



Lao People's Democratic Republic  
Peace Independence Democracy Unity Prosperity



# **Consolidating Extension in the Lao PDR**

**June 2005**

Prepared by the National Agricultural and Forestry Extension Service (NAFES)  
with support from the Laos Extension for Agriculture Project (LEAP)

## ***Foreword***

The Government of Lao PDR is committed to improving the well-being of the people through greater food security, extension of social services and environment conservation. This commitment is a cornerstone of the National Growth and Poverty Eradication Strategy (NGPES), adopted in 2004.

The NGPES states that the Government will *“Develop an integrated extension system to transfer agricultural production technologies to the poor people”*. To this end, the NGPES recognises the need to upgrade the National Agricultural and Forestry Extension Service (NAFES) and strengthen the capacity of extension units at the provincial and district levels.

Extension involves communication activities that support the efforts of rural people to solve their problems and take advantage of opportunities. NAFES is the lead extension agency in the Lao PDR. The role of NAFES is to coordinate extension projects and enhance the work of provincial and district levels of the extension service by developing extension strategies, organising staff training and providing technical information in accordance with the needs of farmers.

In order to strengthen extension services, NAFES has developed and tested the Lao Extension Approach which is described in this report. The approach is the result of more than ten years of work, involving a number of projects operating in different provinces. This is a needs-based, integrated and group-based approach, in which men and women should participate equally. The outcome of using this approach is impressive: farmers have achieved large increases in the production of basic commodities under a range of conditions. The Ministry of Agriculture and Forestry has now decided that the use of this approach will be expanded throughout the country under the leadership of NAFES.

NAFES calls upon all stakeholders to implement the Lao Extension Approach for the benefit of rural people, particularly the poor. This will require the cooperation of government staff at the provincial and district levels, and foreign-assisted projects working in the agriculture sector. Through the combined efforts of all stakeholders we can build the required capacity and deliver services that will bring happiness and prosperity to the Lao people.

Vientiane  
June 2005

Anonth Khamhoung  
Director General,  
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## ***Preface***

This document has been prepared by the National Agricultural and Forestry Extension Service (NAFES) to promote the consolidation of extension in the Lao PDR. The history of agricultural extension in the country goes back nearly 50 years, but today there is still no strong, unified or effective system in place. This problem must be addressed without delay if rural people are to develop the capability to improve production and overcome poverty.

The case for consolidating extension in the Lao PDR is presented in three parts:

Part 1 describes the global evolution of extension. This includes an examination of alternative paradigms, strategies and activities, with an emphasis on major trends during the past 25 years.

Part 2 describes the past development of extension in Laos. This includes a description of key projects that have already been implemented and the lessons that have been learned.

Part 3 describes a consolidated approach for future extension in Laos which will be called the ***Lao Extension Approach***. This includes details of principles and procedures that have already been tested by a number of projects, particularly by LEAP, the Laos Extension for Agriculture Project.

Consolidation means ‘to strengthen something by bringing the pieces together’, which is what the ***Lao Extension Approach*** aims to do. Specifically:

- The ***Lao Extension Approach*** brings together the lessons that have been learned from past experience, both in Laos and in other countries;
- The ***Lao Extension Approach*** brings together the efforts of government staff in all provinces and districts, by providing principles and procedures that should apply to all extension work throughout the country
- The ***Lao Extension Approach*** brings together the efforts of various foreign projects, international institutions and NGOs, which will also be expected to apply the principles and procedures described in this document.

In accordance with the Strategic Vision for the Agriculture Sector prepared by the Ministry of Agriculture and Forestry in 1999, the ***Lao Extension Approach*** will be farmer-driven, multi-disciplinary and bottom-up. Other principles on which the approach is based are: decentralisation, participation, gender sensitivity and self-motivation.

The ***Lao Extension Approach*** consists of two sub-systems: The Government Extension Service, and The Village Extension System

The Government Extension Service consists of three strata. These are: the National Agricultural and Forestry Extension Service (NAFES), the Provincial Agricultural and Forestry Extension Centre (PAFEC) and the District Agricultural and Forestry Extension Office (DAFEO). Staff at the Provincial level are called SMS (Subject Matter Specialists) and staff at the District level are being retrained as generalists and called Farming Systems Extension Workers (FSEWs).

The Village Extension System (VES) is jointly managed by villagers and village authorities. Activities are facilitated by Village Extension Workers (VEWs) who are appointed and compensated by the community, while receiving technical support through the Government Service.

The operations of the Village Extension System involves a cycle of activities that starts with Training Needs Assessment. The result of this assessment is that farmers agree on the knowledge and skills they want to acquire during learning sessions. They also agree on which households will participate in these sessions. During the implementation of the learning process, participatory monitoring and evaluation is conducted to assess progress. Additional activities such as farmer exchanges are carried out to ensure the spread of benefits within the village and between villages.

The principles and procedures that make up the extension approach described in this document are applicable to the regular work of PAFEC and DAFEO, *and* to projects that are funded and/or managed by foreign organisations. Nevertheless, the ***Lao Extension Approach*** is not a rigid approach. There will be considerable diversity in the implementation of extension projects as a result of decisions made at the village level.

## ***Acknowledgments***

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## ***Acronyms***

ADO	Agricultural Development Organisation
AEA	Agricultural Extension Agency
CETDU	Central Extension Training and Development Unit
DAFEO	District Agric. & Forestry Extension Office (formerly DAFO)
ESU	Extension System Unit (formerly CETDU)
EVES	Extend Village Extension System
FAO	Food and Agriculture Organisation of the UN
FEF	Farmer to Farmer Exchange
FFS	Farmer Field School
FIAT	Farmer Irrigated Agricultural Training project
FSEW	Farming Systems Extension Worker
FSR/E	Farming Systems Research and Extension
GOL	Government of Laos
HRD	Human Resource Development
ILEIA	Institute for Low External Input Agriculture
IPM	Integrated Pest Management
IRRI	International Rice Research Institute
KAP	Knowledge, Attitudes and Practices
KISS	Keep It Short and Simple
LEA	Lao Extension Approach
LEAP	Laos Extension for Agriculture Project
LSFP	Lao-Swedish Forestry Programme
MAF	Ministry of Agriculture and Forestry
NAFES	National Agriculture and Forestry Extension Service
NAFRI	National Agriculture and Forestry Research Institute
NGO	Non Government Organisation
NPEP	National Poverty Eradication Programme
PAFEC	Provincial Agric. & Forestry Extension Centre (formerly PAFES)
PAFO	Provincial Agricultural and Forestry Office
PEP	Pilot Extension Project
PRA	Participatory Rural Appraisal
PTD	Participatory Technology Development
RRA	Rapid Rural Appraisal
SDC	Swiss Agency for Development and Cooperation
SIFT	Success, Implementation, Failure and Training Needs
SMS	Subject Matter Specialist
T&V	Training and Visit System
TNA	Training Needs Assessment
UNDP	United Nations Development Programme
VES	Village Extension System
VEW	Village Extension Worker
WUG	Water Users Group

# Part 1: The Global Evolution of Extension



## 1.1 An Introduction to Extension

### 1.1.1 *The underlying concept*

In almost every country of the world there are organisations carrying out activities that could be called 'extension'. Rarely, however, are these organisations doing the same thing. This raises a fundamental question: *what is extension?*

Despite all of the differences, extension organisations and programmes have some common features that makes it possible to identify an underlying concept. In the broadest of terms ...

*... extension is a system of communication that is designed to affect the knowledge of rural people in a manner that supports the achievement of development policies.*

In the context of extension, 'communication' refers to the flow of information and ideas, not the transportation of people or materials. People naturally communicate with each other, but these activities cannot be described as 'extension' unless they are part of a system that is planned and managed to achieve certain ends.

Extension systems have a number of components including goals, strategies and activities. Typical goals include increasing food production, improving the management of natural resources, and strengthening community development. Strategies include commodity-oriented extension, research-based extension and the Training and Visit system. The most common activities are training sessions, advisory meetings, demonstrations and the use of mass media.

### 1.1.2 *Terminology*

The term 'extension' was first used to describe adult education programmes in England in the second half of the 19<sup>th</sup> Century; these programmes helped to expand – or *extend* - the work of Universities beyond the campus and into the neighbouring community. The term was later adopted in the United States of America, while in Britain it was replaced with 'advisory service' in the 20<sup>th</sup>



Century. A number of other terms are used in different parts of the world to describe the same – or a similar – concept:

Dutch:	Voorlichting (“lighting the path”)
German:	Beratung (“advisory work”)
French:	Vulgarisation (“simplification”)
Spanish:	Capacitacion (“improving skills”)
Lao, Thai:	Song-Suem (“to promote”)

In this document, the term ‘extension approach’ is used in the general sense of a *way of implementing extension activities*. Other terms used in this document have more precise meanings:

- ‘Extension paradigms’ are alternative visions of the purpose of extension, distinguished by how and why the communication process takes place (see 1.1.4)
- ‘Extension Systems’ are complete sets of organisational components, including goals, structures, human resources, procedures, subject matter and activities (see 1.1.6)
- ‘Extension strategies’ are patterns of activity that characterise certain systems (see 1.2)

### **1.1.3 Definitions**

There is no widely accepted definition of extension. The ten examples given below are taken from a number of books on extension published over a period of more than 50 years (references are at the end of this document):

**1949:** *The central task of extension is to help rural families help themselves by applying science, whether physical or social, to the daily routines of farming, homemaking, and family and community living*<sup>1</sup>

**1965:** *Agricultural extension has been described as a system of out-of-school education for rural people.*<sup>2</sup>

**1966:** *Extension personnel have the task of bringing scientific knowledge to farm families in the farms and homes. The object of the task is to improve the efficiency of agriculture*<sup>3</sup>

**1973:** *Extension is a service or system which assists farm people, through educational procedures, in improving farming methods and techniques, increasing production efficiency and income, bettering their levels of living and lifting social and educational standards*<sup>4</sup>

**1974:** *Extension involves the conscious use of communication of information to help people form sound opinions and make good decisions*<sup>5</sup>

**1982:** *Agricultural Extension: Assistance to farmers to help them identify and analyse their production problems and become aware of the opportunities for improvement*<sup>6</sup>

**1988:** *Extension is a professional communication intervention deployed by an institution to induce change in voluntary behaviours with a presumed public or collective utility*<sup>7</sup>

**1997:** *Extension [is] the organized exchange of information and the purposive transfer of skills*<sup>8</sup>

**1999:** *The essence of agricultural extension is to facilitate interplay and nurture synergies within a total information system involving agricultural research, agricultural education and a vast complex of information-providing businesses*<sup>9</sup>

**2004:** *Extension [is] a series of embedded communicative interventions that are meant, among others, to develop and/or induce innovations which supposedly help to resolve (usually multi-actor) problematic situations*<sup>10</sup>

#### **1.1.4 Different extension paradigms**

The definitions given above include a large number of ideas, not all of which are consistent with each other. This diversity suggests that the broad concept of extension encompasses more than one vision about what these extension systems *are* doing, or *should be* doing. Four distinct visions, or *paradigms*, can be identified by examining the communication processes that occur within those systems that have been given the name of extension. In particular, two issues need to be looked at: *how* communication take place, and *why* it take place.

##### **a) How communication takes place in an extension system: paternalism versus participation**

Early books on extension often describe a model of communication that involved the transmission of messages from 'senders' to 'receivers'. As part of this model, senders are usually people in authority, such as government planners, researchers, and extension staff, while receivers are usually farmers who are relatively poor and uneducated. Although this model might include something called 'feedback', it is clear that the flow of information from senders to receivers is expected to be far more influential than anything going the other way. Senders are in control of the communication process, and the purpose of feedback is to allow the sender to be more effective in formulating and transmitting messages.

The transmission model of communication is closely related to the idea that extension workers are the link (i.e. message carriers) between researchers (senders) and farmers (receivers). Extension programmes based on this model has been described as 'paternalistic'; in other words, the actors in the

communication process have a parent/child or teacher/student relationship. Other authors have used the term 'top-down' to describe these programmes.

In many countries, paternalistic extension is gradually being replaced by more participatory approaches, in which the knowledge and opinions of farmers is considered to be just as important as that of researchers or government officials. Participatory approaches involve information-sharing and joint decision-making. The terms 'interactive' and 'bottom-up' have been used to describe these approaches.

The development of participatory extension requires a re-examination of the communication process. At the present time, no single description has replaced the transmission model that is referred to above, but two ideas are becoming widely accepted:

- Communication in the context of participatory extension cannot usefully be described in a linear manner with distinct groups of senders and receivers. Instead, extension activities take place within a *knowledge system* consisting of many actors who play different roles at different times.
- Although some actors in the knowledge system have more authority than others, communication usually involves a *negotiation* rather than a transmission. What takes place is a dialogue, with actors collaborating in the construction of shared meanings rather than simply exchanging information.

b) Why communication takes place: persuasion versus education

Although extension programmes have many different goals, most programmes fall into one of two basic categories:

- systems of communication that aim to change the behaviour of rural people;
- systems of communication that aim to change the knowledge of rural people.

There is, of course, a close relationship between knowledge and behaviour; changes in the former often lead to a change in the latter. But the difference between these two categories is found in the answer to a fundamental question: *who decides?* Who decides what practices rural people should adopt? Who decides what technology they should use, and how they use it? Who decides the manner in which they cooperate with each other and the schedule of their activities?

If the answer to these questions is 'government policy-makers' or 'project managers' or 'researchers', then the purpose of extension is to change behaviour. This approach to extension has been variously described as 'directive extension', 'social marketing' and 'propaganda'.

If the answer is 'farmers' or 'rural people' or 'local men and women', then the purpose of extension is changing knowledge. This knowledge helps rural

people make *their own* decisions regarding farming practices. This approach to extension is closely related to 'non-formal education' and 'conscientization'.

c) Four paradigms, with examples

Any particular extension system can be described both in terms of *how* communication takes place and *why* it takes place. It is not the case that paternalistic systems are always persuasive, nor is it the case that participatory projects are necessarily educational. Instead there are four possible combinations, each of which represents a different extension paradigm, as follows:

- Technology Transfer (persuasive+paternalistic). This paradigm was prevalent in colonial times, and reappeared in the 1970's and 1980's when the Training and Visit system was established across Asia. Technology transfer involves a top-down approach that delivers specific recommendations to farmers about the practices they should adopt.
- Advisory work (persuasive+participatory). This paradigm can be seen today where government organisations or private consulting companies respond to farmers enquiries with technical prescriptions. It also takes the form of projects managed by donor agencies and NGOs that use participatory approaches to promote pre-determined packages of technology.
- Human Resource Development (educational+paternalistic). This paradigm dominated the earliest days of extension in Europe and North America, when universities gave training to rural people who were too poor to attend full-time courses. It continues today in the outreach activities of colleges around the world. Top-down teaching methods are employed, but students are expected to make their own decisions about how to use the knowledge they acquire.
- Facilitation for empowerment (educational+participatory). This paradigm involves methods such as experiential learning and farmer-to-farmer exchanges. Knowledge is gained through interactive processes and the participants are encouraged to make their own decisions. The best known examples in Asia are projects that use Farmer Field Schools (FFS) or Participatory Technology Development (PTD).

It must be noted that there is some disagreement about whether or not the concept and name of 'extension' really encompasses all four paradigms. Some experts believe that the term should be restricted to persuasive approaches, while others believe it should only be used for educational activities. And some people have argued that the terms 'extension' and 'participation' are contradictory<sup>11</sup>. There are philosophical reasons behind these disagreements. From a practical point of view, however, communication processes that conform to each of these four paradigms are currently being organized under the name of extension in one part of the world or another. Pragmatically, if not ideologically, all of these activities *are* extension.

### 1.1.5 Historical development

#### a) Origins of extension

Men and women have been growing crops and raising livestock for approximately 10,000 years. Throughout this period, farmers have continually adapted their technology, assessed the results, and shared what they have learned with other members of the community. Most of this communication has taken the form of verbal explanations and practical demonstrations, but some information took a more durable form as soon as systems of writing were developed. Details of agricultural practices have been found in records from ancient Mesopotamia, Egypt and China going back more than 3,000 years.

It is not known where or when the first extension activities took place. It is known, however, that Chinese officials were creating agricultural policies, documenting practical knowledge, and disseminating advice to farmers *at least 2,000 years ago*. For example, in approximately 800 BC, the minister responsible for agriculture under one of the Chou Emperors organized the teaching of crop rotation and drainage to farmers. The minister also leased equipment to farmers, built grain stores and supplied free food during times of famine<sup>12</sup>.

The birth of the modern extension service has been attributed to events that took place in Ireland in the middle of the 19<sup>th</sup> Century<sup>13</sup>. Between 1845-51 the Irish potato crop was destroyed by fungal diseases and a severe famine occurred. The British Government arranged for 'practical instructors' to travel to rural areas and teach small farmer how to cultivate alternative crops. This scheme attracted the attention of government officials in Germany, who organized their own system of traveling instructors. By the end of the 19<sup>th</sup> century, the idea had spread to Denmark, Netherlands, Italy, and France.

The term 'university extension' was first used by the Universities of Cambridge and Oxford in 1867 to describe teaching activities that *extended* the work of the institution beyond the campus. Most of these early activities were not, however, related to agriculture. It was not until the beginning of the 20<sup>th</sup> century, when colleges in the United States started conducting demonstrations at agricultural shows and giving lectures to farmer's clubs, that the term 'extension service' was applied to the type of work that we now recognize by that name.

#### b) Four generations of extension in Asia

The development of extension services in modern Asia has differed from country to country. Despite the variations, it is possible to identify a general sequence of four periods or 'generations':

Colonial agriculture: Experimental stations were established in many Asian countries by the colonial powers. The focus of attention was usually on export

crops such as rubber, tea, cotton and sugar. Technical advice was provided to plantation managers and large landowners. Assistance to small farmers who grew subsistence crops was rare, except in times of crisis.

Diverse top-down extension. After independence, commodity-based extension services emerged from the remnants of the colonial system, with production targets established as part of 5-year development plans. In addition, various schemes were initiated to meet the needs of small farmers, with support from foreign donors.

Unified top-down extension. During the 1970's and '80's, the Training and Visit system was introduced by the World Bank. Existing organizations were merged into a single national service. Regular messages were delivered to groups of farmers, promoting the adoption of 'green revolution' technologies.

Diverse bottom-up extension. When World Bank funding came to an end, the T&V system collapsed in many countries, leaving behind a patchwork of programmes and projects funded from various other sources. The decline of central planning, combined with a growing concern for sustainability and equity, has resulted in participatory methods gradually replacing top-down approaches.

The fourth generation is well established in some countries, while it has only just begun in other places. While it seems likely that participatory approaches will continue to spread in the next few years, it is impossible to predict the long-term future of extension. Compared to 20 years ago, agricultural extension now receives considerably less support from donor agencies. Among academics working in this field, some have recently argued that agricultural extension "needs to be reinvented as a professional practice"<sup>10</sup>. Other authors have abandoned the idea of extension as a distinct concept, and prefer to think in terms of 'knowledge systems' in which farmers are seen as experts rather than adopters<sup>14</sup>

### **1.1.6 Components of an extension system**

A 'system' is a set of interrelated components that work in a unified manner. The components of an extension system usually consist of the following:

- Goals and objectives: These are agreements regarding what the system, or parts of the system, aims to achieve. These agreements are usually in the form of written statements. Goals are generally broader in scope than objectives.
- Programmes and projects: These terms refer to an approved series of activities aimed at the achievement of specific objectives within a pre-determined timeframe. Projects are generally shorter and/or narrower in scope than programmes.
- Human resources: the people who are engaged in the activities carried out in the system, and the qualifications and capabilities they possess

This usually refers to the staff of extension organisations and projects, but can also include participating farmers.

