not relevant to the development objectives of individual countries, to the needs of farmers and to the labour market in general. (FAO, 1997)

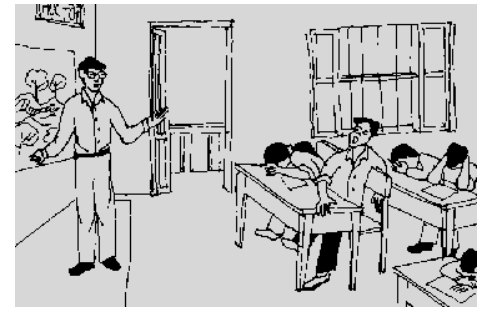
The reform of the curriculum is essential to the formation of a new vocational education system as the curriculum is the basic and primary element of educational change. At the same time, this area can be the most difficult to change, since many people are very comfortable with the existing system and they resist changes in curriculum and teaching and learning practice. (Shao, 2000)

So what kind of changes can make curriculum development more effective and lead, in the end, to a better quality of education which is relevant to the needs of learners and appropriate in the local context? In a workshop on Learning and Change in Forestry Education, held in Sa Pa, Vietnam (April, 2000) the following conclusions emerged:

- There is an increasing concern about the lack of relevance and effectiveness of forestry education and training, due in part to a shift in the nature of the forestry profession and to emerging needs and requirements of different beneficiaries.
- Many organisations are paying more attention to the quality of the education programmes they offer, in terms of process and outcomes.
- Curriculum development is recognised as a critical element in the success of forestry education, although it is often carried out inadequately.
- Curriculum development and organisational development are strongly interlinked; they both need to be addressed at the same time.
- Curriculum development is more likely to be effective if it is undertaken using a **participatory** approach.

This last point has been proven in successful experiences of participatory approaches increasingly used in rural development, such as PRA/PLA, PTD, etc. Rather than a list of content, curriculum development is a **continuous process which aims to guide all learning within a given programme of education or training**. As a result of this insight, strategies are emerging in the SFSP in Vietnam, as well as in a number of other countries and contexts, to make the curriculum development process more **“participatory”**:

Teachers who only talk in class can lead to their students using the same behaviour when they start working with farmers...



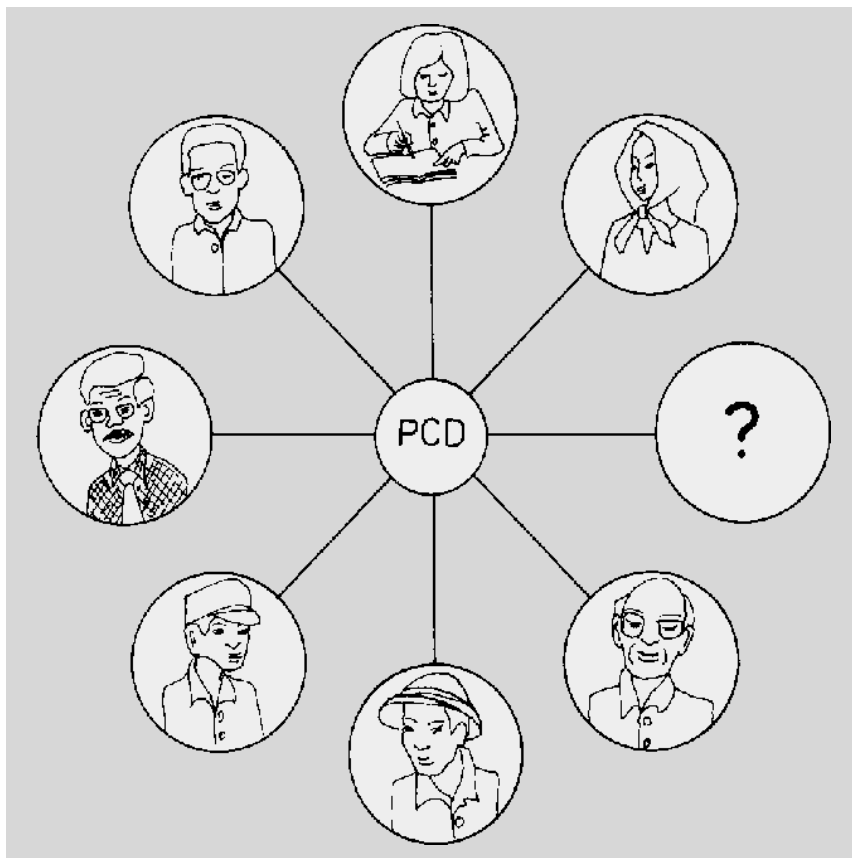
...if students are more active in class, they are likely to be more pro-active and participatory when they work with farmers.



Rather than a list of content, curriculum development is a continuous process which aims to guide all learning within a given programme of education or training. As a result of this insight, strategies are emerging in the SFSP in Vietnam, as well as in a number of other countries and contexts, to make the curriculum development process more “participatory”.

1.3 Why participatory curriculum development?

There are many different stakeholders in curriculum development...



A PCD approach aims at developing a curriculum from the interchanges of experience and information between the various stakeholders in an

education and training programme. Building on lessons learnt from field-based practice, a critical element of PCD is the identification of stakeholders, who may include educationalists, researchers, policy makers, extensionists, foresters and farmers. Rather than belonging to a small select group of experts, PCD involves a wide range of stakeholders in a meaningful way, drawing upon their experience and insights in a structured approach to curriculum planning, implementation and evaluation (Taylor, 2000). They may help identify needs for training, set aims and learning objectives, contribute to the development of the subject matter to be taught, and participate in delivery and evaluation of the curriculum.

PCD has emerged in response to real practical needs. The term was used by Elsa Auerbach and other facilitators of adult literacy programmes in the United States. She and her colleagues realised

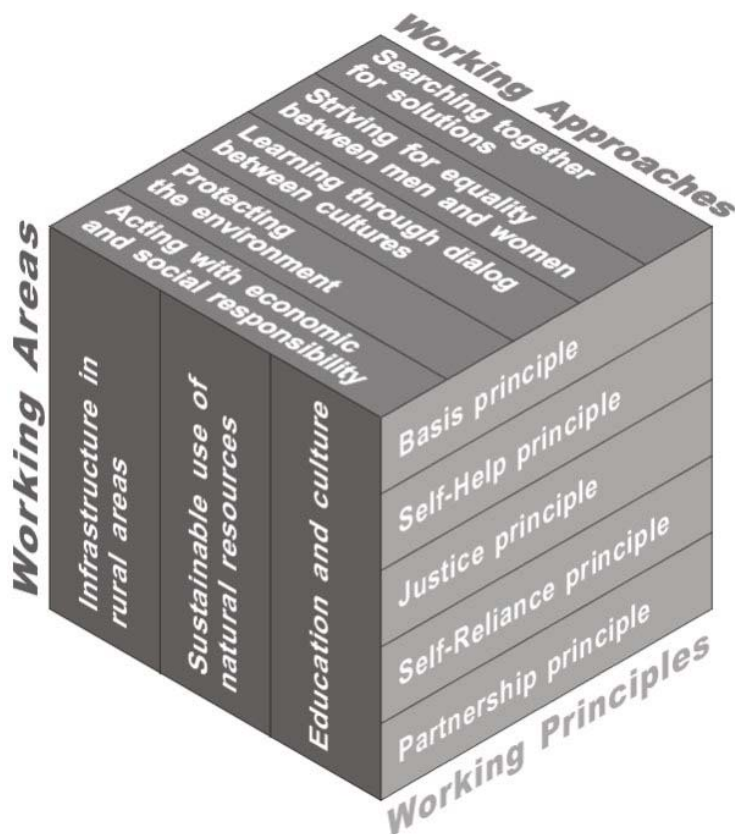
that far from being an empowering process, education is often the opposite:

Without a voice, you do not have power. If you are oppressed you do not have a voice. I had forgotten how powerful education is when it works... People only feel powerful when they are able to be partners in the process and are able to see change. This is a participatory process. (Morrish, 1997)

The potential of the PCD approach has also been demonstrated in the area of natural resources management. This was first tried in Namibia, as part of a training programme for agricultural extensionists (Rogers, 1993). Since then, the PCD approach has continued to adapt and evolve and to be used in different educational contexts. Examples include agricultural colleges in Namibia (Rogers, 1993), environmental NGOs in Jamaica (Rogers and Taylor, 1998), community-based organisations in South Africa (Taylor, 1997), forest guard training in Nepal (Dearden, 1998), and agriculture and forestry training in Trinidad and Tobago (Hermsen, 2000). These are just a few examples of a much wider experience. Sometimes the focus has been on a specific set of participatory tools, for example the use of the DACUM methodology (Temu, Kasolo and Rudebjer, 1995); in other cases, it was attempted to completely turn around the entire process of curriculum development.

1.4 The embedding of PCD in the Helvetas foreign programme strategy

The way Helvetas works in all partner countries is explained in its Foreign Programme Strategy which is best visualised by a cube consisting of various compartments with interdisciplinary linkages. Among the compartments, **Working Approaches** in particular elevates **participation** and **joint partnership** to a high strategic and controlling level. PCD as a learning approach methodology is therefore primarily guided by the compartments “Searching together for solutions” and “Learning through dialogue between cultures” and networked through the Helvetas internal working group under the working area “Education and Culture”.



The principles and approaches are the common basis for project planning, implementation, monitoring and evaluation in our partner countries. In the working areas, it is the interconnected social, economic, political and cultural aspects, including the preservation of the natural environment, which guide our activities. The work performed by Helvetas must be effective, efficient and sustainable, thereby contributing noticeably to the improvement of disadvantaged people's living conditions. However, Helvetas' central goal remains to help its partners acquire the necessary skills, competence and resources to find their own solutions to the problems faced by their populations. PCD provides a means of putting into practice the Helvetas working approaches and principles.

Helvetas working approaches and principles

Working approaches

- | | |
|---|---|
| 1. Searching together for solutions | PCD works in a context of real problems. By its nature, it relies on dialogue, on processes, and on building capacity of institutions and individuals to identify strategies and solutions through collaboration, especially in keeping with the trend towards decentralisation of education. In short, it requires “learning together, at all levels”. |
| 2. Striving for equality between men and women | PCD aims to engage and involve men and women, and helps break down barriers based on age and experience. |
| 3. Learning through dialogue between cultures | By enhancing access and involvement of different stakeholders in education and training (through the establishment of platforms for negotiation, dialogue and collaboration), social background and cultural differences become a force for change rather than remaining a barrier to participation. |
| 4. Protecting the environment | Much harm to the environment is due to entrenched vested interests and inequitable power structures. Stakeholder empowerment helps reduce this, especially where PCD is applied in natural resources-related education and training. |
| 5. Acting with economic and social responsibility | PCD is a long-term process, fitting the need for sustainable development in education and learning. It is flexible and adaptable and thus appropriate at different levels of resource availability. |

Working Principles

- | | |
|----------------------------|--|
| 1. Basis principle | PCD can involve all stakeholders in the most appropriate ways, providing access to dialogue for even the most disadvantaged members of a society. |
| 2. Self-help principle | PCD requires the sharing of tasks and responsibilities among different stakeholders; it represents a shift from hierarchical, top-down approaches. |
| 3. Justice principle | PCD requires the gradual dismantling of entrenched social and economic barriers. |
| 4. Self-reliance principle | PCD must adapt to each local context; this is possible because the approach is process-oriented, flexible and dynamic. |
| 5. Partnership principle | PCD requires stakeholder involvement in all steps and aspects of the educational process. It is strictly based on the principle of partnership, taking forms appropriate in the local context. |

Participatory curriculum development in the social forestry support programme, Vietnam

2.1 Social forestry in Vietnam

During the 1990s, the Government of Vietnam set out an agenda to establish social forestry throughout the country, particularly in mountainous areas. The term “social forestry” is the literal translation of the Vietnamese term “*lam nghiệp xa hoi*”, denoting forestry of the people carried out by local people for their own benefit. It is believed that ultimately this will lead to a more effective management of forest lands and renewable natural resources and thus raise the living standards of rural people. This agenda has been strengthened by the most recent policies, especially the elaboration of the Forest Development Strategy (2001-10) (MARD, 2000). Its emphasis is the successful transition from state-directed protection and exploitation of forests to local level and people-centred forest land management through the development of social forestry approaches. Before 1990, Vietnamese state forestry was based mainly on a network of more than 400 state-owned forestry enterprises. Since then, it has evolved through decentralisation of management to individuals, economic institutions and communities. Systems and structures established to serve the former forestry “models” are now no longer appropriate, and the workforce associated with forestry is ill-equipped to deal with the newly developed structures.

Systems and structures established to serve the former forestry “models” are now no longer appropriate, and the workforce associated with forestry is ill equipped to deal with the newly developed structures.

