EXECUTIVE SUMMARY

This Report presents the findings and recommendations of the Consultant in Forestry Extension Systems to the Cambodia German Forestry Project for a 10 day in-country visit to Cambodia from April 23rd to May 4th, 2001.

Recommendations are made for Department of Forestry and Wildlife (DFW), Forestry Extension Unit (FEU), for Provincial Forestry Office (PFO), FEU (Kampong Speu) and for the extension component of the Cambodia German Forestry Project (CGFP). Finally a recommendation is made regarding the preferred option for institutional arrangements for the future development of forestry extension in Cambodia.

National Forestry Extension Unit

The main functions of the DFW FEU should be to provide Subject Matter Specialist support to provincial FEU staff and programs and to liaise between DFW and the Department of Agricultural Extension (DAE) of MAFF, and other projects involved in extension. The number of DFW FEU staff should not be increased but significant training inputs should be made to increase the capability of the present FEU staff to meet the above functions.

All FEU staff should be provided with training in extension methods through a short training procured from DAE. All should be provided with computer and English language training to bring all up to a basic level of competency. Individual members of the FEU should be provided with training in HRD, M&E, Principles of Community Development, Principles of Community Forestry, Training of Trainers, and in Production of Printed Extension Materials. Training providers and estimated costs of training are identified in the Report.

It is recommended that GTZ should contract the services of a short-term Advisor to assist DFW FEU to develop a strategic framework for HRD and HRM to enable extension managers to improve their skills in HRD and HRM for the extension program. It is also recommended that GTZ CGFP Advisors should be more proactive in leading development of the planning capacity of FEU staff at national and provincial levels to ensure work plans are realistic and achievable.

A National Extension Working Group should be established between DFW and DAE to establish working relationships between the two Departments and this should be supported by exchange of a Letter of Agreement between CGFP (GTZ) and CAAEP (AusAID). Arrangements should allow for workplace training of FEU staff within DAE.

Provincial Forestry Extension Unit

The main function of the PFO FEU Sub Team members should be to support planning and implementation of field activities by field extension staff and to form working links with other projects (in the province) with extension and community development programs and experience. Individual staff of FEU should receive training in Principles of Community Development, and in Principles of Community Forestry to enable the unit to support field staff. A program of "workplace learning" is recommended for provincial staff through linkages with existing programs with community
development and extension components. It is most strongly recommended that planning and implementation of forestry extension in Kampong Speu should be integrated into the planning and implementation of agricultural extension of the Cambodia Australia Agricultural Extension Project that is expected to commence in Kampong Speu in July 2001. Working with CAAEP, forestry extension should develop a capacity to support villagers in agro-forestry programs.

For the longer term, it is recommended that CGFP should strive to achieve a lower ratio of government staff to villagers than in the present pilot area to the point where the present 6 person field extension team (supported by the FEU Sub Team) is able to provide programs to all districts in the eastern region of Kampong Speu province. It is also recommended that the CGFP should start a second pilot area in another district (which also has extension services and a community development component (from e.g Lutheran World Service or CAAEP - II) and where a different land tenure/titling system is in place.

Four options for an institutional model for forestry extension are presented in the Report although only two are considered in detail. These two were for:

- a stand alone DFW extension service and system, or,
- development of extension service capacity in DFW using the existing MAFF extension systems.

The preferred model is for a forestry extension service capacity to be developed within the DFW that uses the extension systems already widely in use in MAFF for agricultural extension and with very close working arrangements at national and provincial levels with MAFF DAE (agricultural) extension programs. By linking with the MAFF extension system through strong working relationships with DAE (and CAAEP) at national and provincial levels, there would be considerable efficiency benefits to be gained by forestry extension. By integration of a forestry component into district extension programs of the District Agriculture teams, DFW/PFO could reach a much larger number of clients at little cost than if DFW developed a stand-alone service and system in isolation from the rest of MAFF (agricultural) extension.

Cost estimates for the two options considered are presented in the report and the costs are the same for either option. Costs of adopting all recommendations made in the Report are $US 32,200, $US 24,100 and $US 17,200 for years 1 to 3 respectively. Thus, a total of $US 73,500 over the three years. These costs are additional to present day (existing) base costs of CGFP.