- Organisational structures: the arrangement of staff, including titles, levels of authority, precise responsibilities, and linkages.
- Planning and management procedures: the approved sequence of steps that are taken to make decisions, coordinate and organise activities.
- Financial mechanisms: sources of funds, cost-sharing arrangements, and procedures for making expenditures.
- Strategies: patterns of activity, or combinations of methods, that are designed to bring about the achievement of goals.
- Extension methods: categories of activity, distinguished by the manner in which communication takes place (e.g. the scale of the activity and the materials that are used).
- Activities: specific efforts undertaken by particular people in accordance with a certain method.
- Subject matter: the informational content of activities; the topics that are included and/or the technologies that are the focus of the activity.

### 1.1.7 Typical goals

Goal are the starting point for the planning and management of extension. They exist at a number of levels: national development policies, local government plans and project objectives. Below are some typical policy level goals for agricultural or forestry extension:

<b>Sector</b>	<b>Policy</b>
Agriculture and Food Production	• improve national food security
	• produce inputs for industry
	• reduce imports / improve trade balance
Natural Resource Management	• enhance sustainability of production
	• reduce conflicts among resource users
	• conserve biodiversity / prevent disasters
Community Development	• improve welfare of rural people
	• expand employment opportunities
	• create self-reliance / organisational development

There is a close relationship between the extension paradigms described in section 1.1.4 above, and the goals that are formulated by governments or donor agencies. Both the paradigm and the precise goals are a reflection of how these organisations view their own role and that of rural people.

Persuasive approaches to extension are often linked to goals that emphasise medium-term production targets. For example, when a Government decides that it will increase rice production by a certain percentage over the next five

years, the task of extension could be to transfer the technology that researchers think will achieve those targets. When goals are broader or longer term, extension is likely to give less emphasis to persuasion and more to education. For example, when a Government decides to promote diversified sustainable agriculture, the task of extension might be to help farmers develop the ability to analyse constraints and opportunities, and make their own decisions about what to grow and how to grow it.

## **1.2 Extension strategies**

### **1.2.1 Overview**

This section takes a closer look at how extension activities are organised in order to achieve the agreed goals.

In most countries there is at least one Government Department with the primary function of organising extension services to rural people. In some cases there are a number of Departments that have separate mandates for agricultural extension, livestock extension, and fisheries extension. In addition, other institutions, such as universities, research stations and NGOs, often carry out extension activities as a secondary function.

Whether it is a primary or secondary function, extension work sometimes takes the form of routine activities, that are carried out with little variation from area to area and year to year, while in other cases it is organised in the form of programmes and projects that have precise objectives and a pre-determined timeframe.

It has already been noted that extension institutions and programmes are highly diverse, but it is possible to identify a limited number of strategies that are being followed. These strategies, or patterns of activity, are summarised below.

### **1.2.2 General agricultural support services**

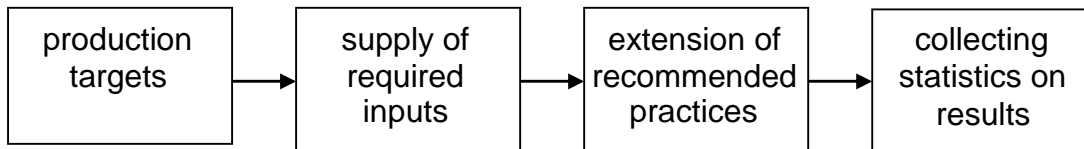
This strategy was commonly used by Ministries of Agriculture prior to the introduction of the Training and Visit system. At that time, Governments often employed multi-functional field workers who carried out extension activities and performed a number of other duties, including:

- supplying inputs such as credit, seeds, and chemicals;
- providing services such as livestock vaccinations and soil tests;
- organising groups such as cooperatives and water users associations;
- regulatory work such as plant quarantine and supervision of markets;
- collecting and compiling statistics on land use, production etc.



- acting as a general channel of communication between the Government and rural people (e.g. announcing elections, health campaigns)

This was a reasonable strategy to adopt when: a) the goal was to increase production through the transfer of technology, and b) activities were being carried out in areas that were difficult to reach or where there was limited private sector activity. In particular, this strategy involved a planned link between four things:



This strategy had a number of weaknesses. Firstly, in many countries the Government was not very efficient at supplying inputs; farmers complained of poor quality, late delivery and corruption by officials. Furthermore, because inputs were often subsidised, this strategy prevented the development of a private sector that might do a better job.

Another problem with this strategy was that multi-functional staff spent only a small amount of time on educational activities, with the result that very few farmers – usually the richer ones - were able to get any advice. When advice was available, it took the form of recommendations about the inputs that should be used, and rarely helped farmers to develop the ability to carry out their own analysis of problems and opportunities.

### 1.2.3 Commodity-oriented extension

Commodity-oriented extension combines the features of a support service with a focus on a single crop. This strategy is most commonly used for export crops such as rubber, tea, cotton, sugar, and jute.

Two particular features of this strategy can be noted. Firstly, commodity-oriented extension is often part of *contract farming*. This involves farmers signing an agreement with a government purchasing body, a processing company or - more recently - a large retailer such as a supermarket chain. Under the contract, the farmer is supplied with inputs (often on a credit basis) and is guaranteed a certain price by the buyer. The farmer must use the varieties and techniques that are prescribed by the buyer, and is not allowed to sell to another organisation. Contract farming has been used by sugar mills in Asia for more than 100 years. In recent years the system has become common in the poultry sector, and there are signs that it may also become important in the production of vegetables (something that has already happened in Europe).

A second notable feature about commodity-oriented extension is that it often involves a close link with research. Varieties and techniques are developed and tested by the same organisation that provides inputs and advice.

Consequently, the technical quality of information given to farmers is often very high, although it is focussed on a narrow range of topics that are considered important by the purchasing body.

Contract farming and commodity-oriented extension is often highly productive, and farmers can benefit from the financial security that comes from guaranteed prices. But two problems sometimes occur:

- Farmers lose all decision-making power, becoming little more than labourers on their own land;
- The profits of producers are squeezed by monopolistic or oligopolistic buyers, and farmers become permanently indebted.

#### **1.2.4 Advisory services**

Unlike the previous two strategies, advisory services focus on the provision of information rather than other inputs such as credit and chemicals. In some cases, advice is given to individual farmers, while in other cases it is channelled through groups.

Advisory services are prevalent in Europe. These services were often started by the Government, but some have been privatised in recent years. In addition, specialised consulting companies have been launched to serve the interests of particular types of producer (e.g. greenhouse farmers, dairy farmers). Consequently, many European farmers now pay for information, just like they pay for other inputs. This information covers a range of technical, financial and regulatory issues, and is selected by highly-trained advisors in response to the requests made by the farmers.

A different approach to advisory work is often carried out as part of development projects in Asia. Many projects use participatory approaches to promote certain techniques, such as compost-making, mushroom cultivation, fish raising, poultry vaccination, and so on. While these projects may appear to be a type of community development (see section 1.2.6 below), the solutions to problems faced by members of the community have been decided in advance by outsiders. It is the role of these outsiders, as experts rather than facilitators, that makes this type of extension similar to that which occurs in Europe.

In both cases, a high level of interaction between farmers and their advisors can ensure that information is relevant to local needs. Nevertheless, the interaction usually gives farmers the answers to immediate problems, rather than contributing to the development of a lasting ability to solve problems for themselves. In this way, advisory services can result in a *dependency* between rural people and outside advisors, with the former remaining clients rather than becoming experts themselves.

### **1.2.5 Training and Visit**

Starting in 1975, the Training and Visit System soon became the dominant strategy for agricultural extension in South and South-East Asia. It was designed to address the weaknesses of support services that existed at the time, including:

- fragmentation of services (many organisations were involved in extension)
- dilution of efforts (extension staff had many duties to perform)
- absence of systematic planning and management (activities were carried out on an *ad hoc* basis)
- poor coverage of the extension service (not enough field workers, and weak supervision)
- low status and weak knowledge of field workers (they were badly trained and rarely updated with new ideas)

With funding from the World Bank, a new system was created by merging various extension organisations, increasing the number of staff, investing in training facilities, and adopting a blueprint for field activities.

This blueprint involved a schedule of activities that was repeated every two weeks. The schedule started with a training session at which Subject Matter Specialists (SMS) taught field workers the *recommendations* for that fortnight. In the days that followed, the field workers would visit between 6 and 8 groups of *contact farmers* where the latest recommendations would be delivered. These groups, each consisting of approximately 10 farmers, were expected to pass the recommendations to other farmers in their community.

There has been considerable debate about the advantages and disadvantages of the Training and Visit System. The World Bank claims that the system was far more efficient than earlier extension services, and that it made a major contribution to increases in crop production in many parts of Asia. Opponents argue that the system only benefited rich farmers who could afford to adopt *green revolution* technologies (particularly new cereal varieties and chemical inputs). One point of agreement is that the cost of running the system was unsustainable. When World Bank projects came to an end, the T&V system was severely modified, or it completely collapsed.

Section 1.3.1 provides a closer look at some important issues relating to the Training and Visit system.

### **1.2.6 Community development**

Community development differs from the strategies described above in that it involves rural people in making their own decisions and organising their own activities. Self-reliance, as opposed to dependence on outside experts, is

usually a goal of community development programmes. Other important features of this strategy are

- efforts are often made to involve all members of the community: men and women, young and old, land-owners and tenants.
- the needs of the community are examined in an *holistic* manner, with the result that agricultural activities might be combined with efforts to combat illiteracy, improve rural infrastructure, tackle health problems etc.
- local government institutions, such as village development committees and sub-district offices of the government, usually play an important role in community development. These institutions are often bypassed by other strategies

As part of a community development programmes, extension activities have three important characteristics. Firstly, subject matter is selected in response to needs that have been identified by the community. Secondly, methods are used that enhance capability (such as skills training) rather than simply disseminate information. Thirdly, collective action is encouraged, rather than individual efforts to solve problems.

This strategy can have a sustainable impact on the livelihoods of rural people, and benefit groups that are neglected by other strategies. A major disadvantage, however, is the difficulty of *scaling up*. Success stories are often limited to a few villages or a particular district. This is because effective community development requires skilled facilitators who are able to work closely with a community over a long period of time. These facilitators must be able to operate in a responsive manner *and* receive specialist back-up when it is required. Bureaucratic structures in government and foreign agencies are often a constraint to the flexibility that is required.

### **1.2.7 Research-based extension**

In most countries, agricultural research and extension is the responsibility of separate organisations. This has often led to a number of interrelated problems:

- lack of consensus on priorities for agricultural development
- A weak flow of technical information, particularly in response to field problems;
- conflicting advice being given to farmers;
- the development of technologies that are effective on research stations but which are not appropriate under normal farming conditions;
- recommendations being made by extension workers that have not been properly tested.

A number of approaches have been adopted to overcome these problems. In some cases there is a coordinating unit or committee that maintains a close link between agricultural research and extension. In other cases, extension

departments have carried out their own *adaptive research*. A third case involves research institutions conducting their own extension activities or *outreach programmes*.

Where research-based extension has been organised, three methods have been commonly used: publications, field days, and demonstrations plots. Whatever the method, the information that is extended to farmers by researchers is often highly technical, and focussed on a single issue (e.g. yield comparison of selected varieties, control of a certain pests or diseases). In the past, researchers have often neglected social, economic and environmental issues. This has changed to some extent with the growth of *farming systems research and extension* (FSR/E).

### **1.2.8 University-based extension**

This strategy has been used in parts of Europe and North America for more than 100 years, and has been adopted by some educational institutions in Asia. There are universities in India, for example, with training centres on campus that give short courses to farmers and rural youth.

The most famous example of university-based extension is the system of *land-grant colleges and universities* in the United States of America. There are currently more than 100 of these institutions, with campuses in each State. These institutions receive government funding for educational activities aimed at working people, and agriculture is one of the major subjects that is covered. Just like universities anywhere else in the world, the land-grant institutions organise degree courses on campus, but they also manage most of the extension services in the USA.

Governments can save money by having one set of facilities and human resources that are responsible for both higher education and extension. One difficulty with this strategy is, however, the setting of goals. Which Ministry, Education or Agriculture, will make decisions about the objectives of extension programmes, or will the University decide for itself?

Another disadvantage with university-based extension is that the same subject matter and educational methods is sometimes used for degree students *and* rural people, which is often not appropriate to the needs and interests of farmers.

### **1.2.9 Extension projects**

It has already been mentioned that a project is an “approved series of activities aimed at the achievement of specific objectives within a pre-determined timeframe”. Projects are often carried out in combination with other strategies. For example, a government might use its own resources to implement a number of projects within the framework of an agricultural

support service. Or NGOs might implement projects using a community development strategy.

The advantage of organizing extension work on the basis of projects is that this strategy focuses attention on particular problems, groups of people and/or geographical areas. By establishing precise objectives, and concentrating efforts on achieving those objectives, extension organizations can produce greater benefits than when they are operating in a routine manner. The disadvantage, however, is that the benefits only apply to the people or areas covered by the project, and they are not always sustained once the project has been completed.

A particular type of project that must be mentioned is the *extension campaign*. Campaigns employ a combination of methods to deliver specific *messages* to a precisely defined *target audience*. Campaigns are a feature of the transfer of technology paradigm, and they use techniques borrowed from marketing and propaganda. They usually involve an analysis of the knowledge, attitudes and practices (KAP) of the audience, the *pre-testing* of materials, and the measurement of *adoption rates*.

## **1.3 Major trends in extension during the last 25 years**

### **1.3.1 The rise and fall of the Training and Visit System (T&V)**

Originally designed by an Israeli expert called Daniel Benor, the Training and Visit system was first implemented in Turkey in 1967. Ten years later the World Bank had launched the first big T&V projects in India and published the first handbook for the system. By 1984 the system was operating in 40 countries, and by 1992 the World Bank had disbursed more than \$3 billion through 512 T&V projects. The main features of the system are summarised in section 1.2.5 above.

The T&V system had its critics from the start, but by the mid 1990's a leading academic was able to write "without a doubt, the T&V system is now widely considered as ineffective"<sup>15</sup>. For many years the World Bank continued to claim that the system was generating considerable benefits, although it might need to be modified or allowed to 'evolve'<sup>16</sup>. By the end of the '90's, however, the Bank's own staff were re-examining the results of T&V projects that had previously been considered success stories, and they were admitting that the system had been "ineffective, inefficient and unsustainable"<sup>17</sup>.

The rise and the fall of the T&V system is explained partly by the underlying philosophy of the system, which is rooted in the transfer of technology paradigm, and partly by the practical difficulties of implementing the system.

In the 1960's and 70's, many Governments and donors thought that agricultural development could be brought about by means of *planned innovation*, and that top-down methods were necessary to bring about the

required changes in the behaviour of rural people. It was believed that *progressive farmers* would lead the way, and that extension should focus on delivering recommendations to this group of people. This philosophy went out of fashion in many countries during the 1980's and 90's, particularly among the major donors, and has been replaced with a more pluralistic approach to agricultural development that involves a mixture of privatisation and poverty alleviation.

Among the practical difficulties faced by T&V was the problem of providing farmers with a steady stream of relevant and useful messages. Because the system operated in a top-down manner, it could only deliver general recommendations (e.g. "plant variety IR36", "use 50kg of nitrogen fertiliser per hectare", "spray methyl parathion to control stem borers"). Not only were these recommendations frequently inappropriate, cheaper methods for delivering this type of information were available, such as radio. And once a certain number of farmers had adopted the recommended practices, there was no further need to repeat the messages. What was needed instead was location-specific advice about complex issues (e.g. animal nutrition, soil conservation, agro-forestry, integrated pest management), but the T&V system was not designed to respond to these needs.

The T&V system has also been criticised for the way in which the blueprint ignored local knowledge systems and social realities, including the important roles that are played by women, and the interests of specific groups such as tenant farmers and ethnic minorities. Contact farmers in the T&V system were almost always men, they usually owned irrigated land, and they had better access to inputs and credits. The system did not promote collective action as a solution to agricultural problems, and there is little evidence to suggest that contact farmers passed information onto *secondary adopters* other than members of their own families. Consequently, the T&V system, like many of the extension services before it, often reinforced the disparities that exist in rural society and did nothing to address the causes of poverty.

### **1.3.2 The development of participatory approaches**

Although participatory approaches to extension existed prior to the advent of the Training and Visit System, the philosophical and practical failings of World Bank projects during the 70's and 80's encouraged a number of experts to develop new approaches that were fundamentally different from the transfer of technology paradigm. Three approaches that have been implemented in various parts of Asia during the last decade are summarised below.

#### **a) Rapid Rural Appraisal (RRA) and related techniques**

In the early 1980's, a number of experts were seeking ways of collecting information from rural people that overcame both the reductionism of formal surveys, and the biases of typical field visits. In 1983, Robert Chambers called these new techniques 'Rapid Rural Appraisal'. A few years later, in 1987, an international conference was held in Thailand to share experiences relating to RRA. This was followed by a rapid growth in the development of methods that

involved rural people in examining their own problems, setting their own goals, and monitoring their own achievements. By the mid 1990's, the term RRA had been replaced by a number of other terms including 'Participatory Rural Appraisal (PRA)' and 'Participatory Learning and Action' (PLA).

Hundreds of participatory techniques and tools have been described in a variety of books and newsletters, or taught at training courses around the world<sup>18,19</sup>. These techniques can be divided into four categories:

- *Group dynamics*, e.g. learning contracts, role reversals, feedback sessions
- *Sampling*, e.g. transect walks, wealth ranking, social mapping
- *Interviewing*, e.g. focus group discussions, semi-structured interviews, triangulation
- *Visualization* e.g. venn diagrams, matrix scoring, timelines

A key idea that has accompanied the development of PRA techniques is that of a *new professionalism*, based on the participatory+educational paradigm. Robert Chambers has explained this as follows:

"The central thrusts of the [new] paradigm ... are decentralization and empowerment. Decentralization means that resources and discretion are devolved, turning back the inward and upward flows of resources and people. Empowerment means that people, especially poorer people, are enabled to take more control over their lives, and secure a better livelihood with ownership and control of productive assets as one key element. Decentralization and empowerment enable local people to exploit the diverse complexities of their own conditions, and to adapt to rapid change"<sup>20</sup>.

#### b) Participatory Technology Development (PTD)

From the many participatory techniques that were developed during the 1980's, a process emerged that has been called Participatory Technology Development (PTD). One of the leading authorities on this process is the Institute for Low External Input Agriculture (ILEIA) based in the Netherlands.

ILEIA has described PTD as "a process between local communities and outside facilitators which involves:

- gaining a joint understanding of the main characteristics and changes of that particular agro-ecological system;
- defining priority problems;
- experimenting locally with a variety of options derived both from indigenous knowledge ... and from formal science, and
- enhancing farmer's experimental capacities and farmer-to-farmer communication"<sup>21</sup>.