Main changes in Vietnam’s forestry sector since 1995

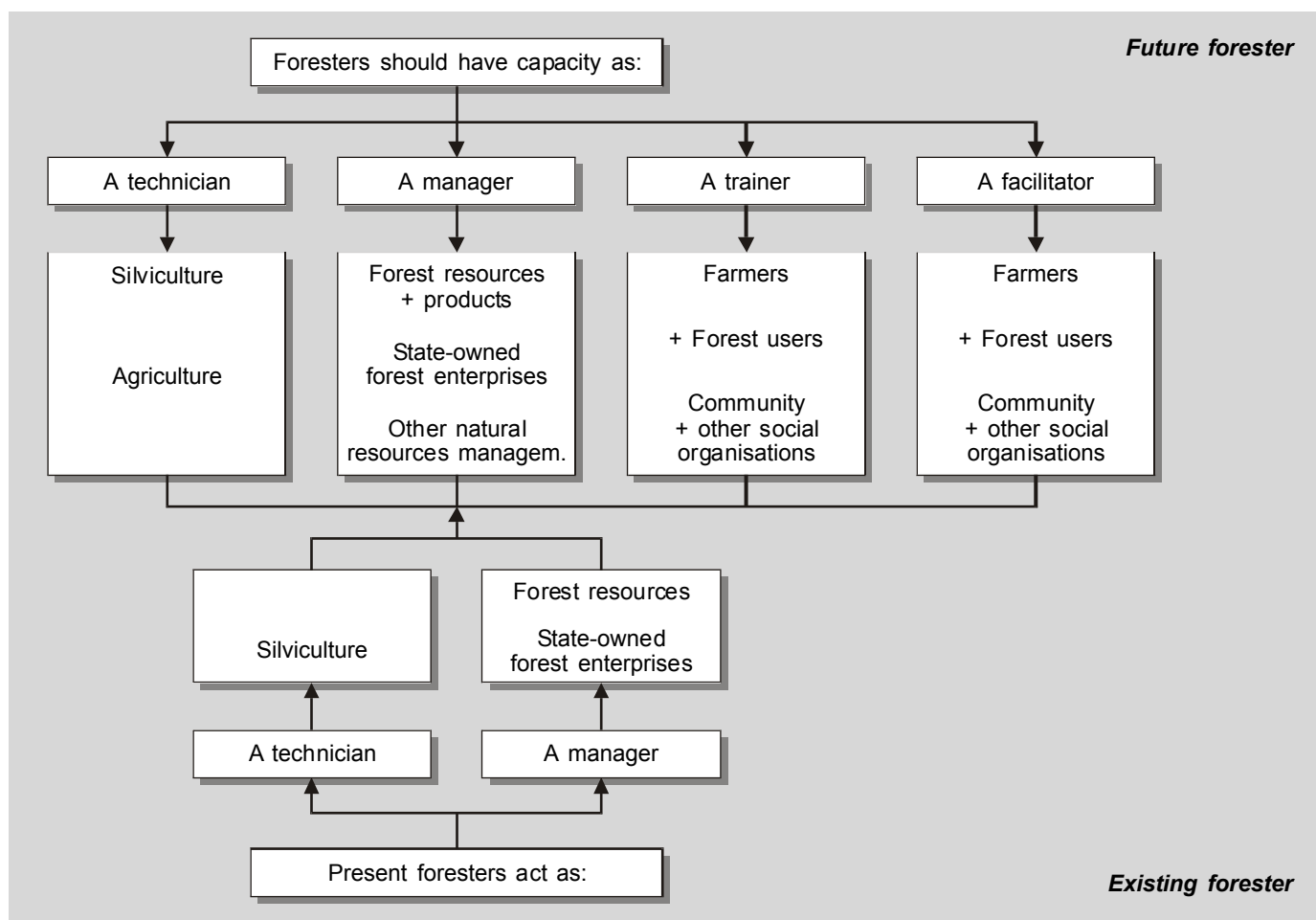
- land is being allocated to households and individuals; some land is managed by communities;
 - transition from state-owned forestry to “people” forestry;
 - proliferation of social forestry programmes, oriented towards farmer and community needs;
 - change from timber exploitation to management of different forest products, including non-timber forest products, and an increased concern about biodiversity and environmental issues;
 - shift from a mono-disciplinary approach (typified by “silviculture” training) towards an inter-disciplinary approach (typified by agroforestry and social forestry).
-

2.2 Human resource development and capacity building for the forestry sector

Human resource development and capacity building are key interventions associated with the new Forest Development Strategy. As part of a broader, integrated strategy, they will undoubtedly play a key role in the Vietnamese forestry sector over the next ten years by addressing the quantitative and qualitative shortage in the sector's human resource base. In particular, capacity building will be necessary to support the development and implementation of an integrated system of demand-driven research, technology development, extension, education and training. In order to work effectively, Vietnamese foresters of the future will need to acquire a new range of knowledge, skills and attitudes. It is now recognised by many stakeholders in different sectors (forestry, natural resource management, rural development and education) that the current forestry education and training system is ill-equipped to provide the necessary knowledge, skills and attitudes to those who need them. Thus, the Social Forestry Support Programme (SFSP) was established to help the Vietnamese government renew and revitalise university forestry education at the national level.

In order to work effectively, Vietnamese foresters of the future will need to acquire a new range of knowledge, skills and attitudes.

Competences expected of Vietnam's foresters in the past (existing forester) and in the future (future forester):



2.3 Helvetas and the social forestry support programme

Helvetas has been implementer of the Social Forestry Support Programme (SFSP), a co-operation programme between the Governments of Switzerland and Vietnam, since 1994. The first phase was initiated in response to the desire of the Vietnamese Government to address the huge need for human resource development for the forestry sector, as described above. It was recognised that forestry education at the university level would be of vital importance in building an effective workforce for the future forestry sector, and so a partnership was formed with the Forestry University of Vietnam, Xuan Mai. The focus of the first phase was mainly on institutional capacity building. A second phase, starting in 1997, broadened the partnership to include, in addition to Xuan Mai, four other university forestry faculties: the Faculty of Agriculture and Forestry of Thai Nguyen University, the Faculty of Agriculture and Forestry of Hue University, the Faculty of Agriculture and Forestry of Tay Nguyen University, and the University of Agriculture and Forestry in Thu Duc, Ho Chi Minh City. These five universities, together with the Extension Centre in Hoa Binh Province and the National Institute for Soils and Fertilisers, form the basis for what is now the "Social Forestry Training Network".

Given the need for the renewal of forestry training, the objective of the second phase of SFSP (1997 - 2001) was the development of an effective forestry training capacity responsive to the demands of implementing sustainable and participatory forest land management. In order to meet the Working Partners' objective, three key principles were adopted: participation, diversity and flexibility. These principles underpinned the three specific objectives of SFSP2: human resources development, generation of knowledge, and information exchange.

In addition to the development of a new strategy for the forestry sector, the Vietnamese government has also recognised the necessity of a major renovation of the national education system at all levels. This is reflected in the new Education Law (MoET, 1999) and in a subsequent Governmental Decree which regulates and guides the implementation of some articles of that law (MoET, 2000). Increasing attention is now being paid to many different aspects of the planning and delivery of education and training in all sectors. Curriculum development and the methodology of teaching and learning are seen as critical aspects of this educational renovation process, making them key areas of focus for the SFSP as well, especially as they are applied in the programme's innovative PCD approach.

Ten basic steps were followed in the PCD process in Vietnam. These are discussed in detail below, illustrated by the associated approaches and methods used in SFSP as well as in other projects support by Helvetas. These ten stages may serve as a guide to others who are involved in curriculum development and striving to promote genuine participation. They should, however, not be seen as a blueprint; adaptation to the local context will always be necessary.

Curriculum development and the methodology of teaching and learning are seen as critical aspects of this educational renovation process, making them key areas of focus for the SFSP as well, especially as they are applied in the programme's innovative PCD approach.

10 stages in the PCD process

No. Activity description

1. PCD awareness-raising workshop for key stakeholders
2. Follow-up workshop with wider group of stakeholders (identified in step 1)
3. Training needs assessment
4. Development of curriculum frameworks within the wider forestry curriculum
5. Develop detailed curricula
6. Learner-centred teaching methods training (TOT)
7. Learning materials development training
8. Testing of new/revised curricula
9. Refine PCD evaluation system
10. Maintain process of PCD

Aim of activity

- Identify main reasons for, and purpose of, curriculum development, and key areas for curriculum change.
- Identify expected constraining and enabling factors inside and outside the institution.
- Introduce concept of PCD.
- Carry out initial stakeholder analysis and identify specific potential stakeholders and their likely role in the process.
- Discuss potential for application in institution.
- Outline main steps for action.
- Validate main reasons for, and purpose of, curriculum development and key areas for curriculum change.
- Discuss expected constraining and enabling factors inside and outside the institution.
- Introduce concept of PCD; validate list of stakeholders in the PCD process and identify their roles.
- Discuss potential for application in institution.
- Identify organisational issues which need to be addressed for curriculum change to go ahead.
- Develop first version of a monitoring and evaluation system for PCD.
- Validate and revise main steps for action.
- Plan and carry out Training Needs Assessment (TNA), consolidate results, obtain feedback on results.
- Identify range of Knowledge, Skills and Attitudes (KSA) required.
- Review the existing curriculum based on results of TNA.
- Development of curriculum aims, main learning objectives, main topics, main content areas.
- Provide overview of the methods to be used and resources required.
- Gather and review existing learning materials.
- Based on curriculum frameworks:
 - develop specific learning objectives,
 - develop/write detailed content,
 - identify and prepare/adapt learning materials,
 - identify learning methods,
 - develop assessment/evaluation instruments.
- Develop capacity of trainers to plan and apply new, learner-centred teaching methods.
- Develop capacity of trainers to develop and use learner-centred materials for teaching and learning.
- Implement new curricula with groups of students/trainees, evaluate and adapt curricula as required.
- Refine Monitoring & Evaluation (M&E) system to address:
 - stakeholder participation,
 - teacher performance,
 - student performance,
 - impact of training.
- Review PCD process through M&E system, revise, maintain and support as necessary.

2.4 The 10 key stages in PCD

1. PCD awareness-raising workshop for key stakeholders

The participatory approach is not completely new in Vietnamese universities. Within the forestry faculties in Vietnam, there has for some time been a considerable degree of participation in curriculum development. For new subjects, teachers develop draft curricula, then share these with a wider group of colleagues. Following comments and amendments, the curricula are presented to a higher level of authority within the faculty. After further comments, amendments and approval, the curriculum framework is presented to the university authorities for approval before going to decision makers in the Ministry of Education and Training for final approval.

While the above mechanism does encourage involvement of “insider” stakeholders, it has been difficult in the past to involve various “outsider” stakeholders in curriculum development beyond simply consulting them in a training needs analysis. In order to encourage greater stakeholder involvement, the SFSP supported a series of “PCD awareness-raising” workshops whose purpose was to invite key “insider” stakeholders such as staff and students from various university faculties, departments and centres, together with a range of key “outsider” stakeholders. This latter group is often quite diverse, depending on the location and social environment of a particular university faculty. So far, representative stakeholders have attended awareness-raising workshops from provincial and district level government departments (forestry, agriculture, veterinary), research institutions, schools and mid-level training institutions, community organisations such as the women’s union, and from various rural development projects.

One issue that had to be dealt with in the awareness-raising workshops was that of a common understanding of concepts, approaches, and terminology. For example, what was the closest Vietnamese term for “curriculum”; and what did this term actually infer? In translation, the Vietnamese terms for “curriculum” and “textbook” were found to be quite interchangeable, which revealed much about the prevailing perception of curriculum and curriculum development. But getting bogged down in heavy debates about terminology was to be avoided. Instead, an early lesson was learnt in SFSP: to think of curriculum development as a process, with products being developed along the way, such as workbooks, sets of teaching materials (posters, slides, handouts), new methods of teaching and learning, and innovative forms of student assessment and evaluation of learning.

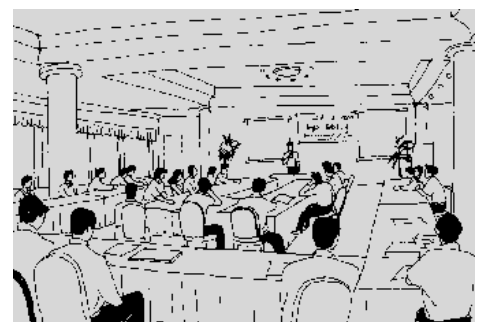
Another issue addressed in these early workshops was the need for change in forestry education. A particular advantage for the introduction of PCD in SFSP was that change in forestry education, and education in general, was identified as a priority by the government of Vietnam. But exactly what this change should look like and how it could be achieved was not well understood by different stakeholders, and discussions were vital at an initial stage. Many “external” factors came into play, such as new policy trends or social and economic change, especially in upland

In order to encourage greater stakeholder involvement, the SFSP supported a series of “PCD awareness raising” workshops.

Awareness-raising is an important stage in PCD. With small groups...