LIST OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
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<tr>
<td>AusAID</td>
<td>Australian Agency for International Development</td>
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<td>CAAEP</td>
<td>Cambodia Australia Agricultural Extension Project</td>
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<tr>
<td>CCI</td>
<td>Cambodia Communication Institute</td>
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<td>CDC</td>
<td>Commune Development Committee</td>
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<td>CGFP</td>
<td>Cambodia German Forestry Project</td>
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<td>DAE</td>
<td>Department of Agricultural Extension</td>
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<td>DFW</td>
<td>Department of Forests and Wildlife</td>
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<td>EPP</td>
<td>Extension Program Package.</td>
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<td>FEU</td>
<td>Forestry Extension Unit</td>
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<td>FEWG</td>
<td>Forestry Extension Working Group</td>
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<tr>
<td>FSD</td>
<td>Farming Systems Development</td>
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<td>GTZ</td>
<td>German Technical Cooperation Program</td>
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<td>HRD</td>
<td>Human Resource Development</td>
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<td>HRM</td>
<td>Human Resource Management</td>
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<td>IPM</td>
<td>Integrated Pest Management.</td>
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<td>K</td>
<td>Kampong</td>
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<td>LWS</td>
<td>Lutheran World Service</td>
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<td>MAFF</td>
<td>Ministry of Agriculture, Forests and Fisheries</td>
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<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
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<tr>
<td>NGO</td>
<td>Non Governmental Organisation</td>
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<td>OAE</td>
<td>Office of Agricultural Extension (provincial)</td>
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<td>PDAFF</td>
<td>Provincial Department of Agriculture, Forests and Fisheries</td>
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<td>Provincial Forestry Extension Unit</td>
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<td>PFO</td>
<td>Provincial Forest Office</td>
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<td>PRASAC</td>
<td>Program de Rehabilitation et d’Appui au Sector Agricole du Cambodge</td>
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<tr>
<td>RAU</td>
<td>Royal Agricultural University, Phnom Penh</td>
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<td>RGoC</td>
<td>Royal Government of Cambodia</td>
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<tr>
<td>SAPL</td>
<td>School of Agriculture, Prek Leap</td>
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<tr>
<td>TNA</td>
<td>Training Needs Assessment/Analysis</td>
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<tr>
<td>ToT</td>
<td>Training of Trainers</td>
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<td>TVK</td>
<td>Khmer National Television</td>
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**PREFACE**

What is in this Report
Section 1 contains background information (the institutional context, scope and objectives) of the Cambodian German Forestry Project (CGFP). This information is taken from various project documents and is presented to provide the context to the consultant recommendations. Section 1 also contains a summary of the consultant’s understanding of project activities derived from discussions with project staff, from project reports prepared to date and from a field visit to one of the demonstration sites in the target district of Oudong in Kampong Speu province. In addition, Section 1 contains information on current (agricultural) extension systems in place in Cambodia.

Section 2 is the response to the Terms of Reference for this mission with discussion and recommendations. The discussion and recommendations are presented under headings of national and provincial issues and recommendations are for short, intermediate and long term time frames. There is then a brief discussion of long term goals for forestry extension possibly beyond the time frame of the current CGFP. Finally there is a discussion of possible options for the development of forestry extension in Cambodia. The preferred model is for a forestry extension service capacity to be developed within the Department of Forestry and Wildlife that uses the extension systems already widely in use in Ministry of Agriculture Forests and Fisheries (MAFF) for agricultural extension and with very close working arrangements at the provincial level with other MAFF (agricultural) extension programs.

The Report also contains seven Annexes. Annexes 1 & 2 present the Terms of Reference, and the work-plan schedule of the consultant and Annex 3 provides a list of the main persons met. Annexes 4 to 7 contain information taken from project documents developed by the Cambodia Australia Agricultural Extension Project (CAAEP) that are relevant to the development of extension capacity for forestry, Annex 4 contains excerpts from the draft MAFF Proclamation 259 on agricultural extension. Annex 5 has background information on Extension Program Packages (EPP’s). Annex 6 provides a model Job Description for an (Agricultural) Extension Worker located in a District Agriculture Centre, and this material could readily be adapted to describe a forestry extension worker. Annex 7 is a copy of the MAFF Guidelines for Extension for Cambodia developed by CAAEP.