The 'outside facilitators' who participate in PTD are usually researchers, sometimes consisting of a team that includes both agricultural scientists and



social scientists. While PTD is closely linked to research, it crosses the boundary into extension because it involves learning activities with farmers. This blurring of the distinction between different institutions and disciplines is one of the characteristic of participatory approaches.

c) Farmer Field Schools

The Farmer Field School (FFS) is a group-based learning process. It was designed in 1989 by experts working for the UN Food and Agriculture Organisation (FAO) in Indonesia. The original purpose was to help farmers develop the ability to carry out Integrated Pest Management (IPM) as an alternative to the indiscriminate use of pesticides. The success of the FFS in Indonesia led to the spread of the methodology to other countries. By the end of the 90's more than two million farmers across Asia had participated in these activities. Programmes based on the FFS have been organized by a variety of Government Departments (Agricultural Extension, Crop Protection, Adult Education) with funds from a number of donors, government budgets, and – in some cases – resources provided by farmers themselves<sup>22</sup>.

During an FFS, farmers participate in an *experiential learning* process that helps them to understand the ecology of their rice fields. This process involves experiments, field observations and group analysis. Weekly sessions are conducted throughout the cropping season (from planting to harvest). Originally, these sessions were facilitated by government field staff who had completed a full season of field-based training, but from the mid 1990's an increasing number of FFS have been facilitated by farmers who train other farmers.

Although the first FFS were designed to promote IPM, the goal of community empowerment has become increasingly important. This is possible because the FFS curriculum was built on the assumption that farmers could only implement IPM once they had acquired the ability to carry out their own analysis, make their own decisions and organise their own activities. Many farmers continue to hold meetings and carry out experiments after the FFS has been completed, and some are involved in information-sharing and advocacy that reaches beyond their community.

d) Types of participation

The three approaches that are described above - RRA, PTD and the FFS - have similar goals and involve similar techniques. Nevertheless, the term 'participation' continues to be a source of misunderstanding in extension programmes. Some extension workers may believe that farmers participate in meetings simply by attending, while others feel that it is necessary for farmers to set the agenda and make the decisions before the term can be used properly.

As part of the management of participatory approaches, it is useful to make a clear distinction between different levels or 'types' of participation. One possible typology has been developed by Jules Pretty:

***A typology of participation (after Pretty, 1994<sup>23</sup>)***

<b>Type</b>	<b>Characteristics</b>
1. Passive Participation	People participate by being told what is going to happen or has already happened.
2. Participation in Information Giving	People participate by answering questions posed by extractive researches using questionnaire surveys or similar approaches.
3. Participation by Consultation	People participate by being consulted, and external agents listen to views. These external agents define both problems and solutions and may modify these in the light of people's responses.
4. Participation for Material Incentive	People participate by providing resources, for example labour, in return for food, cash, or other material incentives. Much on-farm research falls in this category.
5. Functional Participation	People participate by forming groups to meet predetermined objectives related to the project, which can involve the development or promotion of externally initiated social organization.
6. Interactive Participation	People participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones.
7. Self-Mobilization	People participate by taking initiatives independent of external institution to change systems. They develop contacts with external institutions for resources and technical advice they need, but retain control over how resources are used.

The participatory approaches described earlier are all aiming at the highest two levels in this typology, and the term 'empowerment' is increasingly used to distinguish between these types of participation and the others.

e) The participation of women

The participation of women in extension activities has been an issue of special concern during the past 25 years due to increased recognition that:

- women are often key decision makers in rural households, and/or they contribute a significant part of the labour for farming activities, and
- the impact of new technology or practices often affects men and women differently, particularly with respect to workload and income.

Women have been excluded from past extension activities for a number of reasons, including: a) agricultural policy does not fully recognise the contribution of women, b) the content and methods used by extension

programmes are not adapted to women's interests, availability or level of education, c) contact with government officials is seen to be the responsibility of the head of the household, d) most extension workers are men and it is culturally unacceptable for them to meet with women.

In the last two decades, *gender analysis* has become a key tool for increasing the participation of women<sup>24</sup>. This analysis helps to educate extension workers about the division of labour and decision-making responsibilities in rural communities, and contributes to the planning of extension activities that are more relevant to the needs of women.

Typically, gender analysis will reveal that women are responsible for poultry raising and vegetable production, which are done close to the homestead and do not require heavy labour, while men are responsible for cattle raising and rice production (except during transplanting and harvesting when everybody is involved).

Other efforts to improve women's participation have included:

- Recruitment and training of female extension workers;
- Setting targets for women's involvement and monitoring achievements;
- Holding meetings with local leaders to promote women's participation;
- Working through existing women's groups, such as savings and credit groups, or adult literacy circles;
- Combining the extension of production technologies with education about health and nutrition, with a particular focus on the needs of children;
- The use of participatory processes that respect the indigenous knowledge held by women, such as the use of herbal remedies;
- Addressing the problems of domestic fuel and water, which create huge demands on women's time in some countries
- Changing the timing of extension activities, so that they are carried out when women are available.
- Conducting practical training sessions in the village, not at training centres or research stations which requires travelling and overnight stays.

### ***1.3.3 The increased involvement of the private sector, and attempts at cost-recovery***

The massive cost and inefficiencies of the Training and Visit System have encouraged some Governments and donor agencies to seek alternative ways of funding extension programmes. At the same time, there has been a growing interest in making extension services more *accountable* to the needs of rural people, added to which has been the recognition that these needs are becoming increasingly complex. These concerns have resulted in attention being given to the role that the private sector might play in extension.

Although there is considerable agreement about the need to use participatory approaches, there is an on-going debate about the desirability of private sector involvement in agricultural extension. There are some people who believe that agricultural knowledge is a public good and should not be turned into a commodity. There are others who believe that the only way to provide farmers with a relevant and sustainable service is through a cost-sharing mechanism.

There are two basic types of private sector involvement in extension: services that are contracted by government and donors agencies, and services that are paid for by farmers. Although the second type of involvement is usually thought to be the most desirable - as part of the establishment of an *knowledge market*, contracting by government is sometimes seen as a necessary step towards the creation of this market.

Some other general considerations relating to contracting, privatisation and cost-recovery are :

- A distinction should be made between: a) replacing government extension workers with privately financed consultants, and b) scaling down government services while supporting farmer-to-farmer extension. Both approaches can save costs for the Government, but there is a difference in the extension paradigm that is being promoted.
- Input providers such as pesticide companies and equipment retailers, are often involved in providing farmers with advice. Although these activities are part of the agricultural knowledge system, they are not really extension. A contribution to the achievement of *development policies* is inherent to the concept of extension (see section 1.1.1). Communication activities that support *commercial objectives* are better described as 'marketing'.
- Farmers across Asia have been paying for knowledge for many years. Magazines and booklets containing agricultural information, many of which are privately produced, have always been popular with literate farmers. Some farmers pay fees to become members of groups and associations that give them access to information and services. It must also be noted that cash payments are not the only type of expenditure. The *opportunity cost* of attending regular meetings or training sessions can be considerable, and experimenting with new practices often involves a increased level of labour and risks.

Since 2000 there have been number of attempts to compile and examine global experience with alternative financing arrangements for agricultural extension<sup>25, 26, 27</sup>. The following examples illustrate a number of different approaches:

In Chile... the Agricultural Advisory Service reaches approximately 50,000 farmers. The service is managed by the national government and – since 1983 – it uses a strategy called Private Technology Transfer (PTT). This involves contracts awarded to private consulting firms or NGOs. The system is designed to include cost-sharing by farmers, but local government gives

vouchers to poorer farmers so that they can buy services. In recent years, farmers' organizations have gained a greater say in deciding which firms should be contracted to provide the advisory services.

In Thailand... extension services in the poultry industry have been integrated with contract farming for more than a decade. Both technical and managerial advice is provided to broiler producers by big companies, with the costs of this advice attached to the charges for feed, medicines, housing, etc. It has been reported, however, that contract farmers know practically nothing about the market prices for inputs and outputs. When some small farmers formed their own cooperatives, the big companies refused to supply either advice or veterinary services, and would only buy cooperative chickens based on extra strict grading criteria.

In India... the Ministry of Agriculture and the Agricultural Bank has recently started a scheme to train and deploy private extension workers called "agripreneurs". These agripreneurs are agricultural graduates who operate 'agriclinics' on a fee basis. Farmers pay for assistance in the development of business opportunities and the provision of services. To date there are 112 agripreneurs in 10 States who are operating without any subsidy. They are carrying out services such as soil testing and nursery management, and assisting farmers in starting businesses such as organic production and food processing.

In Sri Lanka... a large NGO called Sarvodaya has charged farmers the equivalent of \$20 each to attend Farmer Field Schools where they learnt about integrated pest management. The payment was made at the end of the 4-month course, after farmers had harvested and sold their rice crop. The charges were calculated to cover the actual cost of running the training, and were based on the estimated savings that farmers would make from reducing the use of pesticides.

In Vietnam... Women in a remote area in the North of the country pay a public veterinarian for regular visits to their village in order to vaccinate piglets. They negotiate payment *in kind* depending on the effectiveness of the services. For every six piglets that they raise to a marketable age, the women agreed to give one piglet to the vet as remuneration.

Some of the lessons that can be drawn from these cases are the following:

- Decisions about the type and level of private sector involvement need to be made on a case-by-case basis, rather than following a blueprint based on ideological arguments;
- Subsidies and legal measures may need to be put into place to protect the interests of poorer farmers who are less able to afford extension services;
- Farmers (or *clients*) need to be involved in decision making if services are to be relevant and effective. If government agencies issue contracts to private firms or NGOs without adequate consultation, services might not be any better than those previously provided by government staff;

- Farmers are more likely to pay for information and other services if they believe they will get an immediate financial benefit;
- Farmer associations and organisations can be an effective way of giving small producers a voice in negotiating contracts with extension providers and monitoring the standard of service.

## 1.4 Extension methods

### 1.4.1 Overview

Most extension programmes make use of a combination of methods, but any specific strategy is likely to be dominated by one or two types of activity. Under the T&V system, for example, 'group meetings' were the dominant method, but print materials and demonstrations were also used.

There are many factors that affect the selection of methods, including:

- the total number of rural families to be reached;
- the ratio of farm families to extension workers;
- the diversity of cropping systems;
- typical problems faced by farmers and the knowledge and skills needed to overcome these problems;
- cultural diversity including variations in language;
- literacy rates;
- the geography of the area;
- availability of transportation
- available funds.

Perhaps more important than any of these factors, however, is the extension *paradigm*. If the extension service has *transfer of technology* as its goal, it is likely to involve one-way communication such as radio broadcasts or demonstrations. If, however, *facilitation of empowerment* is the over-riding aim of extension, the service is more likely to use interactive methods such as experiential learning and farmer-to-farmer exchanges.

### 1.4.2 Mass media

Magazines, booklets, radio and television are all forms of mass media. In each case they involve a one-way flow of information, from a small number of *senders* to large number of *receivers*. The receivers are often described as the 'audience', a term which emphasises the passive role that these people play in the communication process.

Mass media have the advantage of reaching a large number of people at a lower cost than other extension methods. Print media such as booklets can be used to deliver information to thousands of locations in a form that is detailed, standardised and durable. Broadcast media such as radio usually delivers simpler and more transient information, but it can reach remote areas almost instantly. These methods are an effective way of creating an *awareness* of policies, problems, facts and opinions, but they have an uncertain influence on the *action* that people take. Radio cannot be used to negotiate solutions to problems, and booklets cannot cultivate the skills needed to implement new practices.

Although mass media cannot deliver location-specific advice, it can be used as part of a programme of *distance learning* that helps rural people to improve their understanding of general ideas. Farmers can use these ideas during their own analysis of local problems and opportunities. Mass media can be combined with other methods to improve the effectiveness of distance learning. For example, group meetings can be held at which people discuss what they have heard on the radio or read in booklets.

Language and culture can be barriers to the use of mass media. Rural people often have different beliefs and dialects to the experts and government officials who produce extension materials. One way to reduce this problem is to involve rural people in the production process. For example: farmer workshops can be organised to compile existing knowledge, print materials can be tested before they are finalised, and radio programmes can include interviews with members of the intended audience.

With the spread of computers and the internet, new methods of disseminating agricultural information have appeared. Compact disks, websites and email are now widely used by farmers in Europe and North America, and there are on-going projects to promote this technology in various parts of Asia. It is too early, however, to reach any conclusions about the effectiveness of these methods as part of different extension paradigms.

### **1.4.3 Inter-personal**

The term 'inter-personal' implies that – unlike in the case of mass media – there is an exchange of information and ideas between extension workers and rural people. There are opportunities for both sides to ask questions, and both sides to give answers.

There are two general inter-personal methods:

Individual Visits: this method was popular when extension services were focussed on wealthier and so-called 'progressive' farmers. Extension workers would make regular visits to these farmers, examine their crops or livestock, provide advice and arrange for inputs. This method is still possible when farmers are paying for extension services, as is the case in parts of Europe and North America, but it is hard to justify using individual visits as a major

component of a publicly financed service, particularly when the goals of the service include poverty alleviation and equitable development. There are simply not enough extension workers to use this method in a fair and efficient manner. However, it continues to be useful for extension workers to visit individual farmers as a way of learning about the problems and opportunities they face, as long as this knowledge is subsequently used for the benefit of the community as a whole.

Group Meetings: This method is generally more efficient and equitable than individual visits, although a lot depends on the composition of the groups. There are many kinds of groups that exist in rural areas: farmer cooperatives water user associations, youth clubs, etc. In some countries it is possible to carry out extension programmes through existing groups, while in other cases it may be necessary to form new groups. In either case, groups that are established by the government tend to be dominated by men from relatively richer families; special efforts are required to ensure that women and the poor are able to participate. It must also be noted that there are two broad types of extension groups: those that are established to meet the needs of the extension worker, and those that are formed around issues identified by rural people. Groups that consist of people with a shared interest, such as a problem they all face or a technique they all want to learn, are more likely to benefit from extension activities than groups which consist of people who are simply curious or who have been instructed to attend.

#### **1.4.4 Demonstrations**

There are two types of demonstration that are carried out as part of extension programmes:

Method Demonstrations. This type of demonstration is used to teach a specific farming activity such as the pruning of fruit trees, vaccinating poultry, or the maintenance of 2-wheel tractors. During the demonstration, farmers are shown the sequence of steps that are involved in the activity, and given an explanation of the factors that lead to the desired result. The process is often repeated a number of times. On its own, the method demonstration will provide farmers with information, but if they are to develop any skill they need an opportunity to carry out the activity themselves. Supervised practice can be part of a method demonstration if the number of participants is small and sufficient materials are available.

Result Demonstrations. This type of demonstration is used to show the benefits of a particular technology, such as a new variety of rice, or certain level of fertilizer. The technology is applied on a 'demonstration plot' located in a place that is visible to farmers. In the past, these plots were used to make comparisons between 'traditional' and 'recommended' practices, whereas it is now more likely that a range of practices will be demonstrated, so that farmers can make their own decision about which is most suitable for them. Most farmers recognise that the conditions that exist at demonstration plots are different to the conditions on their own farm.



The basic principles for both types of demonstration are<sup>28</sup>:

- Subject matter: only proven technologies should be used (otherwise the activity should be called a 'trial' not a demonstration);
- Preparation: facilitators should never contemplate giving a demonstration without careful planning and preparation.
- Participation: demonstrations should be carried out on local farms with farmers' participation rather than on extension plots or research stations;
- Simplicity: simple demonstrations of a single practice or new idea will be far more effective than ambitious and over-complicated demonstrations that demand too much of farmers;
- Learning: the demonstration is a learning environment and the facilitator must be aware of the learning requirements in terms of space, time, equipment and techniques;
- Follow-up: demonstrations should be part of a process, with follow-up meetings or visits that give guidance on implementation and help solve any problems that arise.

#### **1.4.5 Training sessions**

Training sessions have always been a feature of extension programmes. Individual sessions can be conducted as part of group meetings, or they can be combined to create training courses that extend over a number of days or even weeks. The fundamentals of traditional training are well known: the subject matter should be carefully selected to meet the needs of the participants, supporting materials should be prepared in advance, and questions should be asked to check that participants have learnt what was intended.

These fundamentals continue to be applied across the world, but during the past twenty years there have been a number of changes to the way in which training is organised as part of extension programmes:

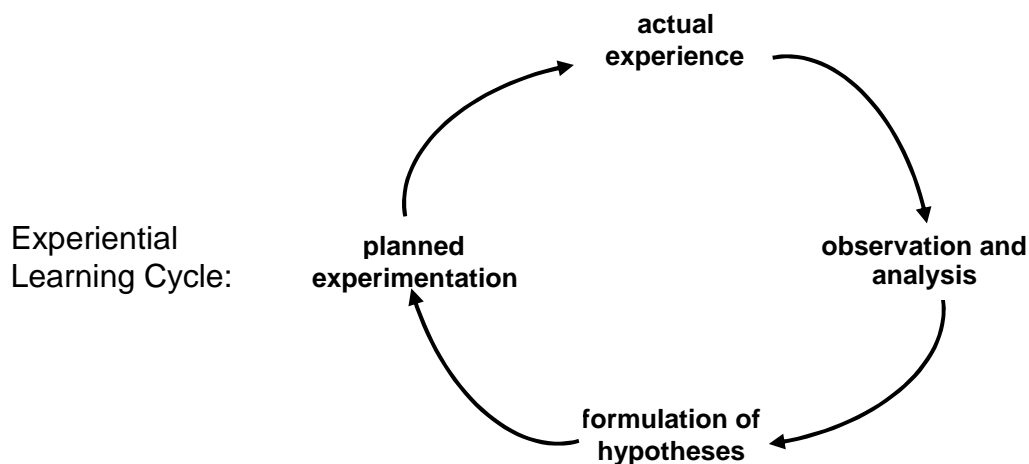
- In the past, a lot of money was spent on special training centres where extension staff or farmers could attend courses. Nowadays, courses are more likely to be conducted using existing facilities, - such as village meeting rooms and schools – or in farmer's fields and homesteads.
- Previously, training courses were based on a series of lectures and demonstrations, whereas now there is more 'learning by doing', with real materials replacing artificial teaching aids.
- No longer are the participants of training sessions sitting in rows facing the extension worker; instead they are often organised into small groups, where they solve problems and share results with each other.
- Training is not limited to scientific facts, but also covers managerial and organisational skills. And the content is not always limited to one subject,

but instead covers a number of integrated issues, drawing on concepts such as farming systems or rural livelihoods

- Government extension workers or NGOs staff are no longer expected to manage the training sessions from beginning to end. Rural people can also act as resource persons and facilitators.

#### **1.4.6 Experiential learning**

Experiential learning is increasingly used as part of participatory and educational approaches to extension. The process of experiential learning starts with an analysis of current practices and problems. As part of an agricultural extension programme, this analysis is carried out by rural people, usually with support from a facilitator. Based on their own analysis, the participants formulate hypotheses and plan a course of action that will enable them to test their ideas. These experiments are carried out in the context of normal work, the results are analysed, and further action is planned. This cycle of activities is summarised in the following diagram:



Experiential learning is a crucial part of both Farmer Field Schools (FFS) and Participatory Technology Development (PTD). The term ‘action research’ is also used to describe this method. Whatever it is called, the experiential learning process is fundamentally different from *didactic* methods that are used as part of paternalistic extension approaches. Didactic methods, such as lectures and demonstrations, start with an expert presenting rural people with externally-formulated hypotheses, including general scientific principles and the solutions to particular problems.

In the case of the FFS, for example, farmers are not given any lectures about the relationship between pests and beneficial insects. Instead they learn about this relationship by making careful observations of what is happening in their own fields. Based on these observation, they formulate and test their own ideas about how to manage pests.