...and also with larger groups.



areas, for example. Another potential starting point was the “internal” needs of the universities which were teaching forestry programmes. It was recognised from the start of SFSP that there was a great need for institutional strengthening and capacity building in all the universities. This need manifested itself at three levels:

- Organisational level: the need for universities, as organisations, to become more responsive and proactive, with accompanying changes in management and organisational practice. In short, the need to become “learning organisations”.
- Job level: university teachers were not previously expected to engage in research or in activities beyond a limited number of teaching hours.
- Individual level: many teachers came from different technical and professional backgrounds, often trained outside Vietnam mainly in traditional, technical forestry, with little knowledge of or experience in social or economic concepts and approaches, and usually no background in pedagogy or adult education.

At the beginning of SFSP, these awareness-raising workshops were organised by the programme support unit. At this point, it was necessary to create a degree of awareness among key personnel of the programme’s immediate partners. A typical workshop programme is described in the table below, including the main steps followed, together with some examples of tools and methods used to facilitate the process.

Awareness-raising workshop programme used in SFSP activities:

<i>Step</i>	<i>Key points</i>	<i>Method</i>	<i>Output</i>
1	Participants’ background in forestry education; how forestry is taught; when curricula were revised.	Participants place marks in matrix on poster showing details for each institution represented.	Range of forestry curriculum development needs to be addressed.
2	What is involved in curriculum development?	“Merry-go-round” brainstorming. Presentation on PCD approach.	List of participants’ perspectives on what is involved in curriculum development, compared with existing theory.
3	Curriculum development methods and teaching/learning approaches in participants’ institutions.	Completing matrix of “curriculum development approach v. teaching/learning approach” on poster.	Participants’ agreement on desirability to move in the direction of more learner-oriented teaching approaches, and more participatory curriculum development.
4	Stakeholder analysis.	Listing stakeholders and their interests, importance and influence matrix, stakeholder participation matrix.	Potential roles and responsibilities for a list of identified stakeholders.
5	Stakeholder perspectives on forestry education.	Case study presentations (e.g. by a university teacher, a field worker, an employer, a former forestry student...).	Issues raised about the job and characteristics of a “forester” in Vietnam, and the implications for improving education and training.
6	Knowledge, skills and attitudes to be addressed in PCD.	Listing on cards (group exercise) posted on wall.	Consensus on categories and lists of knowledge, skills and attitudes to be addressed through the PCD process.
7	Evaluation.	Positives and negatives chart. “Satisfaction dartboard”. Process vs. product graph. “Overall feeling” chart.	Participant evaluation of workshop.

The stakeholder analysis is probably one of the most obvious characteristics of the PCD process, distinguishing it from more conventional and traditional curriculum development approaches. This methodology has been tried and tested in different contexts (in China, Cambodia and Thailand).

The stakeholder analysis is probably one of the most obvious characteristics of the PCD process, distinguishing it from more conventional and traditional curriculum development approaches.

2. Follow-up workshop with wider group of stakeholders (identified in step 1)

The initial awareness-raising workshop usually involves a relatively small group of participants with a strong interest in education and curriculum development. It presents the opportunity to identify other stakeholders who might also be involved in PCD. Some of these may subsequently be invited to a follow-up workshop. A clear orientation of these workshops is very important as they might otherwise degenerate into mere "talking shops". Awareness-raising workshops in SFSP have worked best when a particular focus was provided.

In Vietnam, the government now requires all university faculties to revise their degree programmes, and this has established a real need and motivation for involvement in PCD. The forestry faculties have taken the opportunity to make this revision process as participatory as possible, using a follow-up workshop as a means of introducing their own experiences of PCD (both advantages and constraints) to different stakeholders, internal as well as external. One of these awareness-raising workshops (Bao Huy, 2000) used the current forestry curriculum as a starting point for discussion. It proceeded through a simple SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis, moving on to a debate about the tasks which forestry graduates are likely to carry out, and comparing perceptions of the knowledge, skills and attitudes needed with those which are contained in the current curriculum. Participants looked at the curriculum as an integral whole, thinking about issues such as the balance of technical versus social/economic subjects, and how to ensure that learners gain relevant, high quality and timely field experience. The main steps of this workshop were oriented around a series of questions as shown in the box below.

In Vietnam, the government now requires all university faculties to revise their degree programmes, and this has established a real need and motivation for involvement in PCD.

Key questions for PCD awareness-raising workshop, Tay Nguyen University of Agriculture and Forestry, Vietnam, 2000

- What will be the activities of the forestry sector in the next five years?
 - Whom and what does the forestry sector serve?
 - What needs improving in the existing forestry degree programme?
 - How can these improvements be made?
 - What should be the aim of the forestry degree programme?
 - What are the necessary knowledge, skills and attitudes to be addressed by the degree programme?
 - Which subjects need improving or supplementing?
What should be the balance (in terms of numbers of periods) for the subjects within the curriculum framework?
 - How should these subjects be organised over the eight semesters of the teaching programme?
 - What is the relationship between subjects in terms of the theory/practice balance?
 - What additional subjects are needed for final year students?
-

During the workshop, small groups addressed these questions, and the findings were then shared and discussed. A strong curriculum recommendation was made that the social component of forestry should be developed and increased, resulting from the participants' realisation that forestry extensionists lack a range of social knowledge, skills and attitudes - for example in communication, extension, facilitation and participatory approaches in general. As a result of the thorough, open debate, a clear and realistic plan was drawn up to improve the curriculum framework over several years. The involvement of key institutional leaders in these discussions ensured that support would be forthcoming at critical moments of the revision process.

A secondary benefit of the follow-up awareness-raising workshops carried out by the universities was the opportunity for teachers to develop their own facilitation skills, and to go through the process of planning a key institutional event.

A secondary benefit of the follow-up awareness-raising workshops carried out by the universities was the opportunity for teachers to develop their own facilitation skills, and to go through the process of planning a key institutional event. University meetings in Vietnam are, typically, rather formal, non-participatory events, involving a series of presentations and brief discussions on a few points raised. Organising and facilitating PCD workshops requires a certain set of skills in itself, and the SFSP Support Unit provided assistance to help teachers acquire these. An unforeseen outcome was that, as a result of such activities, the prestige of forestry faculty staff appears to have risen within and outside the university, thus creating an environment which encourages change in institutional systems and structures.

Experiences from Bhutan

Awareness-raising workshops have also been important for curriculum development at the Helvetas-supported National Resources Training Institute (NRTI), Bhutan. Two workshops on extension and on syllabi and curriculum development were conducted as an introduction to the process. Participants in the first workshop were representatives from headquarters, district administration, technical institutes and extension services, expatriate consultants, and of course the future NRTI faculty staff. In the first part, the aims and structure of the future institute were discussed, followed by a theoretical input on syllabi and curriculum development. In the last part the role and task of an extension agent were examined in light of the new RNR (renewable natural resources) approach (job analysis). Some months later a second workshop on curriculum development was held with the NRTI faculty members and a number of consultants from abroad.

During the first six months, four to five team members of each sector visited all concerned stakeholders of the Ministry of Agriculture (MoA) and district administration, plus farmers and high schools, in order to investigate what might be expected of an extension agent. On this occasion, the RNR concept was explained to all those who were visited. The team members thus became interviewers and messengers at the same time. It was important that the general policy was clear from the beginning and received strong support from the leaders of the MoA. By recording the stakeholders' wishes and expectations during the interviews, opposition at a later stage was prevented.

3. Training needs assessment

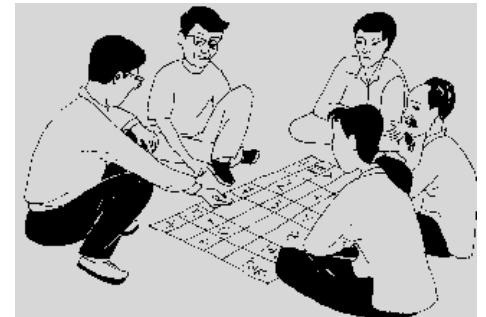
Training needs assessment (TNA) is a critical element in the design of all training programmes (although it is often not undertaken seriously). A key mechanism employed to involve different stakeholders in SFSP was the 1996 Training Needs Assessment Survey on Social Forestry (Helvetas, 1996), conducted in ten provinces in the three main regions of Vietnam. This was the first time a survey on forestry training needs was organised in Vietnam on a large scale and with participation of many stakeholders. The survey was part of a process aimed at improving the training and educational support system for people working with social forestry in Vietnam. Stakeholders participated in the process from the first steps of investigation and survey based on task analysis, to the stage of information analysis and synthesis, in order to identify the gaps in knowledge, skills and attitudes that needed to be addressed. A National Workshop on Social Forestry Training Needs, organised jointly by Xuan Mai Forestry University and the SFSP, analysed survey results. A wide range of stakeholders participated, including teachers from all universities involved in forestry education programmes, policy makers, project managers and researchers. The main outcomes of the workshop, based on the findings of the TNA, were as follows:

- a clear assessment of the current status of social forestry development in Vietnam;
- a proposal for the future orientation of social forestry education and training in Xuan Mai Forestry University (to focus on new subjects such as Introductory Social Forestry in the forestry degree programme, to introduce a social forestry specialisation for all forestry students, and to develop short courses and refresher courses for forestry extensionists and project staff);
- suggested outlines for these training courses;
- movement towards the development of a coherent system of social forestry education and training in Vietnam, especially through increased partnerships and linkages between organisations and institutions.

This was not the only effort made with TNA in SFSP. In 1998, at the beginning of phase 2 of SFSP, a large component of the PCD training with university and forestry extension staff centred on the identification and analysis of training needs for forestry education programmes, paying particular attention to social forestry. University teachers received training in the basic processes of developing a TNA, and then carried out a TNA themselves with support from SFSP advisers. Teachers and extensionists were responsible for conducting the survey, but many other stakeholder groups, including government officials (extensionists, forest protection staff, staff of forest enterprises, teachers in other departments and in other institutions), students, farmers, community workers and staff of projects implemented by NGOs and GOs, contributed information through interviews, group discussions and the use of participatory research methods.

Stakeholders participated in the process from the first steps of investigation and survey based on task analysis, to the stage of information analysis and synthesis, in order to identify the gaps in knowledge, skills and attitudes that needed to be addressed.

Farmers and local community members are often involved intensively during situation analysis and training needs assessments for PCD.



University teachers received training in the basic processes of developing a TNA, and then carried out a TNA themselves with support from SFSP advisers.

The information gathered through surveys was supplemented by other primary data from research studies and consultancies carried out by staff, for example from curriculum evaluation, topical Participatory Rural Appraisals (PRAs) and from new experiences in Participatory Technology Development (PTD). Secondary data was also used, from reports of other research studies and surveys in Vietnam. Eventually, the data collected was sorted and categorised. Finally, at a feedback session, the knowledge, skills and attitudes identified during the TNA were presented at a feedback session to all those who were involved in the TNA exercise, for their comments, validation and suggestions with regard to prioritisation of curriculum development activities.

Examples of participatory needs identification from other Helvetas projects

Sri Lanka – for training of trainers in sustainable agriculture through wide-ranging discussions with main stakeholders, field surveys and DACUM (“developing a curriculum”) workshops.

Kyrgyzstan – for training of “future farmers” (men and women), through PRA exercises and development of job profiles.

Lesotho – needs assessment and “gap analysis” involving as many stakeholders as possible, followed by focus group discussions of results.

Bhutan – for training of government technical staff in agriculture, forestry and animal husbandry, through job/task/skill analysis and analyses of student target groups.

Nepal – feasibility studies to assess local needs and the capacity of trainees were carried out before any training was initiated in the Nepal SKILL programme.

Two approaches have been used side by side during PCD in SFSP:

- *development of curricula by individual university faculties, involving local stakeholders, and*
 - *development of curricula by collaborative groups of teachers from different universities.*
-

4. Development of curriculum frameworks (within the wider curriculum)

Two approaches have been used side by side during PCD in SFSP: development of curricula by individual university faculties, involving local stakeholders, and development of curricula by collaborative groups of teachers from different universities. Both approaches have been very valuable grounds for learning.

Individual faculties

As a result of the ongoing reviews of the forestry degree programmes mentioned above, each university forestry faculty embarked on a programme of curriculum development. The most ambitious programme is that of Xuan Mai Forestry University, where a “major” in social forestry is under development. To develop a new social forestry specialisation and major, different stakeholders were invited to participate in formulating strategies and designing curricula as well as compiling teaching materials. In the national social forestry training needs assessment, participants in interviews and training needs analysis were from different sectors, different fields and different development projects. The objectives for each training course or subject were determined by the analysis of tasks and

gaps in knowledge, skills and attitudes among current forestry workers in different types of employment. Subject objectives, content, methods and suitable teaching materials were identified on the basis of the stakeholders' requirements and feedback.

The other four forestry faculties have also developed new curricula. There was a pressing need for this, as in some cases curricula were being used which had been developed elsewhere. Some curricula had been transferred directly from other countries, proving useful as a stop-gap measure where there was a lack of experienced teachers and certain concepts were very new. But since many teachers had not been through the process of developing curricula themselves, they had taken on a rather passive role, simply transferring information. Being part of PCD meant a much greater and active involvement educationally, and hence a much more formative learning experience.