ACKNOWLEDGMENT

It is a pleasure to express appreciation of the assistance received from all officers of DFW in Phnom Penh under the leadership of Mr. Chea Sam Ang, Deputy Director, DFW, and the Office of Forestry, Kampong Speu under the leadership of Bin Sareth, Provincial Director DAFF and Mr.Phial Phannal, Chief of the Office of Forestry, Kampong Speu. Particularly appreciated was the assistance given throughout the consultancy by GTZ project staff Mr. Jurgen Fichtenau Community Forestry & Extension Advisor, Ms Sarah Burgess, Project Advisor and DED staff member Ms Britta Jell.

1. INTRODUCTION

This section of the Report provides detail of the institutional context, scope and objectives of the CGFP support. This information provides the context to the consultant recommendations presented in Section 2 of the Report.

1.1. CGFP Project Background and Scope

GTZ assistance to the Department of Forests and Wildlife (DFW) through the Cambodia German Forestry Project (CGFP) commenced in November 1996 with activities directed into three areas. These are:

1. Forestry Extension, (within DFW and Provincial Forest Office of Kampong Speu).
2. Forestry Education/Training (support to Forestry Faculty, Royal Agricultural University and School of Agriculture, Prek Leap),
3. Institutional Strengthening within parts of DFW (including forest policy advisory services).

These specific program activities are being undertaken within the broader context of development of an emerging national forest policy that will lead to a National Forestry Law. GTZ CGFP programs are of considerable importance in informing the direction of this policy.

There are significant links between the Forestry Law and the concurrent development of policy and law covering land titling issues. The Land Law will have strong bearing on the implementation of future forestry activities. These issues are beyond the scope of the present consultancy that considers only the area of Forestry Extension.

1.1.1. CGFP Support to Forestry Extension at National Level

CGFP support to develop a forestry extension system and capacity is covered at National level by an Agreement between GTZ and DFW, Phnom Penh. DFW is represented by the Deputy Director General, DFW (Mr. Chea Sam Ang) and Head of the Forestry Extension Unit, DFW (Mr. Nup Sothea).

The National Agreement has an Objective to:

Strengthen the institutional and managerial capacities of the DFW FEU to allow the FEU to:

- become a recognised and functional unit of DFW,  
- to have a clear management structure with a plan of operation and resources to undertake plans,  
- to implement tasks defined for the FEU.

These tasks (above) are aimed to facilitate forestry extension processes at national and provincial level to implement a sustainable management of natural (forest) resources in Cambodia. Key tasks include:

- extension policy formulation,  
- development of appropriate extension strategies,  
- development and dissemination of suitable extension material,  
- providing training, and,  
- cooperating with other relevant stakeholders in the field of extension.

With the assistance of CGFP, the FEU has established the Goal Statement for forestry extension that states:

Forestry Extension is an integral part of the Cambodian Extension System, promoting information exchange in order to enable
stakeholders to improve their activities within specific forest eco-systems towards sustainably managed forest resources in Cambodia.

The responsibilities of the FEU are stated to be the facilitation of processes leading to the Forestry Extension Goal, working within the Cambodian Extension system.

Key tasks identified to achieve this include:

- developing and managing a forestry information system,
- development of appropriate extension system strategies,
- development and dissemination of extension materials,
- cooperation and coordination among concerned stakeholders,
- training and institutional development,
- supporting participatory community approaches in forest use.

A work plan for a period of 8 months was developed to start to achieve these key tasks. The work plan structure takes each task and converts it into an objective then lists activities required to achieve the objective against a time frame.

1.1.2. CGFP Support to Forestry Extension at Provincial Level

At the provincial level in Kampong Speu, a separate Agreement between GTZ and the Provincial Forestry Office (PFO) represented by Mr. Keo Seng Kry, defines the objectives and scope of support. DFW, represented by vice Chief of Reforestation Office (Mr. Ly Chou Beang), is also a signatory to this provincial Agreement.