There are a number of advantages to this method:

- it ensures that extension activities have a high degree of relevance to the needs and interests of rural people;
- it incorporates existing knowledge into the analysis of problems;
- it creates a high degree of 'ownership' of solutions that are generated;
- it develops a capability for 'critical thinking', which leads to continuous and self-reliant learning.

#### **1.4.7 Farmer-to-farmer activities**

Farmers have been learning from each other for thousands of years, but it is only in recent years that this has become a widely accepted extension method. Some examples are:

Farmer expert workshops. In most rural communities there are people who are acknowledged as having some special knowledge or skill. They might be an expert in the use of herbs and wild plants, or maybe they know how to repair certain types of equipment. Workshops attended by farmer experts can make an important contribution to both the planning and implementation of extension programmes. The participants of these workshops can identify problems and opportunities, assess proposals from outside experts, and act as tutors for other members of the community.

Cross Visits. Farming practices are often highly diverse. The design of grain stores, for example, or the methods used to treating sick animals, might be different from village to village. Organising visits between villages can be a good way to encourage the spread of *best practices*, or to encourage experimentation. The presence of a facilitator during these visits might help to stimulate discussion and improve the depth of observations that are made, but facilitators should be careful not to dominate the process.

Community consultants. These are rural people who facilitate training, provide expert advice, and/or act as a link between their community and other organisations. They might be selected to organise a single activity, or they could be appointed to provide a regular service to other members of the community. Various names have been used for these consultants, including 'village extension workers', 'farmer trainers' and *animateurs*. It is necessary to make a distinction between two types of community consultants: those who carry out activities that have been planned by experts from outside the community (e.g. government experts or NGO staff) and those who carry out activities that have been planned by members of the community. Both might use participatory methods, but only the latter will contribute to greater self-reliance. In some extension programmes, community consultants are given cash payments in return for their services. Elsewhere they work on a voluntary basis or are compensated by *in kind* payments (e.g. labour-sharing or donations of agricultural produce).

Farmer field days. Traditionally, field days were organised by Government extension staff as part of the transfer of technology paradigm. It is also

possible, however, for farmers to organise their own field days. This is particularly useful when a group has completed a training course or have carried out some experiments. In this situation, the field day is an opportunity to share results and give encouragement to other farmers.

In conclusion, by treating farmers as *actors* in the extension process rather than as the *audience*, a wider range of extension methods becomes available. A number of recent projects around the world have shown that farmer-to-farmer methods are low in cost but high in effectiveness. Further developments in this area can be expected.

## Part 2: The development of extension in Laos



### 2.1 Constraints to agricultural development

Agricultural and forestry extension is crucial to the future development of the Lao PDR.

Farmers make up approximately 80% of the total population and agricultural production accounts for half of the Gross National Product. Farmers also play an important role in the management of natural resources, including forests that cover 47% of the Lao PDR. These farmers face a large number of problems and many of them are living in poverty. The well-being of the country depends on the ability of farmers to analyse their problems and implement solutions in a systematic manner. The government and development organisations have an important role to play in this process. This is what agricultural and forestry extension involves: supporting the efforts of farmers to solve their problems, overcome poverty and improve production.

A number of constraints to agricultural development have been identified in The Government's Strategic Vision for the Agriculture Sector (1999). These constraints differ by agro-geographic zone, as follows.

<b>Constraints to agricultural development in Lao PDR</b>	
<b><i>Lowlands</i></b>	<b><i>Uplands</i></b>
<ol style="list-style-type: none"> <li>1. Insufficient market information and linkages</li> <li>2. Absence of commodity grades and standards</li> <li>3. Inadequacy of commercial credit facilities</li> <li>4. Insufficient flow of productivity-increasing technologies for cash crops</li> </ol>	<ol style="list-style-type: none"> <li>1. Lack of markets and market information</li> <li>2. Inadequate access to transport and road links</li> <li>3. Low incidence of rural savings</li> <li>4. Absence of the flow of productivity enhancing technology</li> <li>5. Slow implementation of formal land tenure arrangements</li> <li>6. Insufficient community-based irrigation infrastructure</li> </ol>

In both zones, agricultural extension can directly address weaknesses that have been identified in the flow of technologies. Other constraints will be addressed by improvements in infrastructure, institutions and the regulatory environment. As these improvements take place, the extension service will

support farmers' efforts to make use of the opportunities that have been created.

The problems that can be directly addressed by agricultural extension include:

- low educational level of farmers including a lack of basic scientific concepts that are relevant to agriculture;
- inadequate access to appropriate technology and, in particular, limited knowledge of productive techniques and the skills to implement them;
- lack of exposure to examples of successful farmers, which might improve confidence and enthusiasm for change;
- limited organisational development among farmers and a lack of collective action;
- insufficient market information, including knowledge of prices and standards;
- lack of knowledge about policies and regulations relating to agriculture.

Not all problems can be solved by agricultural extension. For example, the extension system cannot improve the condition of roads or change market prices. But agricultural extension will help farmers to examine their problems and find the best way to manage their resources in any particular situation.

## **2.2 Early history of extension in Laos<sup>29</sup>**

During the pre-revolution era, an Extension Division of the Department of Agriculture was established in 1957 with staff in 6 southern provinces and Luang Prabang in the north. An extension approach similar to the Training and Visit system was adopted in the early 60's, with the demonstration of successful practices as the main mechanism for instruction. Later, the Agricultural Development Organization (ADO, supported by USAID) contributed to the extension of new technology by supplying inputs to farmers as well as acting as a marketing agency.

Following Liberation, improvements in production were attempted through the establishment of cooperatives, both for subsistence agriculture and also to supply various commodities to state processing plants. Approximately 200 cooperatives were operating at their peak in 1984. The main emphasis was on rice production and the use of composting to improve soil fertility. In support of the cooperatives, a 'hands-on' approach to extension was used, with staff from the Ministry often living in villages and working directly with farmers to instruct them in the use of new technology. In some cases this was extremely effective, but the success cases were small and the approach was abandoned.

In 1986, the New Economic Management system was introduced which allowed farmers to return to individual production and encouraged the operation of free markets. Concurrently, foreign aid from Western countries began to arrive as part of an 'open door' policy. A number of projects aimed at

increasing agriculture production were established. These projects used existing local extension staff, but the approach was variable, depending on decisions taken by the experts assigned to the projects. As the goals of these projects were limited to increasing production in the project area, they did not really contribute to developing an extension approach or system.

Throughout these changes, a national extension structure was in place, consisting of the Provincial and District Agricultural and Forestry Service Offices (PAFSO and DAFSO). These offices were divided into sections responsible for agriculture, irrigation, forestry and livestock. Most of the duties concerned the collection of data and very little time was devoted to improving farmers' production.

Moves to change this orientation began in 1992 with the establishment of the Agricultural Extension Agency (AEA) under the Department of Agriculture and Extension. Extension activities were initiated with a programme of 'model families' who would provide examples of improved rice production and other production enterprises. DAFSO staff were required to identify progressive farmers, request them to use an intensive package of technology, and provide seed and fertilizer for the first year of production. To assist the model farmers, staff from AEA and/or DAFSO often resided in the village to guide and supervise the model families. This strategy was broadened in 1994 with the training of Village Volunteer Technicians. The technicians were normally nominated by the head man of the village, and trained by DAFSO staff in short courses of one or two days duration. These formative efforts did not have a large impact on production. The selection of model families and village volunteer technicians was not always suitable, and they were not fitted into any sort of on-going programme.

In 1995, three 'extension regions' were established based on broad agro-ecological criteria: The Northern Region, Central Region and Southern Region. Early in 1996, the first regional meetings were held, at which it was agreed that:

- the farming family would be regarded as the basic unit of production
- the DAFSO office would be the key government agency in reaching the farm family to improve production, and
- the AEA would directly support staff of DAFSO.

These agreements opened the door to the establishment of a National Extension System.

## **2.3 Major extension projects in the past 10 years**

### **2.3.1 *The Pilot Extension Project (PEP)*<sup>30</sup>**

The Pilot Extension Project (PEP) started in 1996 with a duration of three years. Responsibility for implementing the PEP rested with a team based at

the Agricultural Extension Agency (AEA) and with staff at the Provincial and District levels. The project was funded by the Novartis Foundation (related to the Swiss Ciba-Geigy company), while technical assistance was provided by IRRI.

The objective of the PEP was to “*develop the extension system at the Central, Provincial and District levels*”. Given that this was a *pilot* project, the PEP team focussed on developing and testing an extension methodology at the District Level that could be subsequently scaled up to create a national extension system.

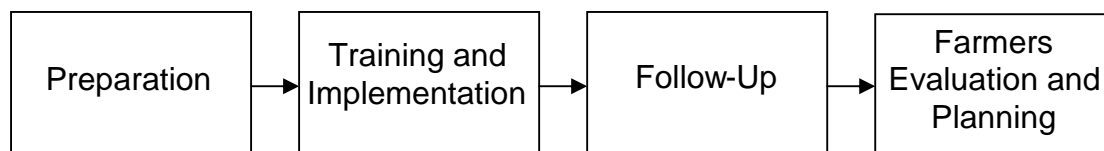
The project operated in two Districts in each of two Provinces:

- Champassak Province – Soukhouma and Kongxedon Districts
- Saravan Province – Phone Tong and Wapi Districts

The PEP extension methodology was based on a number of principles, including:

- the village community is the unit for mobilisation and change
- farmers should develop the capacity to analyse their own conditions
- new technologies should be introduced on a trial basis, for farmers to evaluate themselves
- material inputs should not be provided to farmers, other than what is needed for small trials of new technologies

The methodology itself, involved four steps:



In order to test the methodology and provide practical training for DAFO staff, the Project supported extension in clusters of pilot villages, using technical interventions that were both “off-the-shelf” and “generally applicable”. These interventions covered rice production, fish and poultry production, and dry season crop production.

Within 3 years, 40% of all families in the 46 pilot villages began using improved technologies for over 20% of the rice production area, with an average yield increase of 50%. Other interventions succeeded with small groups of farmers in particular areas.

Regarding the extension methodology, PEP demonstrated the potential for a decentralised and participatory approach with the following features:

- generalist extension workers;
- activities organised around clusters of villages;



- an emphasis on practical training and farmer exchanges.

In the early stages of the project, the concept of a 'pilot' was not widely understood, with the result that many PAFO and DAFO staff thought that PEP was an area-development project. Efforts were made to change this misunderstanding following the mid-term review. Nevertheless, by the end of the project there was only one District with the willingness and capacity to sustain the methodology. Also, the planning and management systems needed to scale up the system had not been developed.

As part of the internal assessment carried out at the end of the project, the PEP team identified a number of 'tasks' that needed to be carried out in order to continue the development of extension in Laos on a larger scale, including:

- on-the-job training of extension staff;
- creating a cross-departmental unit at MAF Level, to co-ordinate training of extension staff;
- studying the roles of DAFO and the implications of re-structuring for an extension function;
- identifying management issues and applying an improved Extension Management System on a trial basis;
- establishing an extension review committee at MAF.

Among the outputs of PEP were a series of technical papers on issues such as "community based extension methodology" and "institutional adjustments to DAFO for an extension orientation". The experience of PEP, and the documents produced under the project, have greatly influenced the methodology under subsequent extension projects.

### **2.3.2 Farmer Irrigated Agriculture Training (FIAT) Project<sup>31</sup>**

In the 20 year period following liberation, about \$180 million was invested in the irrigation sector. Most of these funds were spent on hardware, and the little that was spent on operation and maintenance was relatively ineffective. In the early 90's, Government policy shifted towards farmer-managed irrigation schemes, but for some years this policy was not implemented due to the lack of tested methods. These problems were addressed by the Farmer Irrigated Agriculture (FIAT) project, funded by UNDP between 1994 and 1999.

The long-term objective of FIAT was: *To improve the living standards of farmers in irrigated areas by increasing agricultural production through HRD and strengthening Government and farmer institutions.*

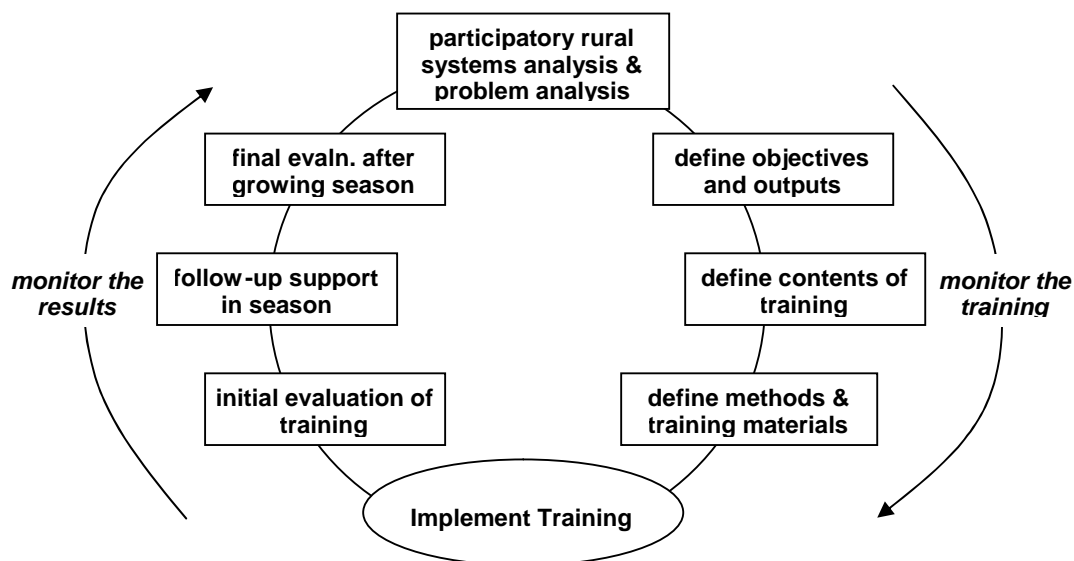
FIAT had four immediate objectives, as follows:

- To develop and strengthen the capacity of i) agriculture and irrigation staff and ii) staff of colleges, by a program of training, advisory services and monitoring.

- To train and develop selected Water User Group (WUG) leaders and extension workers (EAFs/VEWs).
- Develop existing training units in agriculture and irrigation colleges with equipment, facilities, methodologies and co-operatively develop training materials.
- i) the rehabilitation of flood damaged projects (temporary), and ii) the coordination and co-operation with MAF training and extension agencies, other UNDP projects and relevant NGOs.

The FIAT project was managed in three Phases. In the Pilot Phase, Master Trainers were trained, and field activities were carried out in two Provinces. In Phases 1 and 2, training and field activities – including rehabilitation of irrigation structures – took place in 13 Provinces. A cascade training system was used during the project, with the result that a total of 35 Master, 90 Provincial and 209 District Trainers were trained. To support the training process, 10 training manuals were produced, including guides on ‘irrigation management’ ‘methods of working with villagers’ and ‘gender in development’.

The cycle of training activities carried out under FIAT was integrated with actual irrigation management and crop production, as shown in this diagram



As a result of using the cascade training system and the cycle illustrated above, 66 Water User Groups were formed and more than 6,200 farmers were given training. The estimated increase in rice production by these farmers during the life of the project, as a result of expanded cropping area and improved yields, was 37,000 tonnes.

Another indication of the success of the training and extension system development under FIAT was the willingness of other donors and projects to pay for the services of FIAT trainers.

In view of the success of the project, the Final Evaluation recommended that a strategy in which:

- MAF adopts the FIAT process, and transforms it into a 'training system' focussed on extension, as an official part of the MAF line agencies, incorporated into training components.
- Relevant donors support and facilitate the development of this system.
- UNDP has a framework in which to provide targeted support to foster both the co-ordination of extension training in general and to follow-up its support to the adoption of FIAT training in the irrigated agriculture sub-sector.

Although a change in UNDP priorities prevented the organisation from funding a follow-up project, many features of the FIAT training system were incorporated into the design of the Swiss-funded Laos Extension for Agriculture Project (LEAP).

### **2.3.3 *FAO training in Integrated Pest Management (IPM)*<sup>32</sup>**

For more than 20 years, the Food and Agriculture Organisation (FAO) of the United Nations has been supporting training programmes across Asia based on the concept of integrated pest management (IPM). These programmes have been funded by the Governments of Australia, Netherlands, Norway and Switzerland. Activities have been carried out in 12 countries, and Laos became part of these efforts in 1996. The goals of the current IPM programme in Laos are:

- To support Lao farmers in developing the skills and capacities needed to increase agricultural productivity and food security in a sustainable, equitable and environmentally sound manner;
- To assist the Lao Government to build capacity in designing, managing and supporting training, farmer education, and field research activities;
- Increase the involvement of local government and partner agencies in the financial, programmatic and field-level backing of these activities;
- Expand and extend field activities by and with farmers both in current program areas, and in additional provinces and cropping systems.

The IPM training supported by FAO in Laos has been carried out through Farmer Field Schools (FFS), a participatory approach that is described in section 1.3.2. In summary, the FFS involves weekly meeting by a group of farmers throughout the cropping season. During these meetings, the participants make close observations of the conditions of 'study plots' in farmers fields, and draw their own conclusions about how the crop should be managed. This methodology is called 'experiential learning' and it results in a practical understanding of agro-ecology in addition to improving problem solving skills.

In Laos, FAO has supported FFS in nine provinces: Attapeu, Chamapsak, Salavan, Savannakhet, Khamouane, Boulikhamxai, Vientiane Municipality and Luang Phrabang. A total of 400 FFS have been conducted for rice

farmers, and 180 FFS for vegetable farmers. The total number of participants at has been approximately 14,500. FAO has also supported Training of Trainers courses of 4 months duration; as a result there are more than 100 government officers with the ability to conduct further FFS.

In addition to the FAO-supported FFS, the same approach has been adopted for some of the extension and training activities carried out by other donors and projects in Laos, including Danida, Oxfam-Belgium, BUCAP, CIDSE and ILO.

As a result of attending FFS, Lao farmers have increased their yields by an average of 25%, with a 37% increase in profit margins. After completing training, some IPM farmers have continued to conduct studies on topics such as soil ecology, control of bacterial wilt, and production of tomatoes in the rainy season. By producing off-season tomatoes, IPM farmers in Vientiane municipality have been able to get between 2 and 4 times the previous market price for their produce.