Collaborative PCD

One drawback observed during SFSP2 was the tendency for each university faculty to develop its own curriculum and teaching materials in isolation from other faculties, even in basic subjects such as "Introductory Social Forestry". It was agreed between SFSP partners that it was important to promote a greater degree of collaboration, both in learning about PCD and in applying what had been learned through joint creation of educational products (curriculum frameworks, learning materials, detailed content in workbooks, etc.). There were several reasons for this. Firstly, it was clear that many of the concepts and principles were so fundamental that they needed to be included in the curriculum of each university. Secondly, collaboration could provide an opportunity to feed stakeholder views and input gathered by each WPI through TNAs, field research, workshops and other events into the overall curriculum development process. Thirdly, given the scarcity of experienced social forestry teachers in some universities, collaboration would enhance the sharing of critical human resources.

Based on the outcomes of TNAs, working teams, with participation of teachers from different universities, developed curriculum frameworks for four subjects, including subject name, justification, objectives, and topic order. They then went on to develop detailed content, time, teaching methods, teaching materials, etc. Specific plans were defined to provide for practice and a practical training course for each subject or for the whole course.

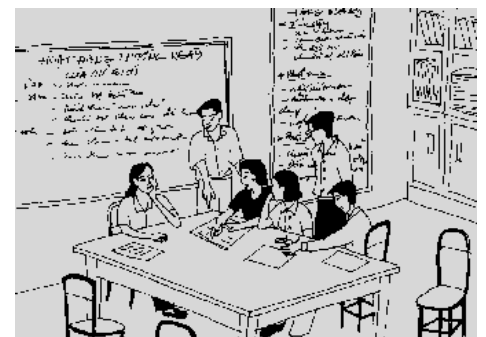
5. Develop detailed curricula

Teachers were trained in basic educational methodologies, including the writing of objectives and lesson planning. These methods were quite new to the majority of teachers, who previously had merely prepared lectures to be delivered using a chalk and talk approach. Great emphasis was placed on the need to move from a "teaching" approach to a "learning" approach. Since forestry education and training requires learning of skills and attitudes as well as knowledge, teachers were encouraged to move beyond a merely theoretical approach. Preparation of learning objectives

Being part of PCD meant a much greater and active involvement educationally, and hence a much more formative learning experience.

Given the scarcity of experienced social forestry teachers in some universities, collaboration would enhance the sharing of critical human resources.

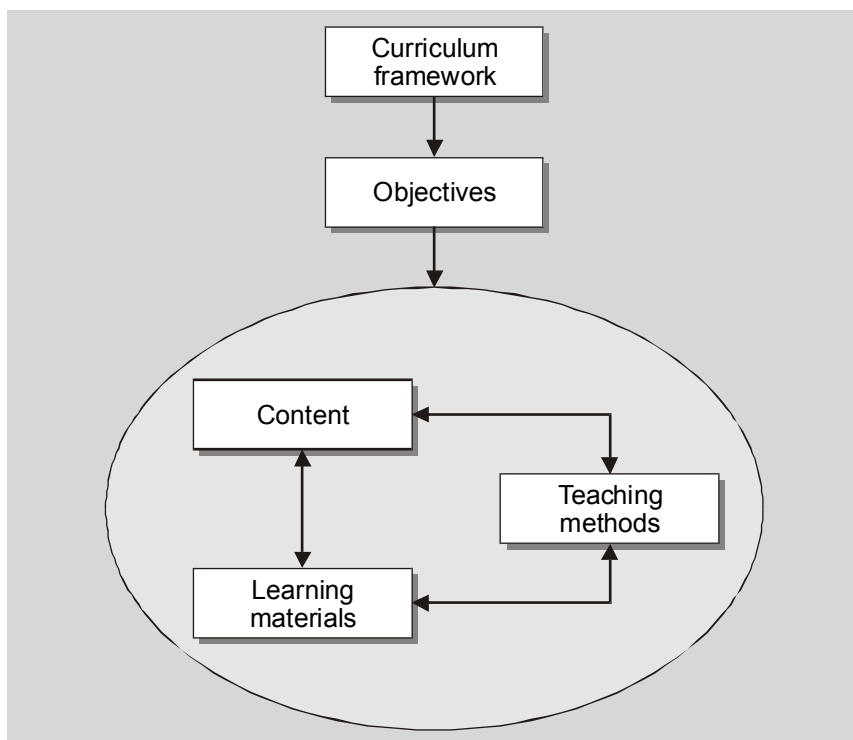
Collaborative development of the curriculum framework.



Developing the detailed curriculum.



Great emphasis was placed on the need to move from a "teaching" approach to a "learning" approach.



was key to this, since teachers now had to go back to the results of the training needs assessments on the one hand and, on the other, had to think about the future behaviour of graduates once these began to work in the forestry profession. Emphasis was also placed on the adult learning cycle (Kolb, 1984) which requires teachers to provide relevant experiences for learners and to base new learning on existing experiences. Thus an important link was established between the objectives of the curriculum, the detailed content, and teaching and learning methods and materials. The importance of alternative teaching and learning methods and materials now became obvious, and particular support from the programme was needed in these areas (see steps 6 and 7 below).

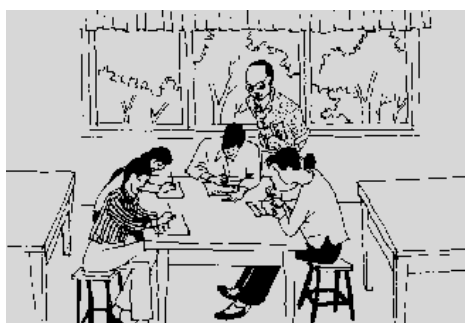
Peer learning has been one of the greatest forces for professional development throughout SFSP, and it is likely to remain a highly sustainable practice beyond the life span of SFSP.

A significant and encouraging discovery in the last two years of SFSP2 was that some teachers were beginning to write learning objectives for subjects other than those directly included in SFSP, having become convinced of the value of this method. Preparing well-written objectives is not easy, of course, and it takes time for teachers to sharpen their skills. The collaborative approach was very useful since teachers who had increased their capacity to develop detailed curricula were now in a position to share their knowledge and skills with other less experienced colleagues. Peer learning has been one of the greatest forces for professional development throughout SFSP, and it is likely to remain a highly sustainable practice beyond the life span of SFSP.

Active learning - students in the field on practicum.



Group activities in the class.



6. Learner-centred teaching methods training (TOT)

Support for the development of participatory strategies for teaching and learning constituted another strand of activities within SFSP, thus ensuring that the PCD process extended to the curriculum implementation phase. It was recognised that teachers and trainers needed to use much more learner-centred teaching methods. Teachers have received training and support in the use of learner-centred teaching methodologies such as group work, visualisation, making presentations, and making use of case studies and role plays. But learning how to use such methods and actually applying them in practice are two different things. Some teachers found it difficult to introduce these alternative methods due to large class sizes, poor facilities and the unwillingness of students to co-operate in a style of teaching and learning which might reduce the amount of content dealt with in a lesson. In many cases, however, teacher confidence was the most critical factor, and there was a clear need for concentrated, classroom-based follow-up support for teachers as they began to develop and utilise learner-centred teaching methods. A programme of classroom observation was initiated, to be followed by the establishment of teacher

“quality groups” to support innovative practices in the classroom through constructive non-threatening criticism.

7. Learning materials development training

An important need for university forestry teachers was the capacity to develop, and utilise effectively, appropriate teaching and learning materials. A participatory approach was adopted within SFSP for the development of a range of teaching and learning materials which, until recently, have mainly taken the form of rather rigid “textbooks”, often outdated since their revision was time-consuming, subject to a complex bureaucratic process, and costly. Training was provided in basic concepts of the use and development of learning materials, followed by more hands-on training in learning materials production. As a result, examples of innovative learning materials now being produced include teaching notes, case studies, project outlines, guidebooks and manuals, all of which will have to be used in combination with alternative strategies for teaching and learning. The intention is to encourage teachers from different universities and external persons who have relevant academic and practical experience in specific subject areas to collaborate in the production of these materials. In certain cases, SFSP has also supported the improvement of teaching facilities, which will enable teachers to introduce new methods and materials more easily and effectively.

8. Testing of new/revised curricula

New curricula and learning materials were tested in teaching at all universities. It was critical to avoid the production of costly, “finished” textbooks as this would hinder the establishment of a continuous, dynamic and flexible PCD process. Instead, new materials were copied and distributed in loose-leaf ring binders. This encouraged teachers to adapt and change the content, helped by feedback provided by students and other stakeholders invited to comment. The evaluation process is described in the next step.

9. Refine PCD evaluation system

Monitoring and evaluation are closely linked with all aspects of PCD. Ideally, they are done at an early stage of the process, even during the early awareness-raising workshops. Training in evaluation, particularly in the Context, Input, Process, Product (CIPP) methodology, was provided during SFSP2, and teaching groups developed their own evaluation methods which helped provide feedback on new and revised curricula. Teachers also considered the issue of student assessment, and some “question banks” are now being established collaboratively.

For overall evaluation purposes, a range of stakeholders, for example project managers, university-graduated staff, farmers and agricultural and forestry extensionists, participated in the evaluation of each subject and of the training courses. By the end of each course, students and trainees were asked to evaluate objectives, content and teaching methods. The evaluation results were very useful to the process of improving the subject curriculum, showing the importance of different stakeholders as providers of feedback information.

Support for the development of participatory strategies for teaching and learning constituted another strand of activities within SFSP, thus ensuring that the PCD process extended to the curriculum implementation phase.

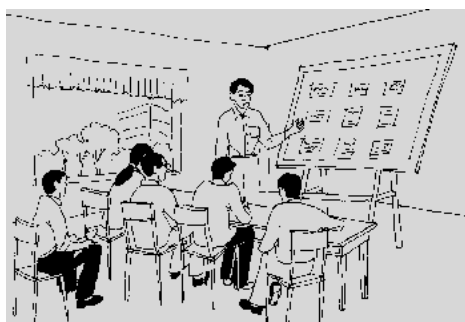
An important need for university forestry teachers was the capacity to develop, and utilise effectively, appropriate teaching and learning materials.

Developing learning materials.



It was critical to avoid the production of costly, “finished” textbooks as this would hinder the establishment of a continuous, dynamic and flexible PCD process.

Curriculum evaluation should involve different stakeholders; e.g. farmers, teachers, local authorities, students.



A specific curriculum evaluation workshop was organised in spring 2001, as an opportunity to bring all university collaborative subject groups together to discuss progress with the PCD process. This followed a "PCD retreat" in which a small group of SFSP partner representatives came together to discuss the PCD process as well as outcomes (some of the findings of that event influenced the final chapter of this document). Each university held an internal meeting before the workshop to discuss the findings of their evaluation based on inputs from different stakeholders; the results were submitted to the workshop for consolidation. The findings of each university were shared with other subject group members and each group developed a plan of action with regard to the revision of the workbook and learning materials. In addition, a discussion was held on ways to improve the delivery of the new subjects in each university by sharing experiences from a series of teaching methodology training and coaching events provided for teachers of all five university partners of SFSP. The discussion also included the actual experience of teaching in the classroom.

Although the evaluation did identify many strengths of the forestry education programmes, there were some areas where improvement was needed. For example:

- The quality of the content of the courses needed to be improved, and in some cases topics or material had to be added or eliminated.
- Teaching processes and methodologies varied in quality, and there was a need for improvement, particularly in more learner-centred approaches.
- Learning materials required improvement, both in terms of quality, range and quantity.
- Organisation of the practical training course needed to be improved, and in some cases several subjects could be effectively combined in one practical course. The associated learning process also needed to be enhanced.

Monitoring and evaluation of PCD in other Helvetas projects

Nepal – in the SKILL programme, follow-up monitoring and evaluation studies are conducted to survey how year or trade group trainees fare in the job market, the degree of employer satisfaction with the trainees' work performance, and any needs that might necessitate upgrading the process; training courses are also subject to pre-, mid-term and retrospective evaluation. Training review workshops are organised annually to obtain feedback from trainees, local partners and service recipients.

Nepal – the SSMP programme has a built-in system of monitoring and evaluation of its training modules. An "expectation" analysis of the trainees is conducted at the beginning of each training course, followed by a post training evaluation for all types of training. Feedback obtained through evaluations and interactions with the stakeholders, together with recommendations and suggestions, are collected and analysed in a workshop in which programme collaborators participate. Appropriate changes and modifications are then made to the curriculum content.

Lesotho – at the end of each week’s training for the Rural Water Supply sector, the participants evaluated the content, methods, venue and tutors. The training unit summarised the major findings and communicated them to the respective trainers. At its conclusion, each training set was reviewed and discussed by the trainers, leading to improvements in content and approach.