The major objective of the provincial Agreement is to assist PFO to:

- implement forestry extension and community forestry measures at target sites in Oudong District, and,
- strengthen the institutional and managerial capacities of the PFO Forestry Extension Working Group (FEWG) through assisting with development of a management structure and an operating plan.

Specifically, activities are initially confined to a pilot area of Ang Pro Loeung forest.

Under this Agreement, the role and responsibility of the PFO FEWG is defined as being facilitation and implementation of forestry extension processes at provincial and district levels, which aim at the sustainable management of natural (forest) resources in Kampong Speu Province. These Forestry Extension processes are to follow strategies that have been developed in cooperation with national level efforts of DFW FEU.

Key tasks of the PFO FEWG are to include:

- development and dissemination of suitable extension material,
- support to preparation of village work plans,
- providing training to villagers and,
- cooperating with other relevant stakeholders in the field of extension.

As was done under the National Agreement, a provincial work plan using the tasks as plan objectives was developed for an 8 month period and activities are linked to implementing this work plan.

As was also done under the national Agreement, the Goal and Tasks of Forestry Extension at the Provincial level were also defined. The Goal Statement for Provincial Forestry is, as for the National level:

Forestry Extension is an integral part of the Cambodian Extension System promoting information exchange in order to enable stakeholders to improve their activities within specific forest eco-systems towards sustainably managed forest resources in Cambodia.

The responsibility of the PFO Extension Unit is facilitation of processes leading to the Forestry Extension Goal mainly by implementing extension strategies that have been developed at national level by DFW- FEU working together with relevant stakeholders at provincial and district level.

Key tasks identified to achieve this include:

- institutional Development – for increased staff skills,
- facilitation of implementation of forestry extension activities at village level (identify extension topics at village level and feed back information to DFW-FEU, nursery construction, plantation activities, forest management,
- dissemination of extension materials – to villagers, other stakeholders, development of site specific extension materials,
- training – including establishment of demonstration plots,
- cooperation and coordination among concerned stakeholders.

A work plan for 8 months was developed for these tasks.

The ultimate objective of these Agreements is to develop systems for forestry extension that are capable of being replicated in other areas of Cambodia.

1.2. Objective of the Consultancy

The major objective of this consultancy is to provide GTZ CGFP with options regarding a suitable institutional framework for Forestry Extension activities at national, provincial, district, commune and village levels. Terms of Reference are presented in Annex 1.

1.3. A Description of Agriculture and Forestry Systems at the Project Site

The target area of the CGFP is Ang Pro Loeung forest in Oudong District which lies in the north east of the province of Kampong Speu (see Map), adjoining Kandal Province.

The pilot area contains 38 villages and comprises approximately 2,800 ha of heavily degraded forest land. Following a detailed socio-economic
survey conducted in early 2000 (Burgess & Fichtena, 2000) initial project activities were confined to 3 selected pilot villages.

Much of the following information was taken from a case study carried out in early 2000 as part of the preparation for the First National Forestry Extension Workshop in Cambodia (Mason, 2000). This was supplemented by information obtained directly by the Consultant during a field visit to the village of Tum Nob Bak in the pilot area.

The pilot area has three main agro-ecological systems, viz:

1. Degraded forest land,
2. Recently cleared degraded forest land relatively newly cultivated, and,
3. Rice paddy fields.

Land in systems 1 and 2, although officially state owned land, is de facto seen by the villagers to belong to individual families in the target villages. This is the result of allocations of individual areas made in the early 1980’s by Vietnamese authorities during the period of Vietnamese occupation/government. This land is not titled to the individuals and is considered by DFW to be state forest.

Land in system 3 while also being untitled, is seen to belong to individual families through longer-term “hereditary” occupation allied to it’s use for agriculture. The issue of the status of the land in the category of “degraded forest”, whether cleared for agriculture or remaining as degraded forest is already having important effects on development of a community forestry extension program in this area. Villages do not want to participate in a “community” forestry management program for land that they regard as being private land. Some are willing to participate in programs of reforestation as individual families.