The IPM programme has sometimes been criticised because the training of extension staff and farmers is very time-consuming. Consequently, many shortcuts have been tried, including five-day Training of Trainers, 'Integrated FFS', and 'IPM-friendly' chemicals. The FAO staff in Laos have responded by saying that *'shortcuts won't get you there'*. The explanation is as follows:

*"If the goal is to really learn about growing a crop, then a crop must be grown. This can't be rushed. It takes an entire season. Through such intensive, hands-on exploration and analysis, participants not only learn a great deal more, they believe it as well, and consequently have the skills and confidence to apply it. And more importantly, they can learn the experimental and analytical skills to continue learning long after the activity itself is complete".*

#### **2.3.4 Lao-Swedish Forestry Programme (LSFP)<sup>33</sup>**

The Government of Sweden has been providing support to the Lao Department of Forestry since the mid 1980's, including the training of forestry technicians. Phase IV of the Lao Swedish Forestry Programme started in 1996, with a duration of 5 years and an overall goal of:

*Improved productivity and sustainable use of forest and agricultural land in combination with conservation and protection of target areas.*

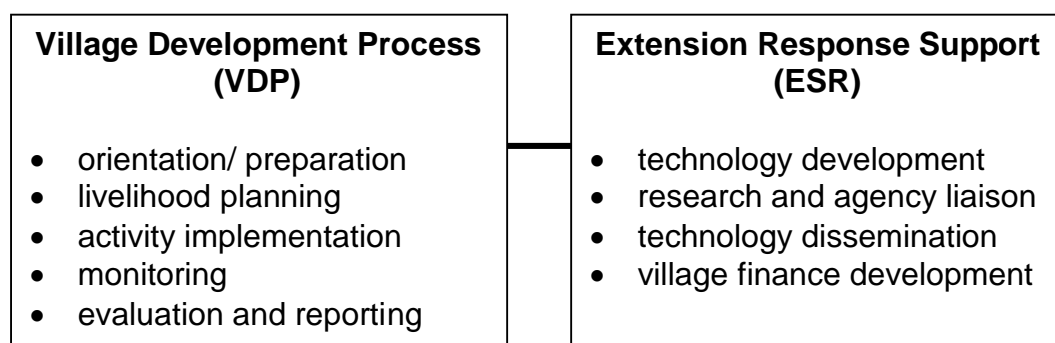
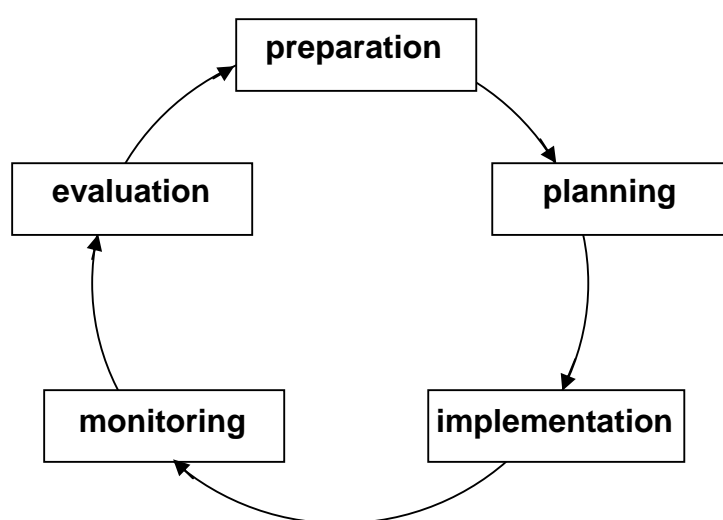
Phase IV of LSFP had six components, one of which was "extension and extension training". The precise objectives of this component included:

- To develop and provide participatory extension procedures and methods which promote positive interaction with village communities and enable self-reliance, sustainable livelihoods and the sustainable use of natural resources.

- To incorporate participatory gender responsive methods throughout model development and in extension application in village communities, providing for equality in participation and benefits from the development process.

Technical assistance to LSFP Phase IV was provided by Scandiaconsult Natura, a Swedish consulting company. The extension component of this Phase initially focussed on the development of a curriculum and training of trainers at the Regional Extension Training Centres in Xieng Ngern and Xepon. Subsequently, more attention was given to the development of District extension methodologies. In light of the Government's policy, as described in the 'Strategic Vision for the Agriculture Sector', LSFP recognised that the District Agricultural and Forestry Office (DAFO) plays the key role in the interface of programme activity with village communities. Coordination is via Provincial Offices.

Testing of extension methodologies commenced in mid 1998 in 3 Districts in Savannakhet (Atsapon, Palansai, Pinn) and one District in Salavan (Laow Ngam). In each District, one village was selected for the LSFP Model Consolidation Project (MCP). The participatory approach used in these villages involved two parallel components. Firstly, the Participatory Village Development Process (VDP), consisting of the 5 steps shown in the diagram. This was supported concurrently with an Extension Response Support process (ESR). In this way, extension work was demand driven, being tailored and focussed to community identified needs, on a village-by-village basis, as illustrated below:



Whilst the Village Development and Extension Response Support processes are illustrated separately, they were closely linked through participation. Each partner provided knowledge and experience at each step of the cycle, with the village taking responsibility for - and ownership of - Village Development Plans and activities.

Village financing was an important part of the extension model developed under LSFP IV. Saving groups, credit schemes and revolving funds were established in the pilot villages, and procedures were established for the management of these funds.

The lessons learned under the extension component of LSFP were documented in 2001. Among the most important findings were:

- To be effective, research has to be linked to village development and extension, rather than developing technologies at research stations;
- Consultation between provincial, district and village stakeholders is important if activities are to be carried out efficiently;
- Extension services need to provide more advisory assistance to villages rather than continue to focus on 'inspection';
- The 'model farmer' and 'model village' approach has limitations due to limited dissemination and problems of scaling up;
- Extension activities can be carried out with limited facilities, providing the problems of mobility and staff transfers are overcome;
- There continues to be difficulties in applying a truly participatory approach;
- Financing mechanisms based on the principle of village ownership have great potential to increase self-reliance and accelerate village development.

LSFP IV was followed by the on-going Lao-Swedish Upland Agriculture and Forestry Research Program (LSUAFRP, 2002-2005). Emphasis in the current phase is being given to the development of upland technologies and strengthening NAFRI. Participatory approaches continue to be used in combination with a farming systems research and extension (FSR/E) approach. LSUAFRP is focussing on two districts: Namo District in Oudomxay Province, and Phonxai District in Luang Prabang.

The lessons learnt by LSFP are also being applied under the Forest Management and Community Support Project (FORCOM), which will be implemented in six Northern provinces with funding from JICA. FORCOM, which started in 2003, includes training of DAFO and PAFES staff in extension skills and techniques.

## **2.4 Overview of current extension approaches in Laos<sup>34</sup>**

In 2002, the Lao Extension for Agriculture Project (LEAP) carried out a survey of existing extension approaches. A questionnaire was sent to 46 projects throughout the country, of which 38 submitted responses. The projects that responded included those funded or managed by:

- international technical organizations (FAO, UNDCP, IUCN, IRRI and CIAT);

- multilateral and bilateral donor agencies (World Bank, EU, German, Swedish and Danish);
- secular NGOs (CARE, Community Action Abroad, Oxfam-Belgium, Save the Children, Concern WorldWide, German Agro Action);
- faith-based NGOs (Quaker Services, Norwegian Church Aid, ADRA, CIDSE and ZOA)
- volunteer agencies (CUSO)

One of the most interesting questions in the survey concerned the function of extension. The most common response was “to improve farmer’s capacity” (79%). This was considered to be more important than “increasing production” (74%) and “introducing new technology” (66%). Other responses included “human resource development” (16%) and “poverty reduction” (5%).

The main findings of the survey are summarised below.

#### 2.4.1 Extension coverage

At the time of the survey there was an uneven geographical distribution of extension projects. Some of these projects were supporting activities in more than one location, and consequently the responses were separated into *sub-projects*. Some provinces were home to 6 or 7 sub-projects while other provinces had only 1 or 2. In general, there was a higher concentration of sub-projects in the North. Approximately half of the sub-projects were operating in only 1 or 2 Districts and in less than 20 villages.

According to land-type, there is a concentration of projects in upland, rainfed and forested areas. Fewer projects are operating in irrigated areas.

Regarding ethnic groups, more than 40% of the projects are aimed at Lao Loum, among which the Lue group is most frequently targeted. Among those project aimed involving the Lao Theung, the Khamu ethnic group is most

#### Extension Projects’ geographical coverage

No.	Name of Province	No. of sub-projects	Percentage
1	Luangnamtha	6	8.33%
2	Oudomxay	5	6.94%
3	Phongxaly	1	1.39%
4	Sayaboury	7	9.72%
5	Luangphrabang	7	9.72%
6	Xiengkhoang	6	8.33%
7	Huaphan	4	5.56%
8	Bokeo	3	4.17%
	<b>Northern Part</b>	<b>39</b>	<b>54.17%</b>
9	Vientiane municipality	5	6.94%
10	Vientiane province	7	9.72%
11	Saysomboun special zone	1	1.39%
12	Bolikhamxay	2	2.78%
13	Khammouane	2	2.78%
	<b>Central Part</b>	<b>17</b>	<b>23.61%</b>
14	Savannakhet	6	8.33%
15	Salavanh	5	6.94%
16	Sekong	2	2.78%
17	Attapue	1	1.39%
18	Champasak	2	2.78%
	<b>Southern Part</b>	<b>16</b>	<b>22.22%</b>
	<b>Total</b>	<b>128</b>	<b>100.00%</b>

often the target, while projects in Lao Sung areas are usually focussed on the Hmong Lay.

Ethnic group as projects' target

No	Group	No of Sub-projects	Percentage
1	Lao Loum	33	42%
3	Lao Sung	24	31%
2	Lao Theung	21	27%
	<b>Total</b>	<b>78</b>	<b>100%</b>

## 2.4.2 Extension Topics

The survey included questions about the most common problems faced by rural people in the area covered by extension projects. The most common responses were *lack of technical knowledge, poor soil and poor access to markets*.

Main agricultural constraints in project areas

No	Problems	No of Projects	Percentage (Out of 38 projects)
1	Lack of technical knowledge	27	71.10%
2	Poor soil	24	63.20%
3	Poor market access	23	60.50%
4	Animal disease	20	52.70%
5	Pest	18	47.40%
6	Soil erosion	17	44.70%
7	Weeds	15	39.50%
8	Drought	14	36.80%
9	Crop disease	13	34.20%
10	Lack of planting material	12	31.60%
11	Other agricultural problems	12	31.60%
12	Flood	6	15.80%

Rice cultivation is the most important economic activity in almost all project villages and this has influenced the selection of extension topics. Out of the 38 projects covered by the survey, 12 are promoting improvements in rice cultivation through the introduction on new varieties or better practices. Other projects are encouraging crop diversification with an emphasis on high value commodities. 10 projects are involved in the introduction of fruit trees, while the production of vegetables and fodder crops is also significant.



*Projects involved in improvement of existing crops*

No	Type of crop	Improve crop		Improve practices	
		No of project	%	No of project	%
1	Rice	12	26%	6	19%
2	Fruit tree	10	21%	3	9%
3	Vegetable	5	11%	5	16%
4	Mulberry	4	9%	4	13%
5	Cash crop	1	2%	4	13%
6	Maize	4	9%	0	0%
7	Various	2	4%	2	6%
8	Bio-fertilizer, local pesticide	0	0%	2	6%
9	Wetseason rice	1	2%	1	3%
10	Crop in dry season	1	2%	1	3%
11	Fodder grass	1	2%	1	3%
12	Garlic	1	2%	1	3%
13	Cabbage, cucumber	0	0%	1	3%
14	Integrated perma-cropping	0	0%	1	3%
15	Casavas	1	2%	0	0%
16	Cardamon	1	2%	0	0%
17	Cotton	1	2%	0	0%
18	Sesamee	1	2%	0	0%
19	Wheat	1	2%	0	0%
Total		47	100%	32	100%

*Projects involved in the introduction of new crops*

No	Type of crop	No of projects	%	Reasons
1	Fruit trees	10	20%	Income generation, sustainable soil utilization, reduce slash and burn, sales and consumption,
2	Vegetable	4	8%	For consumption and sales, healthy food, market demand
3	Grass/forage (e.g. Stylo)	4	8%	Dry season fodder, soil conservation, improved nutrition
4	Various crops, unspecified	4	8%	NA
5	Rice	3	6%	Higher yielding varieties
6	Asparagus	3	6%	High price, existing market
7	Potatoes	2	4%	NA
8	Cash crops, unspecified	2	4%	Regular income
9	Cardamon	2	4%	Good market, market need
10	Artichokes	2	4%	Existing market, high price
11	Legume trees/shrubs	2	4%	Improve upland farm
12	Soybean	1	2%	Market demand
13	Wheat	1	2%	Using land after harvest
14	Millet	1	2%	Replace rice for alcohol
15	Job's tears	1	2%	NA
16	Mulberry	1	2%	Suitable in similar environment
17	Herbs	1	2%	Own consumption in the year
18	Tomatoes in dry season	1	2%	Requested by farmers

19	Annual legumes	1	2%	Soil improvement
20	Different species	1	2%	NA
21	Industrial plants	1	2%	Potential
22	Non-timber forest products e.g. rattan	1	2%	Income generation, local market, conservation
23	Frog, fish	1	2%	Additional income
24	Terracing	1	2%	Reduce swidden cultivation
	<b>Total</b>	<b>29</b>	<b>57%</b>	

Approximately two-thirds of the projects covered by the survey are extending new techniques for livestock production. Priority is given to vaccinating animals (pigs, poultry and cattle) as a means of controlling diseases. Improved feeding and housing is also covered. A significant number of projects (10) are also involved in promoting fish raising.

#### Projects involved in livestock improvements

No	Activities	No of projects	Percentage (Out of 38 projects)
	<b>Poultry</b>		
1	Vaccine and traditional medicine use	24	63.20%
2	Local feeding	18	47.40%
3	Chicken production group improvement	15	39.50%
4	Training	11	28.90%
5	Local quarantine	8	21.10%
	<b>Pigs</b>		
6	Pig vaccinating	25	65.80%
7	Local pig feed	18	47.40%
8	Low-cost pig fallow	17	44.70%
9	Training on pig raising	11	28.90%
10	Promoting native pig	4	10.50%
	<b>Fish</b>		
11	Providing small fish	10	26.30%
12	Promoting local feeding	10	26.30%
13	Promoting clean and adequate water in fish pond	10	26.30%
14	Training on fish raising	10	26.30%
15	Raising fish in rice field	5	13.20%
	<b>Cattle/Buffalo</b>		
16	Cattle vaccination	21	55.30%
17	Grass improvement	9	23.70%
18	Low-cost cattle house	6	15.80%
19	Training on cattle raising	6	15.80%
20	Promoting local quarantine	4	10.50%

#### **2.4.3 Extension Methods**

The extension activities of the projects covered by the survey are usually targeted at clusters of less than 10 villages. In half of the projects, extension staff work in teams, while in other projects they work as individuals. Many of

the activities are conducted through village based organizations, the most common of which are savings and credit groups.

Existing village-based organizations

No	Group	No of projects	Percentage (Out of 38 projects)
1	Saving and credit	24	63.2%
2	Rice and buffalo bank	20	52.6%
3	Water users	18	47.4%

Almost all projects report using participatory methods for problem diagnosis, but technical interventions are usually selected by the project staff. In about half of the projects, villagers are allowed to select interventions from a range of options, but in a significant number of cases the technology is predetermined.

Approaches for identifying project's interventions

No	Activities	No of projects	Percentage (Out of 38 projects)
1	Participatory problem diagnosis	37	97.3%
2	Staff select a technical option	24	63.2%
3	Project provides villagers with a range of new technologies and allows them to select an optimal option	20	52.6%
4	Project has a fixed set of technologies or activities	9	23.7%
5	Staff introduce a new technology	3	7.9%
6	<b>Other approaches</b>		
	- Cross visit/study tour/Peer exchange	3	7.8%
	- Training	2	5.3%
	- Village need assessment	2	5.3%
	- VDC	2	5.3%
	- Village Development Planning	1	2.6%

Group methods are slightly more common than individual methods, with 23 projects involved in creating 'interest groups' compared to 20 projects that make use of 'model farmers'. The most prevalent extension method is some kind of training, but study visits, field trials, demonstration plots and printed materials are all widely used.

Methods of introducing new technologies

No	Methods	No of projects	Percentage (Out of 38 projects)
1	Training event	36	94.70%
2	Study trips and cross trips	33	86.80%
3	Simple trial	28	73.70%
4	Staff work directly with farmer	27	71.10%
5	Demonstration plot	23	60.50%
6	Pamphlet, brochure, poster, VDO	23	60.50%

In addition to organisational development and educational activities, most extension projects are also providing some inputs. In most cases, cash or

materials are provided to start a revolving fund or to conduct trials. A small number of projects are subsidising production activities, but in only two cases was a 100% subsidy provided.

#### Provision of material inputs

No	Methods	No of projects	Percentage (Out of 38 projects)
1	Cash or material inputs provided to start a revolving fund	28	73.7%
2	Small amount of material for trials	23	60.5%
3	Subsidies	6	15.8%

After groups have been established and training carried out, most projects are conducting follow-up visits. Approximately half of the projects make regular visits (every two or 4 weeks) while other projects make visits only when required. The main purpose of these visits is to give encouragement, promote sharing of knowledge and give problem-solving advice.

## 2.5 Lessons learned from past

A number of important changes are now taking place within the Ministry of Agriculture and Forestry (MAF). In the past, the activities of MAF were characterised by centralised decision-making and a sectoral approach. Provincial staff used to wait for instructions from the central authorities rather than planning and managing their own activities. The instructions, when they came, focussed on targets and regulations relating to specific crops and commodities. Some of the consequences of this system were:

- contacts between government extension workers and farmers were only made on an irregular/sporadic basis
- the technologies being promoted were not always appropriate to local conditions;
- prioritisation of activities was not always in accordance with the needs of farmers;
- the advice given to farmers was highly generalised and not always useful;
- there was a lack of ownership and poor motivation among Provincial and District staff of MAF;
- there was weak coordination between different sectors (livestock, forestry, crops) and progress depended on the budget allocations for each sector.

The projects described in section 2.3 have demonstrated that a more effective approach to extension is possible in the Lao PDR. An examination of these projects provides a number of important lessons, as summarised below.

- a) Experience suggests that the diverse needs of rural people in the Lao PDR can only be met by a pluralistic extension system, one that involves a number of different organisations and projects including both the public and private sectors, which employs a variety of extension methods, and which promotes a range of technologies. A single method of extension, or a fixed set of messages, is unlikely to benefit the majority of farming families.
- b) Many projects also show that decentralisation can work. The Government has a policy of allowing farming families to make their own production decisions, and giving District offices responsibility for managing extension activities in response to farmers' needs. Completed and on-going activities have demonstrated that the capability does exist - or can be developed - to put these policies into practice. Planning at the village level, with village authorities playing a coordinating role, has been a key activity in successful projects. It is also evident that farming families already possess a large amount of valuable knowledge regarding local resources and traditional practices, but they lack analytical skills and an understanding of new methods.
- c) Almost all extension projects in the past 10 years have emphasised the importance of training. It is clear from experience that educational activities are an essential ingredient in a pluralistic and decentralised approach. Only through on-the-job training will farmers and extension workers develop the knowledge and skills needed to analyse local problems and plan their own activities. To be successful, this training should be designed to solve real problems faced by the participants, and involve the practice of skills under real conditions. It must also be noted that this type of training takes time, with skills being developed over a period of weeks or months, not in the space of a few days.
- d) A number of projects in Laos have also demonstrated the benefits of participatory technology development (PTD), with research activities being shifted out of the research station and into the village. This has important implications for extension, because farmers and District staff become part of the process of identifying and testing new varieties and practices.
- e) Participatory methods such as PTD and PRA also make an important contribution to local *ownership* of extension activities at the village level, which in turn contributes to sustainability of both the process and the benefits. Nevertheless, sustainability has often been difficult to achieve in Laos, partly because of the short-term nature of most projects combined with the use of incentives which are no longer available once the projects come to an end.
- f) Many different approaches to financing extension activities have been tried. Although some extension projects continue to provide substantial subsidies to participating farmers, it has been demonstrated that most farmers are willing to participate without being paid. In some cases, farmers are also willing to remunerate other members of the community for technical advice and training, if this leads to financial benefits. Farmers are especially motivated if they are involved in the planning of learning activities and

therefore understand the potential benefits. Where funds need to be generated for productive activities, it has been shown that savings schemes and revolving funds can be effective.

g) There has also been varied experience in capacity building at the District and Provincial level. It has been shown that effective extension programmes can be carried out without large investments in buildings and equipment. However, poor salaries and lack of transportation often have a negative effect on the motivation and efficiency of field staff. The prominent role played by foreign experts in the planning and management of extension activities has – in some cases – further weakened the commitment of government staff. There have also been some misperceptions regarding the purpose of ‘pilot projects’ and ‘capacity-building’, with the result that successful methods have not been maintained or scaled up.

h) Where scaling up has been achieved, it has been a result of a combination of factors: a) an agreed set of procedures for group-based extension that have been tested and documented, b) a ‘cascade’ training system that will build skills at the provincial, district and village levels, c) production technologies or practices that have proven financial benefits across a wide range of circumstances. By contrast, approaches that depend on the training of individual farmers or model families, and which employ *ad hoc* procedures or highly specialised technologies, have not succeeded on a large scale despite the considerable benefits that might have been demonstrated on a pilot basis.

i) Finally, the evaluation of a number of projects has highlighted the need for stronger coordination of extension at the national level. If extension services are to be improved throughout the country, and if improvements are to be carried out in an efficient and systematic manner, clear leadership must be provided by the government. Foreign projects can test new approaches and help build capacity, but then cannot provide the direction that is necessary for the establishment of an truly national extension service. The need for clear directions was reiterated at a workshop held in October 2002, attended by staff the National Agricultural Extension and Forestry Extension Service (NAFES) plus representatives of 8 extension projects. The participants concluded that *General guidelines should be developed, officially approved and distributed to all involved extension workers throughout the country*<sup>35</sup>.