Kyrgyzstan – the AVEP project developed an experience recording system allowing the systematic recording of activities and achievements which can be used formatively and for impact assessment, as well as for dissemination of experiences to other stakeholders.

A draft monitoring and evaluation system for PCD in university forestry education was developed with a view towards improving it and creating a basis for testing the system at university level. It was subsequently used as the basis for the development of an experience recording system for the Helvetas Agricultural Vocational Education Project in Kyrgyzstan (July 2001). This is an interesting example of the “transferability” of elements of the PCD approach between different contexts, bearing in mind, of course, that local adaptation is always of great importance.

<i>Principle</i>	<i>Key elements</i>	<i>Experience records to be kept</i>
1. Curriculum development is a continuous learning process for the school.	<ul style="list-style-type: none"> ■ The participatory M+E system is established, revised and updated as required. 	<ul style="list-style-type: none"> ■ Each school sets up a central database (paper system) to maintain records of process and outputs related to curriculum development and teaching of experimental classes. ■ One staff member is given the responsibility of managing the database. ■ The database is regularly updated. ■ The database is reviewed on an annual basis and improved if necessary. ■ The school organises a review of progress (“reflection day”) with regard to the new curriculum at the end of each semester. In the first semester there should be an additional reflection day at mid term. Emphasis will be placed on processes as well as products. Participants will include all teachers involved in teaching experimental classes, plus all members of the School Advisory Committee. The findings of the review are to be recorded and filed in the school.
2. An enabling and equitable institutional environment supports implementation of new curricula.	<ul style="list-style-type: none"> ■ Gender balance in PCD activities. ■ Composition of teacher group involved in PCD (“young” / “older”, experienced/less experienced). ■ Adequate resources (time, people, facilities) for PCD and teaching new curricula are committed by institution on a continuous basis. ■ Key stakeholders influence PCD process and outcomes. 	<ul style="list-style-type: none"> ■ Central record kept of names, ages, gender, place of origin of students attending experimental classes. ■ Central record kept of names, gender, age, years of experience of teachers involved in development and teaching of experimental classes. ■ Central record kept of facilities, equipment, additional funds and time (timetables) allocated for use in teaching experimental classes. ■ Central record kept of names, gender, occupation and place of origin of external stakeholders who participate at different stages of curriculum development activities with the school.

PCD should be a continuous and open-ended process. It is not limited to the life of a project such as SFSP, which is an intensive programme. Continuous stakeholder involvement in the development of forestry curricula is a critically important factor.

10. Maintain process of PCD

PCD should be a continuous and open-ended process. It is not limited to the life of a project such as SFSP, which is an intensive programme. Continuous stakeholder involvement in the development of forestry curricula is a critically important factor.

Examples of involvement of different stakeholders in SFSP-PCD:

<i>Stakeholders/Types</i>	<i>Functions and Contributions</i>
<i>Stakeholders in training institutions</i>	
Curriculum developers	Designing curriculum Writing lectures
Teachers of subjects	Participating in writing lectures Teaching
University training managers	Managing Monitoring
Students	Evaluating training
<i>Stakeholders outside training institutions</i>	
Researchers	Consulting the content Participating in teaching
Policy makers (Officers of Policy Department of MoET and MARD)	Participating in curriculum design
Project managers (Managers of rural development projects)	Participating in training needs assessment Designing curriculum
Training managers at ministerial level	Control Approving
Trainers at high schools and technical vocational schools	Participating in training needs assessment Designing training courses Evaluating training courses
Agricultural and forestry extensionists	Participating in teaching material development Participating in training needs assessment
International and non-governmental organisations in and outside Vietnam	Consulting Signing training contracts Participating in training course design
Sponsors	Linking Co-ordinating activities
Farmers	Providing information Participating in research activities
Graduates	Evaluating training courses

Many of the stakeholders listed in the above table are potential employers of university graduates (for example, universities, schools and training institutions, research institutions, projects, extension departments, GOs and NGOs, state forest enterprises). A small number of university graduates may become farmers. Private business in the forestry sector has so far been slow to develop in Vietnam and does not yet have a clear role to play with regard to forestry education, but this may well change in the future. The situation illustrates the need for constant monitoring of the overall context in order to assure that, at any given moment, the full range of potential stakeholders is identified.

Different strategies were developed to maintain the involvement of external stakeholders. Outsider and insider stakeholders were invited to occasional review meetings at which curriculum development progress reports were presented, and also to training events during which draft curricula were prepared. Stakeholders representing groups targeted for training were then in a position to provide direct input to the curriculum planning process, with advice on effective timing and location of training and on the selection of potential participants, and, where feasible, with regard to the aims, objectives and content of training programmes.

Researchers, project managers and policy makers were mobilised to participate in teaching or the exchanging of experiences in certain course subjects. For example, subject groups were formed who then carried out specific training needs assessments. Stakeholders were invited to comment, either in a written format or through small workshops, on the draft curriculum frameworks and the detailed content. Some stakeholders with particular expertise were invited to give guest lectures to students. For instance, the social forestry specialisation course at the Xuan Mai Forestry University involved teachers from agriculture universities, agriculture high schools and project experts in teaching and instructing students during the preparation of their graduation theses. All five universities offering forestry degree programmes were involved in conducting the field surveys and in the process of data consolidation and validation. One of the spin-offs from this process was increased opportunities for personnel from the different universities to interact, to get to know one another better and to share professional experiences.

An important result from this accelerated process of interaction was the strengthening of an emerging social forestry training network, which is currently centred in these five universities. The member institutions directly exchanged experiences and results of curriculum development. This network has also created favourable conditions for information exchange and sharing with other organisations in and outside Vietnam. It is likely that, in the future, this network will be strengthened, particularly at the local level, to ensure functional linkages between universities and organisations such as extension centres, mass organisations, and research institutions engaged in forestry-related activities in their local area. The increased capacity of individuals and teams from universities to plan and provide more effective training and input in rural appraisal, human resource training and technological development has been recognised, resulting in increasing recruitment of external contractors by various organisations. This has helped link outsider organisations with the training activities of the universities and has thus provided another opportunity for joint learning through new types of experience.

To conclude, a wide range of training and support has been provided to the Working Partner Institutions in SFSP, demonstrating that while PCD brings important benefits, it also requires considerable effort on everyone's part.

Stakeholders were invited to comment, either in a written format or through small workshops, on the draft curriculum frameworks and the detailed content.

An important result from this accelerated process of interaction was the strengthening of an emerging social forestry training network, which is currently centred in these five universities.

PCD training and support provided to Working Partner Institutions during SFSP

Training in...

- Basic concepts and methods in PCD
- Training needs assessment
- Curriculum evaluation
- Short course development
- Setting objectives in curriculum design
- Learning materials development
- Learning materials production
- Facilitation skills for rural development
- Learner-centred teaching methods
- Study tours
- Content specific training, for example in Participatory Land Use Management, Community Forestry, Training of Trainers, Agroforestry, Participatory Watershed Management, PRA, and PTD.

Support provided to...

- Training needs assessments
- Institutional curriculum development through stakeholder participation
- PCD collaboration; subject groups develop, implement and evaluate social forestry curricula jointly
- Attendance at relevant workshops, meetings and conferences
- Development of training strategies and plans
- Undertaking “contract” training for external organisations
- Building linkages with relevant organisations and institutions in Vietnam and the SEA region
- Complementary activities (including training where appropriate) in research, documentation, information exchange, HRD, organisational management, communications, gender strategy development

(Taylor, 2000)

Other Helvetas experiences related to PCD

3.1 Helvetas experiences

In this document, the main focus, especially in the previous chapter, is on the SFSP in Vietnam. However, a number of other valuable experiences in the use of a PCD approach have derived from Helvetas programmes in other countries, including Sri Lanka, Nepal, Lesotho, Bhutan and Kyrgyzstan. Highlights from some of these experiences are described in this chapter.

3.2 Sri Lanka - curriculum development for training of trainers in sustainable agriculture

Background

This activity was undertaken by a Helvetas co-ordinated network concerned with ecological and sustainable farming. The network consists of organisations involved in the promotion of different kinds of sustainable farming systems, in different agro-climatic zones in Sri Lanka. The target group of the TOT was agricultural trainers, co-ordinators and agricultural field officers. The need for capacity building of trainers in sustainable agriculture was first identified during an assessment done in 1997 by Helvetas Sri Lanka, with a view towards increasing its contribution to one of the working areas dealing with sustainable use of natural resources in that country. The need for capacity building was acknowledged by main stakeholders in the sector of sustainable agriculture at a discussion in the latter part of 1997.

Curriculum development approach and process

A participatory approach was used for curriculum development, involving ten main steps:

1. Identifying training needs of network members and expectations/requirements of Helvetas.
2. Setting objectives of the proposed training program in accordance with needs analysis by discussions among stakeholders, supported by training of trainers in communication, instructional and planning/demonstration skills.
3. Conducting "street research" (exclusively by field visit and observation in the field) on functions of organisations and trainers, existing and anticipated tasks of trainers in sustainable agriculture, identification, selection and orientation of panel members for a DACUM (Developing a Curriculum) workshop.
4. Conducting DACUM workshop (identifying areas of responsibility - duties and tasks - by occupational analysis; traits and characteristics of trainers; tools, equipment, entry qualifications and the occupation's prospects for the future.

5. Conducting “verification” workshop.
6. Analysis, categorisation and reporting of verified data/information.
7. Selecting areas of responsibility (based on tasks and skills) for training and grouping them into modules for curriculum.
8. Developing objectives of the modules and of the tasks/competencies with the aim of improving instructional and communication skills of learners.
9. Deciding content of modules, developing and selecting topic/contents.
10. Preparing curriculum guide, including training methods, materials, human resources, evaluation methods and time needed for each topic and related module.

Key outcomes/lessons learnt

The curriculum development process led to the preparation of a curriculum guide with six selected modules. This was used in the planning and implementation of the first training of trainers in sustainable agriculture. The last event of this TOT was a practical demonstration and presentation by trainees on their chosen topics, to evaluate the trainees’ performance before farmers, simulating a real job situation. The performance of the trainees was evaluated by a panel of professional trainers. The trainers subsequently provided the trainees with feedback on their performance. The TOT, resulting in the training of twelve trainees, exclusively focused on skills improvement of trainers/instructors in sustainable agriculture and thus guided the trainees towards working systematically and effectively in their job. The performance of instructors should be improved to the point where they can effectively pass on their know-how. A post-TOT evaluation of the same group of trainees is to be held in the field. The materials prepared for the first TOT can be used for subsequent ones, reducing the cost for material resources.

3.3 Nepal – participatory curriculum development in the Sustainable Soil Management Programme (SSMP)

Background

The SSMP supports selected GOs, NGOs and farmer organisations to operate as Collaborating Institutions (CIs) in implementing sustainable soil management. The purpose of SSMP training is to build and strengthen the technical and methodological capacity of its CI partners in various aspects of SSM techniques. There are three tiers of target groups for which the training is conducted. In a first tier, SSMP PSU staff and subject specialists (resource persons) train intermediate level, non-technical and technical personnel of its CI partners. CI personnel then diffuse the training to leader farmers within the project area, who in turn pass on the techniques to group farmers. SSM activities are often integrated with other social programmes of NGO CIs. About 50% of the farmers involved are women. CIs diffuse the SSM training to leaders and group farmers in villages and actual farming locations.

The TOT exclusively focused on skills improvement of trainers/instructors in sustainable agriculture and thus guided the trainees towards working systematically and effectively in their job.

Curriculum development approach and process

Subject specialists (resource persons) and Programme Support Unit (PSU) staff together designed the initial curricula of the training modules, based on available subject literature and personal experiences of the team members. The curricula are primarily focused on the main objective of SSM through improved soil organic matter management, and designed to accord with prevailing farming practices.

The first drafts of the initial curricula contents are discussed and analysed with relevant CI partners and other stakeholders. Suggestions and recommendations are incorporated into the curriculum before conducting a field test by the CIs. Feedback from field tests involving leaders and group farmers (end-beneficiaries), together with the experience of the implementing CIs, is analysed, and appropriate changes are made in the curricula. In view of the long duration required for participatory curriculum development for a programme of this nature, SSMP's training modules are considered to be still at the testing stage and are intentionally being kept open to ongoing modification.

SSMP has a built-in system of monitoring and evaluation of its training modules. An "expectation" analysis of the trainees is conducted at the beginning of each training programme, followed by a post training evaluation at the end for all types of training. Feedback obtained through evaluations and interactions with the stakeholders, together with recommendations and suggestions, are collected and analysed in a workshop attended by PSU staff and CI partners. Appropriate changes and modifications are then made in the curriculum content.

Key outcomes and lessons learnt

Long-term sustainability with short-term gains: In order to be attractive to the farmers, projects of this nature, where the long-term benefits can be appreciated only after a number of years, need to be well balanced between the two goals of promoting longer-term improvement in soil properties and short-term soil productivity gains. Attention must be paid to a combination of SSM practices with technologies that ensure a high return on present investments. CIs are required to link the promotion of better soil management with support for better food crop management and/or for the introduction of cash crops into their projects. SSMP training is sensitive to these realities.