Rice is produced only in the wet season, yields are low (averaging 1.2 tonnes per ha of paddy per year). Low yields are due largely to poor, infertile soils and there is a significant rice deficit. Low family incomes also reduce the ability of farmers to provide quality inputs (e.g. fertilizer, pesticides, quality seed) and this also restricts yields. The majority of farm families make a significant part of their income from producing and selling palm sugar. This production is heavily dependent on fuel wood for boiling the palm juice to concentrate it into sugar. The wet season rice and palm sugar occupy production activities occupy people at different times of the year. Other products from the areas of degraded forest are also important to family livelihood.

Some families in the target villages do not have access to specific parcels of degraded forest land and are forced to obtain fuel wood for production of palm sugar from other sources. These include purchase from other village families who hold “rights” to parcels of forest land but who do not themselves produce palm sugar. The families who must purchase fuel wood in this way, are in a particularly precarious financial situation, burdened with high and chronic debt.

There is no support for farmers in the target villages from any branch of the PDAGV so villagers have no programs to gain new technical knowledge or skills to improve farm incomes due to e.g. increased rice production, improved small animal livestock production or alternative crop systems. Villagers therefore are caught in a situation where they are forced to rely on traditional methods of production of palm sugar and due to the demand for fuel wood and the use of inefficient methods, the forest is becoming increasingly degraded. Supplies of high quality fuel are diminishing, second grade fuels are used which in turn reduces the quality of the sugar produced. The market price for palm sugar is also declining steadily as imports of processed cane sugar, particularly from Thailand, replace palm sugar for many uses.

As found by the case study prior to the Forestry Extension Workshop:

"the majority of the people recognise the importance of tree planting to mitigate some of the causes of their problem. They will also need to take some of the responsibility at the local level for the management of their forest resources. The current condition of this system is deteriorating and is not sustainable in its current form. The pressure on the degraded forest is too great. The degraded forests need better management and at the same time, the people need to diversify their livelihood activities and turn to income generating alternatives to palm sugar production." (Mason, 2000).

It is clear however, that a community forestry program will not answer the immediate problems of the people of the villages. With income from agricultural production at such a low level, the pressures on forest land for fuel wood will continue. Even if a successful community forestry program is initiated, there will be no opportunity for recovery of the forest from the present highly degraded state. Until the people either have other sources of income (from improved agriculture) or a reduced need for fuel wood the forest cannot be “rested” to allow recovery to a situation where some worthwhile sustainable production is possible.

1.4. Other Projects in Kampong Speu

Although Government services to communities are generally poor, there are several important programs in place supported by different NGO’s and bilateral agencies. Although none are active in the CGFP target villages, some are active in other villages of Oudong district. Some of these could be potentially important partners for CGFP activities.

Major programs in K. Speu are sponsored by:

European Union – PRASAC II. A program in Oudong, Samrong Long and Borset Districts to provide village wells, ponds, roads, tree planting, rice production (seed multiplication, variety testing and demonstrations, fertilizer demonstrations, IPM). PRASAC has 3 agriculture staff with different technical and community development skills in each district agriculture office who conduct the PRASAC agriculture program. The PRASAC program has provided village wells in some CGFP target villages.

Lutheran World Service, LWS works in Oral and (northern parts of) Phum Sruoch Districts. The program covers a wide range of community development activities (schools, health, water roads (in association with World Food Program Food-for-Work Program) and de-mining (in the early stages of the LWS program). LWS has 50 community development workers based at the village level and facilitates the formation and support of Village Development Committees. Project staff have skills in Participatory Rural Development surveys and strong Community Development facilitation skills, including development and implementation of Village Development Plans

World Food Program. Works generally in partnership with other development projects and is a likely future partner with CGFP for Food-For- Work for reforestation programs.

Oxfam – operates small scale credit programs, mostly for non-agricultural needs.

Of these agencies, particularly LWS but also PRASAC would seem to have strongest emphasis on community participation/community development, and include significant components of agriculture using a range of extension techniques. They also have considerable experience in working with community groups and will be an important resource for further development of forestry extension.
AusAID - Cambodia Australia Agricultural Extension Project - Phase II. Although not yet operating in Kampong Speu, this is a project of great potential importance to DFW/PFO CGFP in the development and implementation of forest extension services. CAAEP is scheduled to commence a significant agricultural extension capacity building program in Kampong Speu July 2001. Details of CAAEP programs, systems and capacity are presented in Section 1.5.2.2 of this Report.