## 2.6 LEAP and the consolidation of Lao experience

The Laos Extension for Agriculture Project (LEAP) is a capacity building project based in NAFES. Phase 1 of the project started in November 2001 and ended in December 2004. Phase 2 started in January 2005 and will continue until 2007. The project goal is:

*to support the development of a decentralised, participatory, pluralistic and sustainable agricultural extension system that reaches male and female farmers equally.*

The project strategy is firmly anchored in the policy of the Government as expressed in the Prime Minister's decree on decentralisation and MAF's 'Strategic Vision for the Agriculture Sector. LEAP also builds on earlier experience in Laos, and the project document explicitly states that the project will further develop extension approaches piloted under FIAT, PEP LSFP and FAO-IPM. Consequently, LEAP has been consolidating the lessons that have been learned by MAF and a number of foreign organisations over a period of nearly 10 years.

At the outset, LEAP had four components as follows:

- The development of demand-driven extension methods and delivery mechanisms;
- Institutional strengthening for the implementation of decentralised extension system;
- Establishment of a training and coaching system to be run by central and provincial staff;
- Assessment and evaluation to determine extension effectiveness;

In Phase 1, long-term and short-term advisors provided direct assistance to the work of the Central Training and Extension Development Unit (CETDU). Training was carried out for Government staff and farmers through pilot activities in 98 villages. In Phase 2, LEAP will assist with the expansion of training activities to all 18 provinces and support the activities of an extension 'alliance'. The alliance will be managed by NAFES/MAF and act as a forum for information-sharing and collaboration among all national and international organisations that are interested in the further development of extension systems in Laos.

LEAP is funded by the Swiss Agency for Development and Cooperation (SDC) and implemented by Helvetas, the Swiss Association for International Cooperation. It is important to note, however, that the extension approach that has been implemented with the help of this project is not a 'Swiss system' or a 'LEAP system': it is the national system for agricultural and forestry extension in Lao PDR which will be called the **Lao Extension Approach**.

Selected milestones in the implementation of LEAP have been:

#### 2001

- Project started in November
- Identification of pilot areas in Champassak, Saravanh and Luang Prabang
- Workshops to assess situation in pilot areas

#### 2002

- 1<sup>st</sup> Training of Master Trainers

- Start of training at Provincial and District levels
- Survey of existing extension approaches in Laos, plus review workshop

### 2003

- Learning projects implemented in pilot villages in 9 Districts
- 1<sup>st</sup> National Workshop on Extension conducted by NAFES
- Gender training for NAFES staff

### 2004

- Publication of tested training modules
- Consolidation of the approach
- Planning for Phase 2 of LEAP

By 2004, more than 1,500 farmers had been involved in training activities supported by LEAP. Participating farmers reported increases in rice production of 50%, while livestock production often increased by more than 100%.

While the production increases are impressive, the main purpose of LEAP has been to support the development of a national extension approach. By selecting villages that cover a range of conditions in both the North and South of the country, and by working at all levels of the Government, LEAP has demonstrated the feasibility and effectiveness of a consolidated approach to extension consisting of two parts:

- A Government Extension Service that involves generalist staff at the District Level, supported by specialists at the provincial level;
- A Village Extension System that involves 'learning projects' carried out by production groups, facilitated by Village Extension Workers who are supported by District staff.

The consolidated approach that has been successfully tested by MAF with support from LEAP has been given the name ***Lao Extension Approach*** and is described in more detail in Part 3 of this document.

LEAP does not have the resources to support extension activities in all parts of the country. Consequently it is expected that the expansion of the ***Lao Extension Approach*** will be a collaborative effort, involving a number of donors and projects. This does not mean that other projects are expected to fund LEAP activities, instead other projects should apply the principles and procedures of the ***Lao Extension Approach*** and draw upon the human resources that have been developed under PEP, FIAT, LEAP and other projects that use similar methods for training and extension.



## Part 3: Description of the Lao Extension Approach



### 3.1 The rationale for a consolidated approach to extension

#### 3.1.1 Policy of the Government

The Government's policy on agricultural and forestry extension is spelled out in the 'Strategic Vision for the Agriculture Sector', 1999. The following extracts are taken from that document:

*"The demand for services will be farmer-driven" (page xi)*

*"There will be supportive institutional restructuring to enhance the capacity of MAF to supply direct services to farmers in an integrated multi-disciplinary manner. The approach will be "bottom up", wherein farmers identify problems through the existing village participatory mechanism". (page xii)*

*"This approach emphasizes: (i) encouraging farming communities to express their problem; (ii) helping the communities to participate in finding solutions to their problems; and (iii) giving communities the opportunity to gain access to the resources to solve their problems". (page 49)*

*"The present district staff, now organized along sectoral lines, will be trained as FSEW [Farming Systems Extension Workers] who have combined multi-sectoral skills... The mix of skills and activity foci in any area will vary, and will be tailored to the needs of the prevailing farming systems in each area". (page 49)*

The Government's commitment to reforming the extension system was reiterated in the National Growth and Poverty Eradication Strategy (NGPES, 2004). The NGPES priorities for the Agriculture and Forestry Sector include:

*"Fully decentralised "bottom-up" participatory planning" (page 60)*

*"Strengthen the overall capacity of PAFOs and DAFOs, especially the latter" (page 60)*

*"Develop an integrated extension system to transfer agricultural production technologies to the poor people and upgrade the capacity of NAFES, particularly for upland areas" (page 61)*

*“Ensure that research (NAFRI) and extension services (NAFES) are demand driven”*(page 61)

The NGPES also contains a gender strategy that includes:

*“Affirmative action concerning staffing of provincial and district staff, including extension workers” and “Gender focal points in villages to promote improved agricultural practices”* (page 114)

Finally, the NGPES strategy for environmental conservation includes the following:

*“Strengthen participation, especially by the poor, in the preparation and implementation of national and local plans, policies and strategies”, and “Co-manage environmental services and resources with the poor through strengthening community management of environmental resources”.*(page 117).

### **3.1.2 The Challenge for Future Extension**

The future system for agricultural and forestry extension in Lao PDR should be based on the policies of the Government *and* take account of the lessons that have been learnt from past experience. The problems that were created by a centralised and sectoral approach should not be repeated. The roles and responsibilities of MAF, which are continuous and nationwide in scope, should be combined with the positive features of successful projects that have been supported by a number of different donors. The challenge is to establish an extension system that is decentralised, participatory, pluralistic and sustainable. The system should serve the interests of all farmers: men and women, from all ethnic groups, in all areas of the country.

The Government is committed to meeting this challenge, while also being cognizant of the difficulties that are involved. The difficulties that need to be overcome include:

- *Lack of detailed guidelines* on the operations of the extension system. This document aims to address this particular difficulty.
- *Limited knowledge and experience of extension staff* in providing the type of service that is required. Projects such as FIAT, PEP, LSFP and LEAP have been assisting MAF in this area.
- *Insufficient financial and material resources* available to the extension organisation when compared to the scale of the roles and responsibilities it must perform. Further inputs are required from Government and foreign sources.

- *Weak coordination* among organisations and projects involved in the planning and implementation of extension activities. This document will, it is hoped, provide a starting point for addressing this issue.

At the present time, the greatest risk to the successful establishment of a consolidated extension approach is that the various organisations involved will wait for each other to take action. District authorities might wait for the Provincial authorities to take action, while the Provinces are waiting for directions from the National level. Donor agencies might wait for the Government to make decisions while the Government is waiting for commitments from the donors. Extension workers, village authorities, community groups and individual farmers might all be waiting for each other to take the first step. The longer they wait, the less confidence and enthusiasm they will have for extension activities.

As part of a decentralised and participatory extension approach, all of these groups and organisations have an important role to play. Initiatives can be started at any point in the system. All parties should plan and implement their own activities, and reach out to collaborate with others. Now is the time for joining hands and taking action to implement an extension approach that will liberate the Lao PDR from poverty.

## **3.2 Extension Strategy**

### **3.2.1 Principles for extension in Lao PDR**

The ***Lao Extension Approach*** is built on an set of ideas about how farmers learn to solve their problems and what is the most effective way of supporting them in this process. These principles are as follows:

Decentralised: this encompasses a number of related ideas. Primarily, the decentralisation of extension means a farmer-driven service, with local ownership of the learning and problem-solving process. Secondly, decentralisation means that the technical content of extension activities is based on local constraints and opportunities. Thirdly, decentralisation means that Government assistance to farmers is planned from the bottom-up, with District staff responding to needs that have been identified at the village level, Provincial staff supporting the efforts of the Districts and a small team at Central level coordinating and supervising.

Pluralistic: this is an inevitable consequence of decentralisation. Pluralism means that different types of extension activities will take place in different places, and these activities will change from year to year. There will be different participants, different methods and different content. This is the opposite of standardisation. The term pluralism also recognises that the extension system encompasses the efforts of more than one organisation. Although MAF plays a leading role in agriculture and forestry extension, other

government organisations, foreign projects and the private sector can make an important contribution.

Participatory: this is an essential ingredient of local ownership. The concept is often misunderstood because there are different types of participation. Farmers can be *passive* participants in extension, for example by listening to a lecture, and they can be *active* participants, for example by getting involved in a practical demonstration. In both of these cases it is possible that the extension activity has been planned and organised by somebody else. The new farmer-driven extension system in Lao PDR is based on the idea of *interactive* participation, which involves farmers and village authorities taking a prominent role in analysing their problems and deciding how to address them.

Needs-based: this is a consequence of interactive participation. If farmers are involved in planning, the outcome will be extension activities that are based on local needs. Real problems are likely to be the focus of farmers' analysis, and they will be seeking practical solutions. Consequently, many extension activities will follow an 'experiential' approach, meaning that they start with an examination of actual experience. This in contrast to extension that is target-based, and which follows a didactic approach, meaning that it starts with the transfer of generalised information.

Integrated: this is because farmers' needs encompass many different sectors. As part of a pluralistic needs-based system, extension activities will address a wide range of issues. In any single village, there could be farmers who are interested in rice intensification, vegetable marketing, irrigation management, erosion control, livestock diseases, and bamboo production. Consequently, extension workers at the District level are being retrained so that they can respond to farmers needs in an multidisciplinary manner.

Gender-sensitive: this is an essential feature of an equitable and effective extension system. Men and women play different roles in agricultural production, and they face different constraints and opportunities in getting access to resources and services. These differences need to be taken into account in the planning and implementation of extension activities. Sometimes it will be useful to organise separate activities for women. Even when this is not considered necessary, extension workers should make special efforts to ensure that all sections of the community are benefiting from extension activities.

Group-based: this is another feature of an equitable and effective system. It would be unfair to support a few individual farmers, and it is impossible to support all members of each community at the same time. The key attribute of extension groups is that members have a shared interest in learning about certain topics and/or solving particular problems. In most cases, special groups will be formed for this purpose. It is possible, however, for activities to be carried out with the members of a pre-existing group. Over time, all interested farmers should have the opportunity to become members of a group.

Self-motivated: this reinforces the farmer-driven approach. Farmers should join extension groups because they want to learn, not because they are paid in cash or kind. Financial or material incentives will not be provided as part of the official extension system because this undermines ownership. By joining a group, farmers will benefit in terms of improved knowledge and skills, and a consequent ability to solve problems and improve production.

Another important consideration in the design of the extension system for the Lao PDR is the need for sustainability. In some other countries, the operations of the national extension became dependent of funding from foreign projects. When those projects came to an end, the government could not afford to continue paying for staff or activities. By adopting the principles described above, the Government of Laos hopes to avoid this problem. Foreign projects can support the creation and expansion of the extension system, but the system will be sustainable because it is decentralized, pluralistic, participatory and self-motivated.

### **3.2.2 Key features of the Lao Extension Approach**

In response to the challenges outlined above, MAF is in the process of establishing a consolidated national approach to extension called the **Lao Extension Approach**, that consists of two parts as follows:

- The Government Extension Service
- The Village Extension System

The Government Extension Service currently consists of three strata<sup>\*</sup>:

The National Agriculture and Forestry Extension Service (NAFES), which has the status of a Department within MAF. Since August 2001, NAFES has been the lead extension institution in the Lao PDR.

The Provincial Agriculture and Forestry Extension Centre (PAFEC), which is located in the Provincial Agricultural and Forestry Office (PAFO). The PAFEC makes use of Subject Matter Specialists (SMS) from the technical sections of PAFO.

The District Agriculture and Forestry Extension Office (DAFEO). The DAFEO is staffed by generalists who will be given the title 'Farming System Extension Workers' (FSEWs).

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<sup>\*\*</sup> This section makes use of new nomenclature adopted by NAFES in June 2005. The term PAFES is replaced by PAFEC, while DAFO is replaced by DAFEO. In addition CETDU is replaced by the Extension System Unit (ESU) reflecting its expanded role in capacity-building for the Lao Extension Approach.

The Village Extension System has four major components:

Village Authorities, both formal and informal, that take a leading role in planning and organising local development activities;

Village Extension Workers (VEWs), mandated by the Village Authorities to facilitate extension activities in collaboration with staff of DAFEO;

Production Groups, made up of farmers with a common interest, and;

Learning projects, carried out by Production Groups, with the objective of solving a particular problem and/or learning about particular techniques.

### 3.2.3 Functions of extension workers

The collaboration between DAFEO staff (FSEW) and the Village Extension Worker (VEW) is the main bridge between the Government Extension Service and the Village Extension System.

There are important differences in the functions of these workers, as summarised in the following table:

	<b>FSEW</b>	<b>VEW</b>
<b>status</b>	Government employee	Community worker
<b>appointed by</b>	District Agricultural and Forestry Extension Office	Village Authorities; selected by the villagers
<b>main activity</b>	facilitating participatory planning, supporting the work of VEWS	facilitating learning projects by production groups, and extension to other farmers
<b>numbers</b>	one FSEW for 5 to 10 villages (less in pilot areas)	one or more VEW per village
<b>expertise</b>	multi-disciplinary	some specialised interest and experience
<b>Contacts</b>	Staff from PAFEC, DAFEO staff, Village Authorities and VEWs	FSEW, Village Authorities, production groups and farmers
<b>payment</b>	Fixed salary	Negotiated with community, in cash, kind or labour

In the future, the implementation of extension activities in the village will be the responsibility of farmers themselves, facilitated by the VEW and coordinated by the Village Authorities. The role of the FSEW will be to support the Village Extension System, not manage it. Currently, while the capability to implement the Village Extension System is being developed, the FSEW must take a role in initiating and guiding learning projects as a means of training VEWs.

### **3.3 Organisation of the Government Extension Service**

#### **3.3.1 Overview of the Government Service**

The Ministry of Agriculture and Forestry (MAF) operates a decentralised extension service that currently consists of three levels: Central, Provincial and District. This is a national service with offices and staff in all 18 Provinces and 141 Districts of the country.

Each level of the Government extension service aims to build the capacity, and respond to the needs, of the level below. At the District level, the Government aims to strengthen and support the operations of a Village Extension System (VES) in each of the 11,000 villages that make up the Lao PDR.

The Government Extension service organises training and provides advice on a wide range of subjects: crops, livestock, soils, forestry and irrigation. The staff at the District level are generalists who are supported by specialists at the Provincial level. Staff of the extension service are involved in developing extension methods and materials, organising meetings and training courses, responding to requests for information, giving coaching to Village Extension Workers, and creating linkages between various groups and agencies.

It is also pertinent to explain what the extension service does *not* do. It is *not* a channel for supplying farmers with credit or inputs. It is *not* a mechanism for managing production. And it is *not* an agency for purchasing or marketing what farmers produce. Input supply, management and marketing are important aspects of agricultural and forestry production, but they are the responsibility of other government agencies, the private sector and farmers themselves. Agricultural and forestry extension in Lao PDR is essentially an educational process, not a production process.

#### **3.3.2 Roles and responsibilities at Central level**

The National Agriculture and Forestry Extension Service (NAFES) is the lead extension agency in the Lao PDR. The role of NAFES is to coordinate extension projects and enhance the work of Provincial and District levels of the Extension Service by developing extension strategies, organising staff training and providing technical information in accordance with the needs of farmers.

NAFES has the status of a Department within MAF, and consists of three Divisions: Extension and Project Coordination, Rural Development, and Planning and Administration.

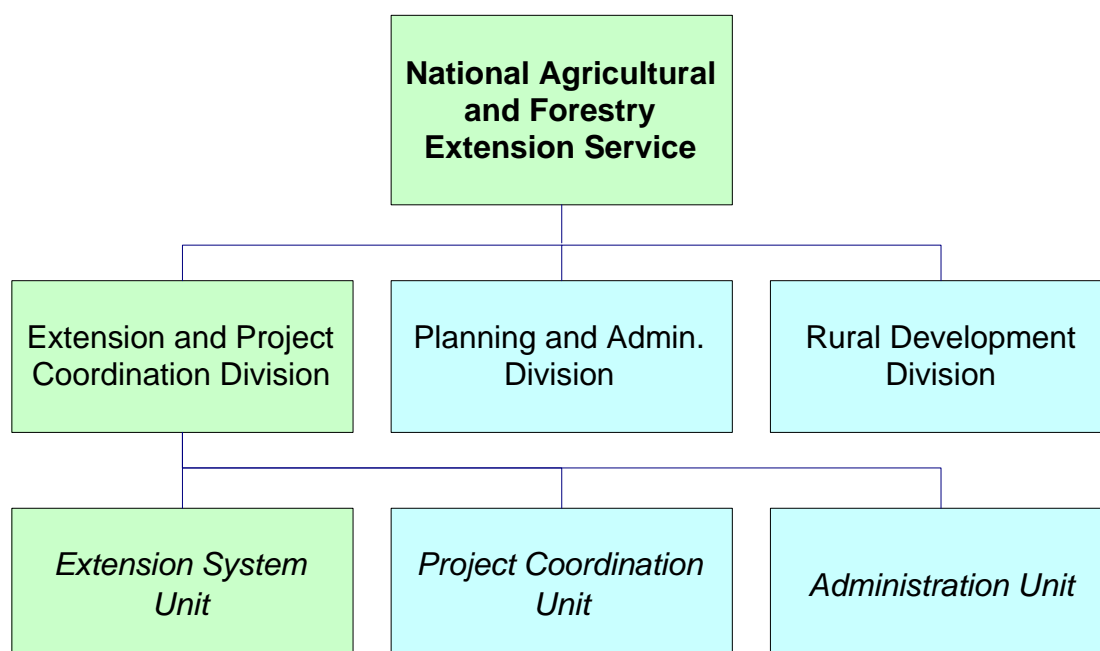
The Extension and Project Coordination Division of NAFES is responsible for the implementation of the extension service at the Central level. Key functions of this Division are conducting training of Provincial and District staff, and maintaining a monitoring and evaluation system for the extension

service. This Division also maintains linkages with the National Agriculture and Forestry Research Institute (NAFRI), Technical Departments of the Ministry, and the National University of Laos (NUoL).