"Complementary" training modules: Imparting technical know-how alone is not sufficient. Training and facilitation skills, social awareness in terms of gender and other issues, and PME techniques for managerial competence are equally important as "**complementary**" measures for successful implementation of the programme, its evaluation and impact assessment.

Heterogeneous trainees: CI trainees come from different social strata with varying academic skills, some with very little or no technical background. This makes it difficult for instructors to collate the methods of instruction, possibly affecting the level of knowledge gained by the trainees, and their

Imparting technical know-how alone is not sufficient. Training and facilitation skills, social awareness in terms of gender and other issues, and PME techniques for managerial competence are equally important as "complementary" measures for successful implementation of the programme, its evaluation and impact assessment.

capacity to pass it on to the leader farmers. In turn, this sometimes creates imbalance in programme implementation work and affects the monitoring and evaluation processes.

Resource persons: There are no resource persons who by themselves are competent to effectively cover all the different modules of training, technical as well as non-technical. Training and facilitation skills and specific capabilities differ from one instructor to the other, and this sometimes results in some of the training being stronger in certain modules than in others.

Material support: Training and facilitation material (e.g. handouts and teaching aids), external agricultural input materials (e.g. seed and saplings) and agricultural tools are sometimes not available in sufficient quantities for training and demonstration purposes.

Multiple tiers: Because of the large number and geographical distribution of end beneficiaries (farming households scattered throughout the mid-hills and *terai* regions of the country), as well as the number of training modules, a considerable number of resource persons, instructors and CI intermediaries are needed to reach them. The intermediaries are structured in three tiers (CIs - leader farmers - group farmers). The longer the chain of communication, the greater becomes the risk of distortion – both ways. A special effort is necessary to monitor actual implementation at the field level and to ensure the feedback of opinions and ideas from the end beneficiaries themselves.

The longer the chain of communication, the greater becomes the risk of distortion – both ways. A special effort is necessary to monitor actual implementation at the field level and to ensure the feedback of opinions and ideas from the end beneficiaries themselves.

3.4 Nepal – Skill and Know-how Imparted at Local Level (SKILL Nepal)

Background

The purpose of SKILLs training curricula is to impart market/demand oriented skills and know-how to the economically weak, unemployed, school dropout youth in rural and urban settings, enabling them to apply the acquired skills and earn a living in self-employment or by other means **immediately after the training**. SKILL works through local partners, e.g. youth clubs, NGOs, DDCs, VDCs and municipalities, to organise and co-ordinate the training and follow-up activities. Training is in vocational skills (electrical, leather work, plumbing, mechanics, haircutting) and lasts from two weeks to three months, depending on the trade. All training is conducted virtually “hands on” with groups of ten to 25 trainees. This includes a period of practical work experience in their locality. Since its inception, SKILL has organised a total of 134 training courses in 40 districts with 96 partners for 1960 trainees in 14 trades.

Follow-up training to upgrade previously acquired skills is conducted according to need and demand, through separate advanced training packages. By franchising the SKILL label, SDC and Helvetas are together exploring ways of replicating and further developing this well proven approach, focusing on the promotion of intermediaries capable of delivering quality mobile training that leads to (self-) employment.

Curriculum development approach and process

SKILL Nepal has adopted a built-in mechanism for adapting, assessing and evaluating each of its training programmes before, during and after it occurs. Critical attention to trade-specific criteria is paid in conducting a feasibility assessment of the locality and the market, in selecting local partners and in the final screening of the trainees. Instructors go to the training venues and live and work with the trainees for the full duration of the training. Review meetings on the regional and central level, follow-up monitoring and tracer studies are carried out long after the training programmes are completed.

Key outcomes and lessons learned

Broad-based, market-oriented flexible training packages have been developed in each trade. These packages allow for basic skill training as well as training in selective ***sub-skills*** of the same trade to suit the need of the locality and make the trainees more productive and marketable. After several training reviews, training packages in basic and sub-skills of some trades are more or less ***“standardised”*** while maintaining flexibility. This has greatly reduced the time required for preliminary work, delivery of the training, and monitoring and evaluation work.

A comprehensive feasibility assessment (market needs and demands, prevalent technology in the specific locality, etc.) and interactions with local partners, potential trainees and service recipients are necessary to plan and focus the training to meet the greatly varying needs and expectations. A built-in system of monitoring and evaluation at the beginning, during and after the completion of the training helps to collect fresh feedback from the trainees and local partners. Follow-up monitoring and tracer study/impact assessment are necessary from time to time to gain a post-training perspective. Feedback, suggestions and ideas from local partners, trainees and all other stakeholders must be adequately represented and considered at the time when a critical self-appraisal (training review workshop) is made. (The physical presence of stakeholders may not be required or possible.) The findings of this workshop are used to adjust existing curricula and teaching methods.

The concept of mobile training, where the instructor is required to live and work with the trainees for the entire duration of the training, greatly enhances the chances that the training and methods of instruction suit local realities. Instructors who actually conduct the training in the field for end-users (trainees) should be the ones involved in designing and modifying the training packages (curricula, lesson plans, methods of instruction) for skill training programmes. The training packages or curricula need to be broad-based and flexible, allowing the instructors to also give training on selective ***sub-skills*** of a trade most suitable to the market of a specific locality. A rigid or fixed training package is not suitable.

It is not always necessary to seek academic “official” recognition for SKILL-trained graduates to find employment. Though not “official”, SKILL certificates are recognised and widely accepted on their own merit as certification of a well qualified worker.

The concept of mobile training, where the instructor is required to live and work with the trainees for the entire duration of the training, greatly enhances the chances that the training and methods of instruction suit local realities.

3.5 Lesotho – experiences from the rural water supply sector

Background

The purpose of Human Resource Development (HRD) and capacity building at DRWS is to help individuals acquire specific skills required to achieve long-term organisational objectives. DRWS does not train and educate people for the job-market. Rather, it considers its interventions and investments in HRD and capacity building as a means to achieve organisational objectives. HRD and capacity building are aimed at improving management of the organisation in general and the service delivery at the district level in particular. The development of an organisational strategy for DRWS and revised production procedures at the district level required new or additional skills and knowledge as well as changed behaviour and attitudes on the part of the district team members. This led to the development of a concept of Work Process Training (WPT) as part of the approach to human resource development.

Curriculum development approach and process

HRD and capacity building at DRWS take a variety of approaches, from formal, long-term scholarships, to focused short courses and on to specific one-day or longer courses, developed and run in-house. The Work Process Training approaches at DRWS did not include a set curriculum in the strict sense. Although there was a training unit available at DRWS, the sequence of training activities, content, methods, training materials and tools was elaborated by the same team that was responsible for developing the procedures. Efforts were made to involve as many people in the organisation as possible, hoping to instil a sense of ownership in the organisation's staff. Although the expected widespread support did not materialise, and decisions about the design of the training material and its content were mostly taken at the central level, district engineers and staff of the Village Affairs Unit, Technical Unit, Contracts Unit and others did get involved in the design of the training programme. The organisational and logistical lead was given to the Training Unit, which ensured that all materials conformed to the same standard. The Training Unit supported the various trainers and instructors in the design and development of the necessary teaching aids and their use during the training.

The development of the training courses was approached in a pragmatic way. Training needs assessment and a subsequent gap analysis were conducted at an informal level by involving as many stakeholders as possible. Results were discussed by a number of smaller groups, mainly supervisors of the individuals targeted for training and representatives from the relevant Head Office Units.

Broad participation was sought during the initial stages of designing the intervention. As all participants were undergoing on-the-job training, the six-week training cycle was structured to alternate weekly between classroom and field. This way, the trainees had the opportunity to apply the newly acquired skills while the trainers could coach them. At the end

Efforts were made to involve as many people in the organisation as possible, hoping to instil a sense of ownership in the organisation's staff.

of each week of training, the participants evaluated the content, methods, venue and tutors, and the training unit summarised the major findings and passed them on to the respective trainers. At the end of each full training course, the trainers conducted a review, and improvements in the content and approach were discussed and adopted.

Key outcomes and lessons learnt

The experience has shown that greater efforts should have been made to bring DRWS senior management and other levels of the organisation into the process. This would have given the effort additional identity and clout, especially had decision-makers and managers of DRWS been fully on board. Support for those involved in the implementation of the training would have been enhanced, and the staff members would have been encouraged to participate more actively in the process. The needs assessment made at an early stage and the subsequent gap analysis supported the development of the training materials and ensured a focus on the skills and knowledge most needed. The sequencing of the modules (alternating weeks of training and field work) was effective, but the trainees would have benefited from more time to practise the acquired skills and knowledge. This would also have given the tutors more time for specific follow-up and coaching sessions.

Where new procedures - and particularly changes in behaviour and attitudes - are sought, training alone is not enough to reach objectives. Training should not be seen as an end, but a means to achieving the organisational objective. The changing of behavioural patterns is a long-term undertaking which, to be successful, needs to be continually monitored and re-enforced. It became obvious that it is necessary to look beyond training by establishing a coaching and mentoring period to follow the training.

Training should not be seen as an end, but a means to achieving the organisational objective. The changing of behavioural patterns is a long-term undertaking which, to be successful, needs to be continually monitored and re-enforced.

3.6 Kyrgyzstan – the Agricultural Vocational Education Project (AVEP)

Background

AVEP started in Naryn Oblast to support the Kyrgyz partners in adapting the existing agricultural vocational education system to the new reality of the private market economy, so that it would eventually provide both male and female graduates with the necessary skills to manage their private farms and thus help increase Kyrgyz farmers' income. AVEP plans to introduce four experimental classes in two existing vocational schools. These classes shall follow new learning and teaching approaches and new curricula, developed by the project. The PCD method ensures ownership of stakeholders as well as application of the latest findings and techniques. Other important project elements are teacher training and production of new teaching materials. The project emphasises a gender-balanced approach, practice-oriented training and the development of cost-effective and sustainable systems. Experiences gained in the project are recorded and shall later serve as reference in the reformation of the Kyrgyz Vocational Education System.

Curriculum development approaches and process

A job (competence) profile for men and women farmers was worked out on the basis of information gained from stakeholders in PRA exercises. After discussion of several options, a joint working group from the partner schools chose a vocational education system for the experimental classes. This system involves a number of innovations to be tested through newly gained experience; it was advertised to farmers who showed interest and gave promising feedback. Applications for the experimental classes far exceeded the number of available places. The curriculum was developed on the basis of competence profiles by school working groups, supported by the project team. Specially commissioned authors have developed completely new training and learning materials. A programme of capacity building of teachers and managers is proceeding parallel to the curriculum development process. A system of experience recording and communication has been developed and will be refined once it is in use. Scaling up of the approach to other schools in the Oblast is already being considered, with support from the government of Kyrgyzstan.

Key outcomes and lessons learnt

AVEP began in 2001, and some time was required to set up the project, select partner schools and recruit staff. Key outcomes are:

- training and empowerment of stakeholders, enabling them to participate in the PCD process;
- elaboration of a job profile for men and women farmers by participatory methods;
- development of a vocational education system;
- setting up of two advisory boards and a project steering committee;
- production of a project newsletter.

The involvement of different stakeholders should become more effective as their capacity to undertake new tasks and responsibilities is increased.

The start of AVEP was encouraging, with concrete results available after only a few months. A very optimistic work plan was almost fully met thanks to very motivated and committed staff and partners. The involvement of different stakeholders should become more effective as their capacity to undertake new tasks and responsibilities is increased. AVEP's emphasis is on quality of training and effective outcomes, but more remains to be understood about the reality of farming and the potentials of the market in Kyrgyzstan. AVEP will play a key role by identifying the successes and challenges of this intervention and helping the partners determine where further improvements are needed, thus assuring that appropriate action will be taken. There were not more costs involved in this case to develop the PCD process as compared to the costs of a conventional curriculum development.

3.7 Bhutan – curriculum development for the National Resources Training Institute (NRTI)

Background

The NRTI is the national training institute for extensionists and technical staff in agriculture, forestry and animal husbandry, of the Ministry of Agriculture of Bhutan. Since the summer of 1992, it has trained 400 extension agents (3-year diploma courses) and several hundred field staff in short-term courses. In addition to the training activities, NRTI offers consultancy services in the RNR sector and beyond. The institute's vision is to become a centre of excellence for services in the area of sustainable rural development. Curriculum development is a central activity in the ongoing formation of NRTI.

Curriculum development approach and process

The Ministry of Agriculture delegated to NRTI the task of testing a new concept of Renewable Natural Resources (RNR) which attempts to integrate the three sectors agriculture, animal husbandry and forestry. It was also felt that existing curricula from other sector institutions lacked field relevance. Therefore, a completely new curriculum was developed, a process involving eight steps:

1. definition of the training policy of the Ministry of Agriculture (MoA);
2. job analysis, breaking down the duties and functions of future graduates into tasks and skills;
3. evaluation of the job analysis by resource persons of the MoA and Helvetas;
4. analysis of the target groups of students;
5. definition of actual training needs;
6. development of syllabi;
7. evaluation of the syllabi;
8. curriculum development.