1.5. Current Situation with Extension in Cambodia

1.5.1 Introduction

A large number of projects supported by NGO’s, or through bilateral or multilateral funding have at least some component of (agricultural) extension to farmers. Some of these projects work outside MAFF Departments and the various Offices of the Provincial Departments of Agriculture, Forests and Fisheries. They involve farmers to different degrees with some projects seconding departmental staff to work on their programs but using “mainstream” systems, and others, approaching the other end of the spectrum, claim to use a “farmer lead” extension system. They may also work somewhat with the Ministry of Rural Development and Provincial Offices of Rural Development but still tend to operate their staff outside the government planning processes.

1.5.2. MAFF Extension System

There are however, major development programs of agricultural extension within MAFF. These operate in the provinces of Battambang, Banteay Meanchey, Seim Reap and Pursat (where joint AusAID bilateral funds and IFAD loan funds are used to support the Agricultural Development Support to SEILA Project; in Kandal, Takeo, Kampong Cham, (supported by AusAID bilateral funds through CAAEP) and in Kampot and Kampong Thom (jointly funded by AusAID and GTZ bilateral funds and IFAD loan funds). By July 2001, AusAID will also be supporting agricultural extension in Prey Veng, Svey Rieng, Kampong Speu and Kampong Chhnang through the bilateral CAAEP.

All the agricultural components of these projects are being implemented through application of the extension system and service model developed by the AusAID CAAEP Project between 1995 and 2001. A copy of the Guidelines for Agricultural Extension of Cambodia developed by CAAEP and DAE/OAE are presented in Annex 7.

MAFF Sub Decree # 43 (dated May 17th 1995) and Sub Decree #17 (dated April 7th, 2000) clearly state that the responsibility for all extension by MAFF Departments will be lead by the Department of Agricultural Extension, and in the provinces by the Offices of Agricultural Extension.

DAE is to provide national extension policy guidelines and high level technical support, advice and assistance to:

- Other Departments of MAFF and to Provincial Departments of Agriculture, Forests and Fisheries, and,
- to facilitate training and provide other technical support, advice and assistance, to:

  Provincial Offices of Agricultural Extension (OAE).

  District Agriculture Offices

In the Provincial Department of Agriculture, Forests and Fisheries, the Office of Agricultural Extension is to provide provincial extension planning guidelines and to facilitate technical support and advice, training and media services to district agriculture offices which participate in the agricultural extension program.

The other Departments of MAFF referred to above, would include DFW, and as CGFP is located within DFW/MAFF and has a capacity building and policy support role, it is incumbent on the project to work alongside DAE and the provincial OAE’s in developing forestry extension systems and capacity.

1.5.2.1. DAE and OAE Structure and Function

Structure and function of the DAE and OAE’s of MAFF and of the District Agriculture Offices are defined in MAFF Proclamation # 259 signed April 1996 and revised in July 2000. Relevant excerpts of revised Proclamation 259, showing the main responsibilities for each level are presented in Annex 4 to this Report.

1.5.2.2. DAE/OAE and CAAEP

DAE has been assisted since October 1995 to develop the human resource capacity for extension and to develop systems of (agricultural) extension, by the Cambodia Australia Agricultural Extension Project (CAAEPI) using AusAID funds. The goal of CAAEP was to:

“develop managerial capacity, agricultural knowledge, skills and experience that would directly support DAE and OAE’s to provide a framework for the establishment of a future, sustainable, client driven agricultural extension system”.

Operating systems for extension developed through the project have been produced as "Guidelines for Agricultural Extension in Cambodia” (see Annex7) and have been accepted by MAFF as official MAFF policy. These now serve as an organisational and operational framework for all government extension activities. The Guidelines use a Farming Systems Development (FSD) approach and attempt to link extension, research and farmers at all levels through a program of adaptive research and extension.