The Extension and Project Coordination Division consists of a number of units, including the Extension System Development and Training Unit (for convenience this will be known in English as the 'Extension System Unit', ESU, which supersedes the unit previously known as CETDU). This is the principal unit responsible for capacity-building within NAFES. The specific responsibilities of ESU include:

- Developing approaches and methods for agriculture and forestry extension and training, and coordinate the testing of these methods in pilot areas;
- Developing technical guidelines, methodological manuals, extension curricula, training materials and visual aids for use by Provincial and District staff, VEWs and production groups;
- Organising and conducting training of trainers for the agricultural and forestry extension service, who will subsequently organise training and coaching at Provincial and District level;
- Liaising with other national and international organisations involved in agricultural extension and related areas, and maintaining a knowledge database.

The following diagram summarises the structure of NAFES, with a focus on the Extension Division.





### **3.3.3 Roles and responsibilities at Provincial level**

The Provincial Agricultural and Forestry Extension Center (PAFEC) is a Section within the Provincial Agricultural and Forestry Office (PAFO). Other Sections of the PAFO are Forestry, Agriculture, Livestock and Irrigation. These Technical Sections, which are staffed by Subject Matter Specialists (SMS).

The role of PAFEC is to coordinate support from the Technical Sections to extension staff at the District level. Specific Responsibilities of PAFEC include:

- Identifying training needs of DAFEO staff and preparing training plans;
- Developing extension methods, curricula and materials that are appropriate to local needs, including the selection and adaptation of curricula developed at the Central level;
- Organising training for Farming Systems Extension Workers that is carried out by Subject Matter Specialists;
- Providing coaching to DAFEO staff in the implementation of District extension services, and conducting training in extension methods and related topics;
- Monitoring and evaluation of training and extension activities, including impact assessments.

### **3.3.4 Roles and responsibilities at District level**

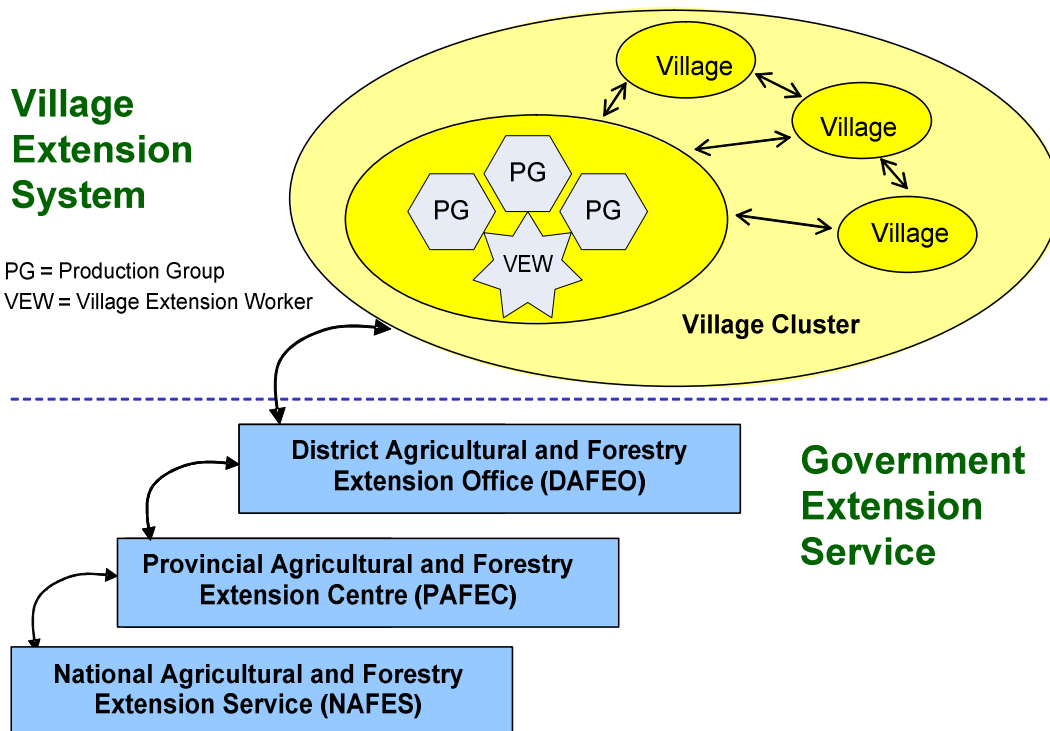
The District is the level at which the government extension service maintains direct contact with farmers. Within the District Agricultural and Forestry Extension Office (DAFEO), the technical sections have been replaced by an integrated Extension Section. This section is staffed by generalists called Farming Systems Extension Workers (FSEWs). The other main section in the DAFEO is the Planning and Administration Section.

The role of the DAFEO is to support the Village Extension System. Primary support is provided by FSEWs. In addition, the DAFEO helps to create linkages between farmer groups and sources of expertise, inputs and services that is available from other government agencies and the private sector. Information about problems that cannot be solved at the village or District level is fed back to the PAFEC.

Specific responsibilities of FSEWs include:

- Conducting Training Needs Assessment in collaboration with Village Authorities;
- Facilitating pilot Learning Projects with Production Groups;

- Training and coaching Village Extension Workers who will facilitate Learning Projects and other extension activities in their village;
- Responding to farmers needs for advice, directly or by requesting support from PAFEC;
- Initiating networking activities among VEWs and farmers with common interests.



### 3.3.5 Potential for Extension Zone Offices

The Extension System in the Lao PDR is still being developed. New organisational structures might be created in the future so that the Government Service can respond better to the needs of farmers. One possibility is the establishment of extension offices between the District and Village levels. These might be called Sub-Districts, Clusters, “Khet” or Extension Zone Offices.

At present, the average DAFEO covers between 70 and 80 villages, and has approximately 15 extension workers. Although there are sufficient staff to operate the extension system, the physical distance and travelling time between the DAFEO and villages is often very great. This is a barrier to effective interaction between the Government Extension Service and the Village Extension System. At the present time, it is difficult for FSEWs to visit all villages, and it is difficult for VEWs to visit the DAFEO.

FSEWs would have a closer link with the communities they are serving if each of them was based at an Extension Zone Office. These offices, covering

between 5 and 10 villages, would be located in rural areas and be open to visitors at certain times.

It must be emphasised, however, that at the time of producing this report, the Government Extension system consists of three levels, which should work together to support the Village Extension System as shown in the diagram on the preceding page.

### **3.4 Operation of the Village Extension System**

#### **3.4.1 Overview of the Village Extension System**

A cornerstone of decentralisation is that Village Authorities have a leading role in planning and organising local development activities. This role includes the supervision of the Village Extension System. A number of local leaders share this role, including the village head and deputies, and representatives of organisations for women, the elderly and youth.

A key responsibility of Village Authorities is the supervision of Village Extension Workers (VEWs) who facilitate the implementation of extension activities. VEWS are members of the community who are willing to share their time and expertise. They are compensated by the members of the community who benefit from extension activities. Once the Village Extension System is operational, there will be one or more VEW per village, depending on the needs that have been identified by the Villagers. For example, there could be different VEWs responsible for livestock, rice and vegetable extension. The selection of VEWs is done by the community. In most cases, the farmers who are selected already have some recognised expertise. They might have many years of practical experience, or they could be younger people who have already attended training in relevant subjects.

VEWs have two major responsibilities: organizing Learning Projects that are carried out with Production Groups, and extending the outcome of Learning Projects to other farmers in the village. VEWs might also be involved in providing specific services such as vaccinating livestock.

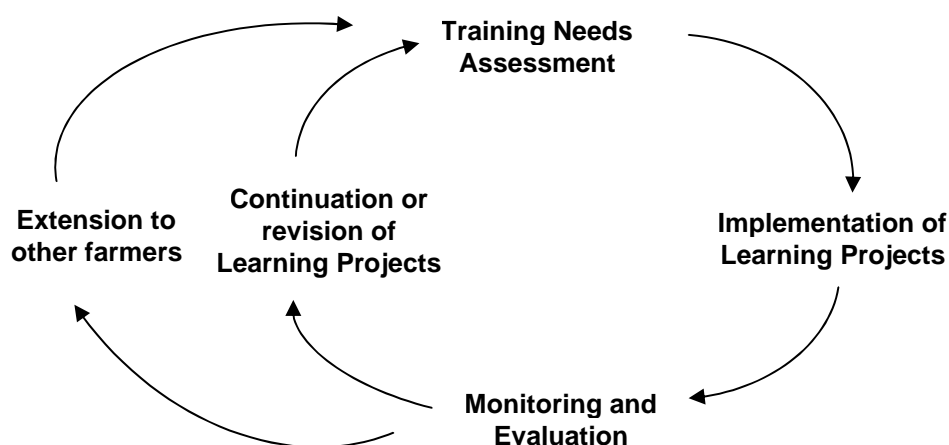
Each Learning Project is a set of activities carried out over a defined period with the objective of addressing a particular need. Learning Projects are planned by farmers and endorsed by the Village Authorities. There may be more than one project taking place at a time.

Production Groups are formed for the purpose of implementing Learning Projects. To ensure that they are manageable and effective, the size of the groups is limited to about 10 farmers. The members of the group appoint a leader (known as the 'Head of Production Group') who will liaise with the VEW. The formation of these groups is initially a short-term measure. Once the Learning Project is completed, it is up to the members of each group to decide if they wish to continue meeting or working together.

As part of the VES, the knowledge generated during Learning Projects is shared with other members of the community. In other words, information and innovations spread beyond the Production Groups. During the implementation of Learning Projects, activities are organised at which other interested households can discuss what is being learnt by group members. After the project has been completed, the VEW conducts additional activities, such as advisory visits to interested households.

### 3.4.2 The extension process at village level

The Village Extension System involves a cycle of activities, with one event leading to the next as shown in this diagram.



Training Needs Assessment (TNA) is the starting point for this cycle of activities. TNA is carried out by farmers at least once each year, led by the Village Authorities and supported by staff from DAFEO. During the TNA, farmers identify the problems they have been facing, examine the constraints that are causing the problems, and determine the knowledge and skills that are needed to overcome the problems. This analysis leads to agreement about one or more Learning Projects that will be carried out in the village. Specifically, farmers agree on what they hope to achieve through these projects, and which households will participate in each project. The participants of a Learning Project are called a 'Production Group'.

The implementation of Learning Projects is facilitated by Village Extension Workers with support from DAFEO staff. The content and duration of these projects varies from case to case, but they usually involve regular sessions throughout an entire 'production cycle'. In the case of crops, this means from land preparation and planting through to harvesting and processing. During the project, a number of different types of activity can be carried out, including training sessions, practical demonstrations and experiments. Members of the Production Group are expected to apply what they learn on their own farms.

Participatory monitoring occurs during the implementation of all Learning Projects. Participatory evaluation occurs at the end of the Projects. The aim of these activities is to assess progress towards the objectives that were agreed during the TNA. The focus of the monitoring and evaluation is what the members of the Production Group are doing on their farms. Are they applying new skills? Have they overcome their problems and improved production? What are the reasons for success or failure?

Monitoring and Evaluation activities help Production Groups and extension workers to make decisions about the implementation of Learning Projects. Adjustments might be made or they might continue as originally planned.

Monitoring and Evaluation also helps extension workers to make decisions about additional activities that extend the outcome of Learning Project to other sections of the community. When it becomes clear that the members of a Production Group are able to solve particular problems, the VEW can organise exchanges between the group and other farmers.

Once a Learning Project is completed, the results are taken into account during the next Training Needs Assessment. The same Project might be repeated with a different group of farmers, or the original Production Group might plan a new project to study issues that emerged during implementation.

### **3.4.3 Initiating and Strengthening the VES**

The Village Extension System as described in this document has been implemented in 98 pilot villages with the support of the Extension System Unit (ESU, formerly known as CETDU). These activities were carried out as part of the Laos Extension for Agriculture Project (LEAP). The pilot villages were located in three Provinces, covering both upland and lowland areas with a wide range of constraints and opportunities.

The VES is the nucleus of the **Lao Extension Approach** and MAF is committed to the expansion of this approach throughout the country. This will take a number of years to complete. During this period, the Government service will play an active role in capacity-building. Once the VES is fully operational, staff of DAFEO and PAFEC will be able to respond to the needs that emerge. Until then, FSEWs and SMSs must act as catalysts, facilitators and trainers who help to initiate and strengthen the system.

When the system is introduced into a new Province, activities are concentrated in one or two Districts. In the pilot Districts, a cluster of five to ten villages is selected. Teams of staff from DAFEO and PAFEC are appointed to facilitate the launch of the VES in the pilot villages. These teams are supported by Master Trainers from NAFES. One of the first activities that NAFES organises is a visit by these teams to a Province where the system is already operating. Farmers from the pilot villages also participate in these visits.

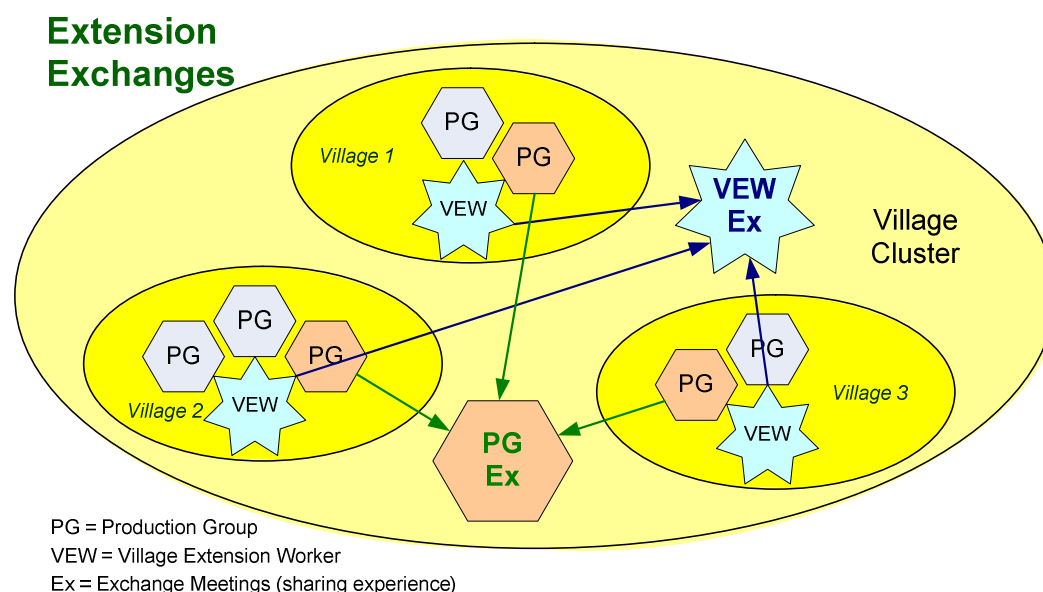
In the pilot villages, meetings are organised to explain the operations of the VES. During the first cycle of activities, the team from PAFEC and DAFEO will facilitate the Training Needs Assessment and initiate Learning Projects. The team is coached by Master Trainers from NAFES. FSEWs and SMSs who successfully introduce the VES into new Districts and villages will be certified by NAFES.

Subsequently, certified facilitators replace the role of Master Trainers. They provide guidance and support to other DAFEO staff as the system expands throughout the Province. Instead of organising visits to other Provinces, these facilitators will organise visits to villages within the Province.

In new villages, Village Extension Workers will not be appointed until the end of the first cycle of activities. They will be selected from among the participants of completed Learning Projects, and may have been the Heads of Production Group. Consequently, they will have first-hand experience of how these activities are organised and, in particular, they will have been able to observe how the FSEW facilitates the sessions of Production Group. In the second cycle of activities, the VEW will act as facilitator with close support from the FSEW. After this, the level of support from the FSEW can be reduced as the confidence and capability of the VEWs increases.

Networking between villages is also being encouraged and supported as a way of strengthening the VES. DAFEO staff arrange for exchange meetings between VEWs from neighbouring villages so that they can share their experience. It is also possible that there will be meetings on specific topics between members of Production Groups from different villages that are addressing similar problems. Pilot networking activities are currently being organised and guidelines will be issued once these activities have been evaluated.

The diagram below illustrates the types of exchanges that are currently being organised among villages in a cluster.



### **3.4.4 Funding the VES**

The Government budget covers the basic operations of NAFES, PAFEC and DAFEO, but does not include funds for extension activities that are planned and managed by farmers. As part of local ownership, Village Authorities and farmers themselves are responsible for mobilising the resources needed to operate the VES.

The resources required for the VES can be divided into two types: materials for the implementation of Learning Projects, and compensation for the Village Extension Worker.

The materials required for the implementation of a Learning Project include: a venue for training sessions, land for demonstrations and trials, refreshments for training sessions, agricultural tools, and inputs such as seed, fertiliser and vaccines. Most of these materials are provided by members of the Production Group. The training sessions are conducted at the home of one of the members, or at a community meeting place such as a temple or school. Demonstrations and trials are carried out on their own farms. The members of the Production Group also provide their own refreshments, tools and basic inputs. These requirements are agreed during the Training Needs Assessment when farmers are selected to join the Production Group.

Inputs that are not easily available in the village, such as vaccines and seeds of new varieties, are provided by the Government extension workers (FSEWs and SMSs) who are supporting the Learning Project. The amounts provided are sufficient for demonstration and trial purposes. If farmers decide that they want to use these inputs on a larger scale they will have to buy them from Government or Private sources. Staff of DAFEO and PAFEC also provide printed materials, marker pens and other items that are needed for the conduct of training sessions that they facilitate.

The compensation of Village Extension Workers is agreed at the time of their appointment. VEWs do not receive a salary or financial allowances from the Government, instead they work on a voluntary basis or are paid by the community that benefits from their work. This payment can be made in cash, kind or labour.

Compensation for facilitating a Learning Project is paid by the members of the Production Group. For example, the members of the group could agree to supply the VEW with a certain amount of rice, fish or eggs from their own farms. Alternatively, the Production Group could provide a number of days of labour to help with land preparation or harvesting on the VEW's farm. Payment in cash is also possible when the Learning Project directly contributes to increased income for the members.

Compensation for extension activities outside of Learning Projects is arranged by the Village Authorities. The types of compensation are the same as mentioned above. In all cases, the amount of time that the VEW is expected to work, and the type and level of compensation, is agreed *in advance*.

During implementation, the VEWs will keep a record of the work that they carry out.