A wide range of different stakeholders was involved at different points in this process, which included initial workshops introducing the curriculum development process, and a serious effort to raise awareness of the RNR approach and MoA policy. The overall process was monitored on a regular basis.

The findings of the occupation analysis were broken down into the categories of job, duty (function), tasks and skills. This process led to a clearer common understanding among the staff. The results were compiled and sent to the stakeholders for feedback. The job/task/skill analysis ("what the future graduate is going to do") was submitted to several institutions for evaluation, followed by a revision. Once broken down, the required skills were transferred to the syllabus. The subsequent review aimed at integrating the comments from the stakeholders into the draft syllabus. It tried to relate the topics identified in the subject analysis with the skills from the job/task/skill analysis. Topics which could not be linked directly with at least one required skill were eliminated. Because the training duration was limited, not all selected topics could be added to the syllabus.

Key outcomes and lessons learnt

The teachers stressed their pride in having successfully developed a curriculum for NRTI all on their own, i.e. as a fully national staff without permanent external assistance. From this important achievement follow several conclusions:

Curriculum development is the result of a development process. NRTI offered the opportunity for future teachers to develop their own curriculum, and it gained full acceptance from those who were expected to put it into practice.

- Curriculum development is the result of a development process. NRTI offered the opportunity for future teachers to develop their own curriculum, and it gained full acceptance from those who were expected to put it into practice.
- The curriculum, elaborated in common, gave the school a corporate identity which can still be felt today.
- With the experience gained in that process, the teachers were mentally prepared for their future teaching task.
- The entire assignment turned into an intensive teacher training exercise.

As time went on, senior teachers were worried that the faculty members recently assigned to NRTI would no longer be aware of the background of the curriculum. The objectives of the syllabus originally included in the draft versions were subsequently lost. The contents of the various topics in the syllabus do not reflect the intensive process of job and skill analysis which took place in 1992. It was suggested that the crash course in teaching methodology, compulsory for the new teachers at NRTI, should also include these aspects and stress the point that changes in the lesson plan should not be made without good reason. It is important that the departing senior teacher's period of employment overlap with that of his/her successor. The senior teachers became aware of their "historical" responsibility only years after the curriculum development process. The development of new parts of the curriculum should be used to train the junior staff in these methods.

Two tracer studies (survey with questionnaires to all stakeholders) were conducted; of the two, especially the second led to a revision of the curriculum. Deficiencies found in this study were generally limited to specific skills, i.e. at topic level. It was therefore felt that a tracer study could not replace a thorough job analysis, but could indicate whether the activities of an extension agent had changed enough to require a new job analysis. Constant monitoring and collecting of feedback from posted NRTI graduates, farmers, and responsible representatives of the extension services was regarded as important.

There is a proposal pending that would make curriculum development a part of the consultancy services offered by the institute. The accumulated knowledge needs to be preserved, especially when considering the constant risk of loss posed by the transfer of MoA personnel to and from NRTI. To extend the informal feedback of NRTI graduates posted as extension agents in the field, NRTI plans to establish a yearly workshop focusing on the changing qualifications expected of the extension agent with regard to knowledge, skills, and methods. As in the past, all relevant stakeholders will be asked to give their personal feedback. This approach should ensure a successful continuation of NRTI's training programme.

Key issues arising from Helvetas experiences of PCD

Educational interventions may have many different costs, benefits and impacts. These are notoriously difficult to measure, either quantitatively or qualitatively, in part because beneficial developments are often dependent on a wide range of factors, and not all are related to the intervention itself. An important lesson is that evaluation of the effect of educational interventions should be carried out continuously and over a long period of time, ideally in the form of action research, and with the active involvement of all stakeholders. Indeed, the stakeholders themselves should be highly involved in the development of a system of monitoring and evaluation.

An important lesson is that evaluation of the effect of educational interventions should be carried out continuously and over a long period of time, ideally in the form of action research, and with the active involvement of all stakeholders.

4.1 Costs of PCD

PCD has been criticised for being much more expensive than more traditional approaches. This may indeed be true initially. It is, however, important to recognise that the PCD approach is in effect a long-term investment. Because it involves capacity building and institutional change, its impact may be much more far-reaching than traditional approaches. The initial costs incurred in this approach (but not in other approaches) have to do with setting up the process and establishing key systems and structures. Maintenance costs of the PCD process should, however, decrease over time, as a steadily increasing resource pool of skilled people and useful materials becomes available.

The scale of PCD will also be determined by the type of training and the context in which it is being developed. The revision of an entire university degree programme will certainly involve more stakeholders than the development of a new two-month in-service training course for forestry advisory staff, and hence costs will vary. Costs are also influenced by the terms of employment of stakeholders. In countries where wages are extremely low and working conditions poor (so that teachers, for example, must generate income through other activities), some compensation for time spent will have to be considered. Finally, a true cost analysis would have to take into account the impact of improved education and training on the effectiveness and efficiency of the workforce and, in the case of natural resources management, the ultimate effect on sustainable livelihoods of farmers and rural community members. Since PCD is still at a relatively early stage of development, such an analysis is extremely difficult, but efforts to evaluate the impact of PCD will continue into the future.

The table below compares the likely costs of a PCD approach for the development of a university degree subject in agriculture and forestry extension (A), one of the first subjects developed within the SFSP, with the costs based on the Vietnamese Government system for curriculum development. For comparison purposes, the costs are expressed in person days. However, these figures are approximate for the "official"

system, since they are based partly on a “payment by product” approach. One subject is equivalent to four teaching credits, each of which is equivalent to 15 teaching periods of 45 minutes each, and to 25 pages of written materials. For further comparison, the costs of a second university subject, biodiversity (B), developed through PCD, are also provided. Now that much initial training has been completed in SFSP, the costs for a new round of subjects developed through PCD are decreasing and are also beginning to be expressed in a similar “payment by product” system to fit the Government’s own approach. Interestingly, there is also a debate going on within the Government about raising payment for teachers in their own system, as it is now recognised that the amount allocated for curriculum development may be too little to encourage good quality curriculum and materials development. This means that over time, the cost gap between the traditional approach and the PCD approach may diminish.

Likely differences in costs associated with traditional curriculum development approaches and PCD:

<i>Activity</i>	<i>Cost of curriculum development in official Vietnam Government system</i>	<i>Cost of curriculum development in SFSP through PCD approach</i>	<i>Comment</i>
<i>1. Stakeholder involvement</i>	None	PCD awareness-raising workshops, follow-up with wider stakeholder groups, time for contribution of stakeholders, logistical costs, input by external facilitators/consultants. Subj. A: 6 person days Subj. B: 0 person days	All costs associated with this are likely to be additional to those of traditional approaches – a significant difference. Likely to be an initial outlay, however, with minimal cost later on (transferred to maintenance of PCD process).
<i>2. Analysis of context and situation</i>	Subject teachers read references and go to the field to gather information: 4 person days.	Involves interviews, workshops, meetings, training needs analysis, surveys, reports. Costs include time of everyone involved, logistics, field and travel costs, materials, communications. Subj. A: 32 person days Subj. B: 0 person days (covered during TNA for Subj. A)	Additional costs of PCD will be everything in excess of the cost of time of expert group in traditional approaches – a significant difference. Once “feedback loops” are set up, e.g., after 2-3 years, costs will be greatly reduced.
<i>3. Development of curriculum (including materials)</i>	Subject teachers write curriculum framework: 2 person days. Meeting of Scientific Council to approve framework: 10 person days.	Cost of time of stakeholders involved in curriculum development, logistics and communications costs, cost of teaching/learning materials developed, production and dissemination costs of curriculum documents, cost of training and coaching of stakeholders involved. Subj. A: 76 person days Subj. B: 46 person days	Additional costs will depend on number and range of stakeholders involved, and the extent of training and coaching required. If official system costs remain low, PCD will remain more expensive, but over time the gap between both systems may narrow.

<i>Activity</i>	<i>Cost of curriculum development in official Vietnam Government system</i>	<i>Cost of curriculum development in SFSP through PCD approach</i>	<i>Comment</i>
4. Delivery of curriculum (implementation)	Based on teaching 60 lessons (45 theory, 15 practical), according to teacher's salary. Teacher training normally 5 person days per annum.	Costs associated with a learner-centred approach to teaching or training, with implications for ratio of teacher to learners, classroom size, organisation and equipment, range and type of materials, increased practical or field-based learning. Costs of training and coaching of teachers/trainers to become facilitators of learning. Subj. A: 42 person days for teacher training; delivery of subject costs same as official government system for theory component. Longer practical course included, but this is integrated with 3 other subjects for improved effectiveness, so costs should balance with official system. Subj. B: subject not yet implemented.	If traditional approach is teacher and content-dominated with large class-sizes and little emphasis on practical or experiential learning, PCD will cost significantly more initially (implications for teacher training, resource supply and management, development and adaptation of institutional systems and structures), but decreasing over time.
5. Monitoring and evaluation	Cost of time of teachers and materials required for periodic testing of learners, analysis and dissemination of results. Part of normal salary.	Costs of setting up M&E system, involvement of different stakeholders in its application and response to its findings. Subj. A: 10 person days for setting up system and training. Actual M&E: part of normal salary. Subj. B: not yet implemented.	Initially, costs associated with PCD are likely to be significantly higher than for traditional approaches, but over time will decrease, especially as systems become institutionalised.
6. Maintenance of curriculum development process	Normal institutional costs for managing training or teaching. Part of normal salary.	Costs will depend on the scale, efficiency and effectiveness of the above activities. Likely costs will also be related to additional management and organisational interventions, possibly also some training and coaching. Subj. A: 10 person days for management and organisational training. Actual maintenance part of normal salary. Subj. B: not yet implemented.	PCD will cost more than traditional approach initially, but may equalise over time (up to 5 years). But difference should not be very significant even at start-up.

4.2 Benefits of PCD

The different Helvetas experiences described in this document are all relatively "young" as educational interventions go. While SFSP in Vietnam began as early as 1993, there were some periods of inactivity and the first four years were focused on only one institution, with a major increase in scale in the second phase after 1997. Also, the intervention in SFSP focuses on only one element of a much wider curriculum, the forestry degree programme. Even so, change within the curriculum is actually contributing to a process of much wider institutional change

within SFSP, leading to the revision of entire degree programmes, not just of certain subject areas. In the context of Vietnamese social forestry education, this change has manifested itself in the following ways:

- Teachers from within faculties and across universities regularly participate in PCD activities (basic methods training, curriculum meetings, learning material development, classroom teaching observation, curriculum evaluation).
- Senior managers and decision-makers, plus external stakeholders, attend meetings to revise entire forestry degree programmes through a PCD approach. Major curriculum changes brought about through PCD are approved at a high level.
- Teachers and students interact more regularly with farmers, extensionists, project staff and researchers through joint field-based activities supported by a range of international and national government projects.
- Teachers undertake consultancy work on behalf of external projects and organisations.
- Students undertake fieldwork in areas where external projects are active, both sides learning from each other.
- The Ministry of Education is showing interest in disseminating PCD more widely to induce other universities to introduce the approach.

It has already been stated that PCD is a long-term process, and that it is in the long term that real benefits should become evident. However, a number of benefits are already apparent:

1. Being closely involved in an innovative process such as PCD raises the prestige of institutions and individuals. Managers, teachers, students and rural community members are all seen as part of a movement towards a new, and hopefully better, way of working. This is shown in increased interest by external stakeholders (government departments, projects, individuals) in the work of university social forestry teachers. Other schools at different levels have expressed interest in learning more about PCD with a view to introducing it themselves.
2. As prestige rises and experience grows, attitudes change. Many stakeholders report changes in attitude as one of the significant benefits of PCD. Changes in attitudes are seen in greater willingness to work together, to listen, to communicate and to learn from each other. Since in many types of employment attitudinal issues are often listed as one of the main obstacles to effective work performance, this benefit is obviously of great importance. Some students are finding the new teaching and learning approach more satisfying. Farmers have requested university teachers to facilitate processes related to community and village development, and to provide technical input where extension services have previously not been available.
3. PCD yields strategic benefits. It helps bring people on board processes which they might otherwise avoid or even hinder. It increases

ownership of education and training, and starts, to the extent possible, from reality. Motivation of key stakeholders in SFSP as well as in other Helvetas programmes is very high at workshops and common learning events, both in the field and at institutional locations. Teachers in some institutions are applying the PCD approach in subjects other than social forestry and in their own time, without compensation from the programme. Educational theory and research show that increased motivation are bound to contribute to more effective learning outcomes.