In July 2001, CAAEP II is scheduled to commence activities in three target districts (yet to be selected) in Kampong Speu, CAAEP will support 5 or 6 PDAFF staff at the Provincial level and in each district, a District Agriculture Team of 5 or 6 staff lead by the District Agriculture Chief. The project will emphasise a district based government delivery of (agricultural) extension with the district staff as facilitators of technology transfer using a range of delivery mechanisms.

MAFF Proclamation # 259 (Article 6.1. See Annex 4) includes provision in the district team where necessary to meet the needs of the stakeholders of any district, of a forestry officer – i.e. a PFO staff person with special skills relevant to forestry.

Farmer to farmer transfer of information below the District level will be very important as the numbers of government extension staff will always be small relative to the farming community. Community consultation through community groups (e.g. VDC’s and CDC’s (or later Commune Councils)) and community input to planning and implementation at village, commune and district level will be emphasised.

During the term of CAAEP I, DAE developed very good capacity for HRD/Training and for Farming Systems Analysis and a good capacity for
2. MAIN FINDINGS AND RECOMMENDATIONS

2.1. Introduction

The major task of the consultant was to provide options to GTZ CGFP for a workable institutional framework for forestry extension at national, provincial, district, commune and village level against the background of efforts of the RGoC to decentralise government services.

The topics of current extension systems, potential partners and linkages, and of existing institutional structures have already been described in Section 1 of this Report and the information in this section will be referred back to in Section 2.

The consultant was required to make recommendations and to present proposals for alternatives and procedures on how to establish a forestry extension system with short (to 6 months), medium (6 to 18 months) and long term (to 3 years) actions and with estimates of costs of activities proposed. These are included.

2.2. Extension System and Extension Service

At this point, it is necessary to make a clear distinction between extension system(s) and extension service(s). The difference can be explained through a definition of extension, as,

"the techniques and process, linked to the institutional structures and operating systems required and used for transfer of "technological" information from the holders and generators of that information to the clients of extension".

Technological information must also be defined broadly to include strictly technical information (e.g. how to control a specific tree disease), process information (e.g. how to set up a tree seeding nursery, or how to form and support a farmer group) and market information useful to the client of the processes.

Thus the extension system involves the techniques, processes, skills, and operating framework used by the extension service – the people who use the system tools and the institutional framework.

The system tools are largely the same irrespective of the nature of the technological information being transferred to the clients. There are no major differences between a forestry extension system or an agronomy extension system or a livestock extension system. In the Cambodian context, the clients who are the main target group for any of this extension information are the same people – rural populations living in poor villages who need information on livestock, crops and often forests. However, the institutional framework – the service model - may be quite different for each technical area (forestry, livestock, agronomy).

2.3. Analysis of the Present Situation of Extension Within DFW and the PFO K. Speu

2.3.1. National DFW Forest Extension Unit

The DFW FEU is located administratively within the Reforestation Office of DFW and was formed by transfer of seven staff from other areas of DFW. All FEU staff (6 male, 1 female) have training in forestry science to some level. Four have degrees from RAU School of Forestry, 2 have diplomas from SAPL and 1 is classified as a technical agent. Unit staff are supported for an average of 10 working days per month by GTZ for CGFP activities although this time may be varied according to need. The remainder of their working time is spent on other DFW duties related to extension in Kampong Chhnang, Seim Reap and Pursat provinces where there are other projects to provide funds. Staff who have no project financial support for the remainder of their work time are unable to do anything in this other time.

The recent (and ongoing) training of FEU staff provided by GTZ has included training courses in General Management, Planning Management, English, Seed Biology and Seed Procurement and Project Proposal Writing, Computer Use. Not all members of the FEU have attended each of these training courses.

Each FEU staff member has a written job description with duties related to the tasks set out for the FEU (see Section 1.1.1). These are not true job descriptions but are personal profiles for the individual staff members who currently make up the FEU. The job description component of each document is a very general statement and production of these job descriptions appears to have been a theoretical exercise that the staff have been taken through. The results have little relevance to the responsibilities of the particular position within the structure and irrespective of who occupies the position. There is a need to rework job descriptions to describe functions associated with a particular position in the organisation. This is part of the wider need to develop a HRD/HRM strategy that is addressed below (see Section 2.3.1.1).