In addition to the arrangements described above, there are two other possible sources of funding for the Village Extension System. Firstly, Village Authorities can use part of the Village Development Fund for the purpose of providing inputs for Learning Projects or compensating VEWs. Secondly, foreign-assisted projects can pay for some activities that are part of the VES. These sources of funding should be seen as a supplement, not a substitute, for funding from the members of the local community. The aim is to create a system with a high degree of self-reliance at the village level, and external funding should not be used in a way that might undermine this.

MAF recognises that the funding arrangements for the VES are still being developed and tested. Progress will be carefully monitored and additional guidelines will be published in the future.

### **3.4.5 Extension tools**

The Laos Extension for Agriculture Project (LEAP) has produced a series of 'tools' for agricultural extension staff. Each tool consists of step-by-step procedures for facilitating one of the activities required to launch the Village Extension System. The procedures have been developed and tested in cooperation with staff from PAFEC and DAFEO, and with Village Authorities and Production Groups in nearly 100 pilot villages (see section 2.6).

In 2004, LEAP published the 'Basic Tools Handbook for Agricultural Extension' in English and Lao. This includes a description of six tools, with examples from real activities in the pilot areas. The tools included in this handbook are:

#### **#1 Introduction of the Village Extension System**

This tool will help DAFEO extension workers to explain the VES to village authorities. The tool described a series of six steps to be carried out during a 90 minute session, including the use of posters and video

#### **#2 Training Needs Assessment – Keep It Short and Simple (TNA-KISS)**

This tool is designed to help facilitators (DAFEO staff or VEWs) conduct a half-day session with all villagers. During this session, farmers analyse their problems, arrange them in priority order and identify the skills needed to overcome them. The tool includes a 'TNA Report Form' that is used as a planning document for Learning Projects.

#### **#3 Constraints Analysis for a Production Process**

This tool is a supplement to the TNA-KISS. It describes a one-hour exercise that will help farmers to identify the underlying causes of production problems. The analysis takes account of the different roles played by men and women.



#### #4 Monitoring Success, Implementation, Failure and Training Needs (SIFT)

SIFT is a participatory assessment exercise carried out with members of a Production Group and Village Authorities. The participants examine progress made towards the objectives that were agreed during the TNA, and decide on action that is needed. SIFT requires between 90 minutes and 2 hours to complete.

#### #5 Farmer to Farmer Exchange (FEF)

The FEF helps members of a Production Group to share what they have learned with other farmers. During this half-day activity, the benefits of the Learning Project are analysed, and farmers make decisions about follow-up activities. The FEF Report is used to record the names of farmers who want to learn more.

#### #6 Extend Village Extension System (EVES)

This tool is used at the end of the first cycle of activities in pilot villages. It involves a half-day session attended by all villagers. The initial Learning Project is evaluated, new activities are planned, and VEWs are appointed. Agreement is also reached on the support that will be provided by DAFEO.

The guidance included in Basic Tools Handbook is not prescriptive. Users are expected to adapt the procedures and the formats to local circumstances.

In addition to the Basic Tools, The Extension System Unit of NAFES has produced other handbooks for extension workers. These include modules on extension methodology and technical subjects. All of these documents are intended for staff of PAFEC and DAFEO, and for other organisations that are involved in the implementation of extension activities in the Lao PDR. The materials are regularly reviewed and revised, and ESU welcomes feedback and suggestions from MAF field staff and other organisations.

### **3.5 Case Study of the Lao Extension Approach<sup>36</sup>**

On the Mekong River in the far South of Laos is an area known as Si Phan Don, meaning 'four thousand Islands'. The largest of these islands is Don Khong, measuring 18 km by 8 km, and inhabited by 55,000 people who depend on fishing and rice cultivation. On the far side of Don Khong, in the village of Baan Sen Nuan, Mr. Mang is sitting under his wooden house with other members of a rice production group. They are discussing the Village Extension System that was started only nine months earlier in collaboration with staff of the District Agriculture and Forestry Extension Office (DAFEO). Mr. Mang has some strong opinions on the matter:

*"In the past we rarely saw the extension workers. Sometime they would call a meeting, give some propaganda, and then they disappeared. But this year they have begun to work with us, doing practical activities, helping us test new techniques for rice production."*

*"It started in March, when we had a meeting to discuss our problems and draw up a list of interested people. We formed two production groups: one group of 11 households is studying rice production, and another smaller group is studying fish raising. The extension workers have conducted four or five training sessions for each group, and they also make frequent visits to follow-up with the group members."*

*"The techniques we have learned for rice production are seedbed preparation and different varieties. We have planted trials in our own fields and I can already see the improvements. My wife wants to use the new seedbed technique next season because it involves less work for her. And I am sure the yield will be much higher. One of the new varieties has produced 10 or 12 tillers per plant instead of 4 or 5 on the old variety. Last year, I produced 2.5 tonne per hectare, but I hope to get 4 tonne from the new variety. And that is without any chemical fertilizer or pesticides; we have only used animal manure on the fields".*



**Mr Mang examining his new rice variety**  
(Baan Sen Nuan, Khong District, Champassak Province)

There is a clear sense of enthusiasm among the members of the group, and they are already thinking about what they will do next season. One activity will be to teach the improved techniques to other households in the area. There have been requests from a number of farmers who have seen what the rice production group is doing. As part of the Village Extension System, they will conduct this training themselves, although DAFEO staff will continue to make follow-up visits. The fish production group is also creating an interest among other farmers, as explained by Mr. Pae.

*"I bought fingerlings at the same time as my neighbour, but my fish now weigh 800 grammes while his are about 300 grammes. The difference is because I prepared a deep pond with good quality water, and I feed the fish with the right kind of food".*

*"The number of fish in the river is declining, and the supply is very seasonal, but now I will have a good supply of fish to eat and sell throughout the year. Making a pond like this wasn't possible in previous years, because we had to depend on rain water. But when an irrigation canal was constructed in 2002, it created a new opportunity for us".*

Learning how to identify opportunities and solve problems is an important part of the Village Extension System. This becomes possible when everybody actively participates in the system. Mr Chaloune is one of the DAFEO extension workers who has been working with the production groups in Baan Sen Nuan. In addition to his extension activities, he runs the DAFEO aquaculture station where fingerlings are produced. When asked if the new extension system is creating a burden for him, he says:

*“No, not at all, because I don’t have to do all of the work. The village authorities are organizing the meetings, and the members of the production groups are conducting trials in their own fields. In the DAFEO office we have a team of three people – Mr Phousin, Mr Vivonkod and myself – who have different experience and skills. And the management staff are also very supportive”*

Mr. Vilavong is head of the Provincial Agricultural and Forestry Extension Centre (PAFEC) in Champassak. He is supporting the development of the Village Extension System in three Districts. In Khong District, the system has been introduced in Baan Sen Nuan and 9 other villages this year. Mr Vilavong admits that he had some concerns when the system was first proposed:

*“I was worried about the capability of our staff. People like Mr Chaloune were doing some good work on their stations, but I had never seen them do anything successful in the field. But this system is really successful. DAFEO staff are now working directly with the farmers, and the farmers are getting good results”*

Mr Somkid is the head of PAFEC in the neighboring province of Salavan. He also had some concerns about the Village Extension System.

*“The extension project focuses on developing methodology and conducting training, but it is not providing any payments or free inputs to farmers. Other projects are giving inputs to farmers. Perhaps that is needed in some places”*

One place in Salavan where it has not been necessary to provide free inputs is the village of Baan Nong Teng in Kongxedon District. This village of 60 households is the location of a chicken production group that was established nearly two years ago. Mrs Pheng explains what she and other members of the group have been doing:

*“Everybody in our village keeps chickens. In the past they would roam around, getting a little food here and there, but at certain times of the year they would get sick and die. We always had a few chickens to eat, but we didn’t realize that we could produce a lot more. In the production group we constructed chicken houses, and we tested different types of feed. We also learnt how to give vaccines to our chickens, to prevent Newcastle’s disease. The result is that our chickens now grow quickly and they don’t die like before. Each member of the group is keeping about 20 chickens for breeding, and traders are regularly visiting the village to buy what we produce. We sell a lot of*

*chickens, earning between 18,000 and 25,000 kip per animal, depending on the size”.*

*“Mr. Bouasonh from DAFEO has helped us learn how to do all of this, but he never gave us anything for free. The chicken houses are made of bamboo, and we mix our own feed from broken rice and bran. The vaccine we buy in the town. Other farmers in the village are now asking us to vaccinate their chickens and we charge them 500 kip per animal”.*

The chicken group in Baan Nong Teng is now self-reliant, so they can manage their production without further assistance from DAFEO. However, Mrs Peng and some other members of the group are now interested in mushroom production. There is a lot of rice straw available in the village which they could use to grow ‘het faeng’. The extension worker knows a college teacher who is an expert in mushroom culture, and the group has said it is willing to provide refreshments if the teacher will come to their village. A plan is begin to emerge.



**Mrs Pheng in her new chicken house**  
(Baan Nong Teng, Khongxedong District, Salavan Province)

Back at PAFEC in Salavan another plan is emerging. Mr Somkid recognizes that the Village Extension System is having a positive impact. The knowledge that comes from training and experimenting is making a difference to farmer's production, even when inputs are not provided for free. The biggest challenge that Mr Somkid faces is how to expand the system. Under the guidance of the Provincial Governor, all of the agriculture projects in Salavan are getting together to coordinate their activities. These coordination meetings are creating an opportunity to integrate the new extension approach with the technical expertise and financial resources of other projects. As a result, there could be many more farmers like Mr. Mang and Mrs. Pheng, who participate in learning activities that make them more productive, innovative and self-reliant.

## 3.6 Capacity Building

### 3.6.1 The role of training

Training is of central importance to both the Village Extension System and the Government Extension Service. It is through training that farmers acquire the

ability to overcome production problems. Training is also the means by which Government staff acquire the capability to support the efforts of farmers.

The type of training that is carried out within the **Lao Extension Approach** is based on the idea of 'learning by doing'. Government staff and farmers acquire new knowledge and skills while implementing their official duties or carrying out productive activities.

The effectiveness of this type of training depends on three things:

- 'Real life' situations. The training sessions should take place under the same conditions as those that will be faced by the participants after training. The starting point for learning is actual problems rather than abstract concepts.
- 'Critical thinking' by trainees. The people being trained should be actively involved in analysing information, making decisions, carrying out tasks and assessing their own performance. They should not be passive observers.
- 'Facilitation skills' of trainers. The role of trainers is to create learning opportunities, not deliver prescriptions. Trainers should set tasks, ask questions, provide supporting information and encourage self-assessment.

Practical training of this kind does not involve sitting in a classroom listening to lectures, and the outcome is far more than just the acquisition of technical information. Instead, 'learning by doing' is expected to have an impact on knowledge, attitudes and skills. This will lead to improvements in the performance of certain pre-determined tasks *and* an ability to address new problems as they arise.

Implementing this approach to training requires a cadre of highly capable Master Trainers. Equally important is teamwork at all levels of the system. A willingness to work together and learn from experience is just as essential as the existing expertise of individuals.

Finally, it must be noted that training is not a solution for *all* problems relating to agricultural and forestry extension. Success also requires the development of suitable policies and the availability of adequate resources. Only when these things are in place will training produce the best possible results.

### **3.6.2 Training of government extension workers**

The expansion of the **Lao Extension Approach** requires that two types of training are given to Government staff:

#### a) District staff need to be retrained as generalist.

Most of the existing DAFEO staff were originally trained as specialists in subjects such as agronomy, livestock, and forestry. Training will be organised

in each Province to make sure that Farming Systems Extension Workers can meet all of the needs of farmers. FSEWs should be able to provide support to Learning Projects that involve crops, livestock, erosion control, water management, agro-forestry, marketing, and other aspect of the farming system.

Subject Matter Specialists (SMSs) from PAFEC will conduct most of the training for FSEWs, with guidance from the Master Trainers. Short courses of 10-15 days will be organised once, twice, or three times per year in each Province, depending on the availability of budget and trainers, and the number of FSEWs who need training.

In future, agricultural colleges and universities will provide a generalist education for students who intend to become FSEWs. Consequently, new recruits to DAFEO will require less in-service training.

b) District and Provincial Staff need to be trained in extension methodology.

The steps involved in launching the VES have been described in section 3.4.3 above. These steps make up the 'basic curriculum' for extension methodology. The Basic Tools Handbook described in section 3.4.5 provide guidance on the implementation of this curriculum.

The staff of each PAFEC will included at least one SMS in Extension Methodology. This person will be part of the teams that are responsible for launching the VES in pilot villages. This person will subsequently support the work of FSEWs by providing advice on subjects such as participatory rural appraisal (PRA), communication skills, and organisational development.

### **3.6.3 Training of farmers**

Farmer training takes the form of Learning Projects that are facilitated by Village Extension Workers (VEWs) with support from FSEWs. The planning and implementation of Learning Projects has been described in section 3.4.2. It may be useful to reiterate the following points concerning these activities:

- Learning Projects are designed to cover an entire 'production cycle', lasting one or two seasons. They are carried out by Production Groups made up of approximately 10 farmers.
- Learning Projects are expected to exemplify the principles of the extension system; they should be needs-based, participatory, gender-sensitive and self-motivated.
- The outcome of these Learning Projects should be far more than the acquisition of new knowledge and skills. They should also generate a sense of ownership of the process of problem-solving, and a commitment towards further collective action.



After the VES is launched, Village Extension Workers will be the focus of much of the support given by the Government Extension Service. Although VEWs may be invited to attend short training courses organised by SMSs, much of the training they receive will be in the form of 'coaching' by FSEWs. This coaching involves on-the-job guidance that is given during the implementation of extension activities.

### 3.7 Implementation of projects

#### 3.7.1 *Types of projects*

Foreign projects have an important role to play in the expansion of the **Lao Extension Approach**. The principles, structures and procedures described in this document are applicable to the regular work of PAFEC and DAFEO, *and* to projects that are managed and/or funded by foreign organisations. The types of projects that should take account of this approach include the following:

##### a) Government capacity-building projects

Projects that aim to strengthen the capacity of MAF Technical Departments, or operations at the Provincial and District levels, should adopt the extension approach as described in this document. They should not be developing alternative structures or strategies.

##### b) Technology transfer projects

There are many projects that promote technologies or production systems. For example sericulture, integrated pest management, rice intensification, soil conservation, and agro-forestry. In the past, project activities have often been designed with very limited participation by farmers, and the range of interventions has been limited by a sectoral focus. In future, greater emphasis should be given to making these projects more farmer-driven and multi-disciplinary.

##### b) Community development projects

Projects that work at the village level are more likely to use a farming systems approach, with technical interventions identified in collaboration with farmers. This is consistent with the Village Extension System. However, many community development projects combine extension activities with the establishment of credit schemes and the provision of inputs. If this is the case, project planners and managers should make a clear distinction between extension activities - which should follow the national approach - and other components that are more localised or short-term.

### **3.7.2 Compliance with the Lao Extension Approach**

Proposals for new projects, or new phases of existing projects, are appraised by the Government to ensure that they are consistent with the approved policies and programmes. Projects must be compatible with the strategies described in the Strategic Vision for the Agricultural Sector, and the priorities that have been included in the National Growth and Poverty Eradication Strategy.

During appraisal, MAF will be looking for compliance with the **Lao Extension Approach**, as described in this document. The system is inherently pluralistic, meaning that there will be considerable differences from place to place, but there are certain fixed features. The features that must be incorporated into the design of extension projects and components are as follows:

- The design of extension projects must be based on the principles described in section 3.2.1. Projects should support the development of an extension system that is decentralised, pluralistic, participatory, needs-based, integrated, gender-sensitive, group-based, and self-motivated.
- Extension activities will be non-discriminatory. People will not be excluded because of their religion or ethnic group. Special efforts will be made to include women and the poorer members of the community.
- The job descriptions of extension workers will not be changed for the purpose of implementing extension projects. DAFEO staff are expected to be generalists while PAFO staff are expected to be specialists. At the village level, activities will be organised and facilitated by members of the community.
- The implementation of extension should be based on the cycle of activities described in section 3.4.2. The design of group-based activities should be based on Training Needs Assessment carried out by village authorities and farmers. Participatory Monitoring and Evaluation should be carried out to assess progress. Additional activities such as Farmer Exchanges should be carried out to ensure that benefits spread to all sections of the community.
- To avoid confusion, there should be consistent use of terminology. Farmer facilitators should be called 'Village Extension Workers'. Group based activities should be called 'Learning Projects'.
- Farmers should not be paid to participate in extension activities. Furthermore, the arrangements for compensating VEWs should be decided by the members of Production Groups and approved by the Village Authorities, not unilaterally by project staff.



The last point deserves further explanation. Extension projects should promote self-respect, self-reliance and sustainability, not dependence on central government and foreign aid. Although it may sometimes be appropriate for Government or donor agencies to provide free food or materials as part of relief work, this should be seen as a short-term measure that is separate from development work such as agricultural extension. The staff of DAFEO and PAFEC can help farmers to identify sources of credit, seed, vaccines and so on, but they will not be involved in actually providing these inputs except in very small quantities needed for demonstration plots or trials. Similarly, Village Extension Workers should not be expected to act as a channel for the supply of inputs or the marketing of farm produce. Where funds are needed to support new productive activities, savings schemes and revolving funds should be considered in place grants and subsidies. Under no circumstances should farmers be given cash payments as an incentive to attend extension meetings; at the most they may be provided with refreshments, although it would be preferable if the village made its own arrangements for this.

### **3.7.3 Flexibility during implementation**

The **Lao Extension Approach** is based on a number of principles and procedures that should be followed, but it is not a rigid system. The following things are *not* prescribed:

- The technical content of extension activities, or the precise outcome of these activities;
- The duration of Learning Projects, the frequency of meetings, the location and timing of sessions;
- The composition of Production Groups, the number of Groups per village, the links between these Groups and other local institutions;
- The type of follow-up activities and organisational arrangements that emerge from participation in the VES.

The **Lao Extension Approach** does *not* involve a weekly or fortnightly schedule of activities. The participants are *not* drawn from an exclusive list of contact farmers. There are *no* pre-determined technical messages that must be delivered to all villages. And participating farmers will *not* be forced to join a savings group, marketing association or any other village organisation. The reason these things are not prescribed is because the system should be demand-driven, and diversity is a natural consequence of decisions made at the village level.

Finally, it is necessary to answer a key question about the technical content of extension activities: *how can the demand-driven approach be reconciled with the fact that many projects want to promote specific technologies?* Project technologies are not always based on the demands of farmers, instead they are often identified by experts from outside the community. There may be good reasons for this. Farmers are not aware of all of the

technological opportunities that exist; indeed, they may not be aware of some of the problems that outsiders have identified. Government and donor projects have an important role to play in creating this awareness, and thereby expanding the options that are available to rural people. This does not mean, however, that projects should resort to using a 'transfer of technology' approach.

As part of the ***Lao Extension Approach***, the introduction of new technology should involve participatory and educational processes, not paternalism or prescriptions (see section 1.1.4 for a description of different extension paradigms). This requires the following:

- rural people should be consulted during the planning of extension projects and programmes;
- experts should select technologies that expand the choices given to farmers, not limit them;
- new technology should always be introduced on a trial basis, and be evaluated by farmers before being promoted more widely;
- experiential learning and farmer-to-farmer methods should be used to ensure that farmers acquire a full understanding and ownership of new technology.

The expansion of the ***Lao Extension Approach*** should not prevent projects from emphasising the benefits of certain technologies. But by following the simple guidelines given above, the main focus of attention will be the people who use the technology rather than the technology itself. This is what demand-driven extension should be doing: putting the interests of farmers first.

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