4. PCD promotes the development of transferable skills, for example in management, communication, facilitation, etc. On several occasions, people mentioned that what they had learnt had helped them in their personal as well as in their professional lives. Individual teachers have developed other subjects not supported by SFSP, which build on the basic concepts and methods of PCD.
5. PCD promotes peer learning, building of relationships, and mutual trust and support. This can be observed regularly at SFSP events where stakeholders from different levels of experience and education (farmers, students, teachers, researchers, extensionists, policy makers) meet and undertake tasks together. This demonstrates that PCD must not be seen in isolation from other forms of development, but as an integral component of personal and organisational development.

4.3 Constraints to PCD

Many of the constraints affecting the introduction and the progress of the PCD approach have already been mentioned earlier in this document. The list below emphasises once more some key constraints which have been observed in Vietnam and in other countries where Helvetas has supported education and training programmes:

1. More time, resources, and hence financial input are required for PCD than would be needed if curriculum development followed traditional approaches (as shown above in the discussion on costs).
2. Bringing stakeholders together is often a complex task because of geographical separation and different types and levels of experience and knowledge of stakeholders, circumstances which make communication difficult. Vietnam, for example, is a very large country with extremely diverse social and ecological conditions. Balancing local and national needs is always difficult.
3. Communication in general is frequently a constraint, both in inter-personal terms (initiating dialogue and negotiation is often difficult), as well as with regard to physical factors such as unreliability of telephones, faxes, internet and even more traditional postal facilities, transportation problems, lack of infrastructure, hostile climate, etc.
4. Different stakeholders often have different agendas. Experience has shown that it is often most difficult to involve high-level or senior managers in participatory processes, and unfortunately these may be the very people who are ultimately responsible for decision-making.

PCD yields strategic benefits. It helps bring people on board processes which they might otherwise avoid or even hinder. It increases ownership of education and training, and starts, to the extent possible, from reality.

Different stakeholders often have different agendas. Experience has shown that it is often most difficult to involve high-level or senior managers in participatory processes, and unfortunately these may be the very people who are ultimately responsible for decision-making.

5. Although PCD does bring about change in attitude, prevailing value systems often make participation difficult. It is common to find people who, even after involvement in PCD activities, prefer the “expert” mode with a training orientation towards content and technology. They sometimes demonstrate a fear of change (due to a lack of self-confidence or because of an unwillingness to share power) and a tendency to control or deny access to information and resources.
6. Stakeholders are, by nature, a heterogeneous group. There are likely to be many differences between and within stakeholder “groups” (“farmers”, for example, are an extremely diverse group. While many lower ranking officials may find it difficult to speak openly in the presence of higher ranking persons, farmers, interestingly, do not usually have this problem). This may lead to different types of involvement in PCD, some more effective than others. Input volume and quality may differ and results, over time, will vary.
7. The more stakeholders are involved, the greater is the potential for complexity and misunderstanding, especially where lengthy chains of individuals or institutions are relied on for contributions to the process. There is always a danger that the longer the “chain”, the more likely it is that key concepts and principles (participation, empowerment, joint learning) become “watered down”, losing their rigour and spirit. Also, people move in and out of jobs. It cannot be assumed that persons who have been deeply involved in PCD activities, and in whom a lot of support and training has been invested, will continue to contribute their services and experience indefinitely.
8. Success and prestige of persons involved in PCD activities is a double-edged sword. With success usually come requests or demands for further services from the home institution, and sometimes from external organisations, which are hard or impossible to refuse. In Vietnam this has resulted in some key people (managers, teachers) spreading themselves too thinly and taking on too much, thereby reducing the impact of their efforts.
9. Many of these constraints can be overcome and even avoided through careful monitoring and through a proactive and responsive approach. However, establishing an effective M&E system is difficult, especially where monitoring and evaluation are rather new concepts, or where the need for such a system is not commonly accepted. The absence of such a system for feedback, adaptation and revision, especially in terms of quality issues, is a constraint in itself.

The more stakeholders are involved, the greater is the potential for complexity and misunderstanding, especially where lengthy chains of individuals or institutions are relied on for contributions to the process.

4.4 Factors which facilitate the PCD process

This final section is intended as a checklist for those who wish to try a PCD approach in education and training programmes. It does not draw on a specific country or context, but builds on experiences from a range of different settings and lessons learnt. Guidelines are useful for groups or individuals who are looking for ways to make a PCD approach work as well as possible in their specific setting, but they should not be seen as a blueprint, nor can it be assumed that all points apply to every context; each setting has its own unique characteristics. As more experiences of

the use and application of PCD accumulate, the checklist becomes more refined and comprehensive. It is hoped that all those who embrace the PCD approach will make their own contributions.

1. Any intervention should be based on institutional reality and the real world as we understand it. Indeed, we must endeavour to gain a true understanding of that real world by using a range of complementary methods (known as triangulation) to gain insights into policy, economic, cultural, social, environmental, ecological and interpersonal factors. This latter aspect is often overlooked, but it is in relating to others that dialogue develops, a critical element in the process of checking and reaffirming our own knowledge and beliefs. It is often tempting to aim for a "romantic" vision of where we want to go, but as one Vietnamese teacher said rather eloquently, "we should start with reality and return to reality". It is vital to build on existing experiences and achievements, and avoid reinventing the wheel.
2. Those involved in steering the curriculum development process should be prepared to be innovative and, on occasion and where possible, work outside the defined system. It may at times be important to seize "windows of opportunity"; perhaps in cases where rules and regulations do not apply too strictly or where a person in authority looks favourably on a certain amount of experimentation.
3. It is important to show positive and timely results from any intervention. People need to see some tangible benefits flowing from their efforts. By sharing results one finds out how things are working out in actual practice. Sharing results also encourages feedback during a longer process. This, in turn, may lead to improvements in approaches and methods. Sometimes it is necessary to balance long-term and short-term gains, e.g. where farmers are expected to take risks and are in danger of losing their livelihood if not supported adequately in the short term. Even where the focus is on training and education, parallel support may be required in other areas, for example in market development, credit, infrastructure, or social welfare. PCD cannot function in isolation from other aspects of life, dependent as it is on participation, which, in turn, depends on time, resources and motivation provided by individuals. Consequently, PCD should not encourage the development of uni-disciplinary approaches. Interdisciplinary approaches to education and training are now becoming acknowledged as effective, and thus there must be room within curricula for the systematic exploration of the inter-relationships between technical, political, economic, social and environmental factors. With innovation come experiences, which contribute to the learning process.
4. PCD is based on the principle of participation. This has a number of implications. Development of partnerships and networks is one way to facilitate participation. In this approach, all stakeholders must accept that their efforts are complementary, and there has to be a realisation that "knowledge" is not a finite quantity possessed by one individual or group. Disagreement on key issues is just as valid as agreement and consensus, since this again promotes dialogue. Information and experiences need to be shared and reflected upon in a

It is important to show positive and timely results from any intervention. People need to see some tangible benefits flowing from their efforts. By sharing results one finds out how things are working out in actual practice. Sharing results also encourages feedback during a longer process. This, in turn, may lead to improvements in approaches and methods.

spirit of constructive criticism, honesty and trust. Obviously, this is not easy, and it would be wrong to pretend otherwise. There are always hidden agendas, confusion, misconceptions and obstruction in every context and culture; this is part of life. Indeed, it could be said that PCD is truly in tune with “real” life, since it acknowledges and builds upon these differences. This is one more reason why PCD may ultimately lead to more effective learning outcomes.

We need to accept that PCD is a process and therefore unpredictable. PCD is about people, not machines, paper or other inanimate objects.

5. Stakeholder groups are not homogeneous. Although it may be easy to label groups such as parents, policy makers, teachers, students, farmers and advisors, the fact is that we encounter within such groups different levels and types of experience, knowledge, skills, beliefs, agendas and different degrees of willingness to contribute to the PCD process. In order to cope with this reality, those guiding the process need to develop effective strategies, and skills in facilitation, communication, decision-making and management in general. In addition, we need to accept that PCD is a process and therefore unpredictable. PCD is about people, not machines, paper or other inanimate objects.
6. PCD is part and parcel of organisational or institutional development. As shown in this document, it can promote organisational change but it may also be restricted by organisational realities. It is vital, therefore, not to assume that education and training are a panacea for all ills. Training in itself is not enough; it must be part of an integrated approach to development at the organisational, professional and personal level.
7. PCD is time-consuming and continuous, and it is therefore important to enter a PCD process fully accepting and aware of that fact. Over time, feedback will be of critical importance to ensure that the PCD approach is both responsive and proactive. Continuity of support to PCD is vital.
8. Linked to the need for continuity is the need for flexibility. Over time, changes occur, some of which are unexpected. Flexibility, however, does not mean passivity and simply “going with the flow”. One advantage of a participatory approach is that it produces, through dialogue and interaction, a joint vision and understanding of the purpose, nature and ultimate goal of education and training. Within this broad vision, and with appropriate support, it should be possible to develop frameworks for education and training programmes which are strong but not too rigid, so that they can be adapted for use in different contexts.
9. Finally, it is important to gain an understanding of what motivates different stakeholders to become involved in PCD, and in education and training in general. Different people participate in different ways and for different reasons. The ultimate goal of PCD is to make effective learning a practical reality, through a joint learning process involving a variety of stakeholders. It is this aspect of PCD which offers the greatest opportunity for sustainable outcomes from education and training programmes.

References and further reading

Auerbach, E. (1992), *Making Meaning, Making Change: Participatory Curriculum Development in Adult ESL Literacy*. University of Massachusetts: Center for Applied Linguistics and Delta Systems.

Bao Huy (2000), *Workshop Results: Review of B.Sc. Forestry Engineer Curriculum Framework at Agricultural and Forestry Faculty*. Tay Nguyen University, 18-19 August, 2000. Buon Me Thuot: Tay Nguyen University.

Dang Kim Vui, Dinh Duc Thuan, Hoang Huu Cai and Taylor, P. (in press). *Forestry Curriculum Development and Revision in Vietnam. A Case Study*. Rome: FAO.

Dearden, P. (1998), *Participatory Curriculum Development: a Workshop to Update the Forest Guards Course in Nepal*. Rural Development Forestry Network Paper 24d, Winter 1998/99.

FAO (1997), *Issues and opportunities for agricultural education and training in the 1990s and beyond*. Rome: FAO.

Helvetas (1997), *Social Forestry Support Programme Project Document. Hanoi*: Swiss Agency for Development and Cooperation and Ministry of Agriculture and Rural Development of the S.R. of Vietnam, September 1997.

Hermesen, A. (2000), *Participatory curriculum development in practice. An experience at the Eastern Caribbean Institute for Agriculture and Forestry in Trinidad and Tobago*.

Kolb, D. (1984), *Experiential Learning*. Hemel Hempstead: Prentice-Hall.

MARD (2000), *Forestry Development Strategy Period 2001-2010*. Third Draft. Hanoi.

MoET (1999), *The Education Law of the Socialist Republic of Vietnam*. Hanoi.

MoET (2000), *The Governmental Decree dated 30/8/2000 regulating and guiding implementation of some articles of the Education Law*.

Morrish, E. (1995), *How Participatory Learning Empowers Students*. In *Bright Ideas*, Vol. 5, No. 2, Fall, 1995.

Rogers, A. (1993), *Participatory Curriculum Development: A Case Study in Agricultural Extension*. In *Convergence*, Vol. XXVI, No. 2, 1993.

Rogers, A. and Taylor, P. (1998), *Participatory Curriculum Development in Agricultural Education. A Training Guide*. Rome: FAO.

Shao Xiarong and Bruening, T.H. (2000), *Curriculum Development Changes in Chinese Agricultural Schools*. Paper submitted to the 17th Annual Conference of the Association for International Agricultural and Extension Education.

Social Forestry Support Programme (1996), *Report of the National Social Forestry Training Needs Workshop*. Hanoi: Helvetas.

Social Forestry Support Programme (2000), *Documentation for the "Changing Learning and Forestry Workshop"* 16-19 April 2000, Victoria Sapa Hotel, Lao Cai Province, Vietnam, Hanoi: Helvetas.

Social Forestry Support Programme (2002), Website
<<http://www.socialforestry.org.vn>>

Taylor P. (2000), *New perspectives, new curricula. A case study of participatory curriculum development in forestry education in Vietnam*. Paper presented at the Workshop on Changing Learning and Education in Forestry. Sa Pa, Vietnam, April 16-19, 2000.

Taylor, P. (1998), *Participatory Curriculum Development - Some Experiences from Vietnam and South Africa, in Training for Agricultural Development, 1996-98*. Rome: FAO, pp. 4-14.

Temu, A.B., W. Kasolo and P. Rudebjer (1995), *Approaches to Agroforestry Curriculum Development*. Nairobi: ICRAF; Training and Education Report No. 32.





Helvetas Swiss Association for International Cooperation
St. Moritzstrasse 15, P.O. Box 181, CH-8042 Zürich
Phone **41 (1) 368 65 00, Fax **41 (1) 368 65 80
e-mail: helvetas@helvetas.ch
Homepage: www.helvetas.ch

◀ **helvetas** ▶