The FEU has also produced an 8 month work plan for CGFP activities and the content of this is also related to the tasks required of the FEU (see Section 1.1.1). Due at least in part to lack of capacity, several of the activities already scheduled have not been carried through. Whether they will be completed or attempted during the present plan period remains unclear.

Members of the FEU have some access to DFW HRD/Training and DFW Community Forestry Sections although there seems to be little interaction with either of these sections. This may have several causes – staff linked to a funded project, often see themselves as needing to try to develop all the skills necessary for their project, others who are not supported by that project are often reluctant to contribute unless they receive some support for making a contribution.

Extension material produced by FEU is so far limited to a brochure describing the DFW and to a quality bi-annual Forestry Newsletter that is produced essentially to publicise DFW to politicians and other influential people. This is a valid activity but one which is often seen as the sole reason for media by senior managers of Departments in RGoC. The FEU must ensure that it also fulfills the functions required to support field programs. Material is also in process of being developed to support national labour day activities and there are plans for production of a series of technical brochures on individual tree species. The present strategy, of in-house development of material, with commercial outsourcing of production should be maintained. No resources should be put into developing actual production capacity within DFW.

2.3.1.1. Recommendations for DFW FEU – National
Institutional Issues

In the long term, GTZ should encourage DFW to acknowledge the importance of forestry extension by raising the status of the Forestry Extension Unit to that of an Office within the organisation separate from the Reforestation Office. This would be made easier when the FEU and PFO/FEU start to show some value from their activities.

Monitoring & Evaluation Capacity in FEU

While GTZ has M&E processes in place for the purposes of reporting back to GTZ head office, there appear to be no moves to develop a M&E capacity within Forestry Extension. Extension staff now use the standard MAFF procedure of monthly activity reports which are made to higher levels of the organisation. This reporting uses a standard format. As there is never any feedback or response to issues raised by staff in these monthly reports, their value must be questioned. As part of the pilot development of a forestry extension system, GTZ must strongly consider making inputs to developing a capacity for M&E by their counterparts in DFW/PFO.

Ideally, CGFP should not have to develop a full M&E system and capacity but should be part of a larger system for DFW as a whole. However, in the absence of such a system it is recommended that CGFP should make contact with other GTZ funded development projects operating in Cambodia to look at the M&E processes in place in those projects. In particular, the GTZ Integrated Food Security Project in Kampot should be studied with a view of introducing a start to building counterpart capacity for M&E into the forestry extension sector. Such a start should be kept as simple as possible – do not collect any monitoring information that is not needed for a specific purpose. Ensure that the information collected is capable of being evaluated. Give feedback on the results of the monitoring information collected.

CGFP should enter into a 1 month contract with an in-country M&E trainer to provide the framework of an M&E system for DFW/PFO FWU. It is estimated that this process would require $US 10,000 and should be undertaken within the second year after most of the training recommended is completed. It is important to avoid training overload for staff.

HRD, HRM and Training

There appears to be a lack of understanding of the principles and practices of HRD/HRM within DFW, and therefore within FEU. This will hinder the development of a soundly based HRD program for Forestry extension (and presumably the rest of DFW) and therefore hinder development of a sound extension capacity for forestry.

DFW has a need to develop a HRD/Training strategy but this need is of course, wider than CGFP. It would include CGFP supported staff and activities. This is a larger problem than GTZ should be asked to solve but the fact remains that until a systematic HRD/Training strategy exists the forestry extension objectives will be more difficult to achieve. Development of such a strategy must be part of the pilot activities if the objective is finally to develop systems that can be replicated across the forestry sector of Cambodia.

It is recommended that CGFP strongly consider funding the inputs of a short term Advisor in HRD/Training for two months to work within the DFW FEU and PFO FEU. This person would assist the managers of extension program staff to improve their capacity in HRD and HRM. The short term Advisor would set up a program framework which, once set out, could be implemented through in-country training providers. This strategy framework could importantly also inform the development of the wider strategy for DFW.

It is clear that to achieve the goal of CGFP and to create the desired extension system, will require a considerable amount of training in a wide range of subjects and across all levels of both DFW and PFO.

It will include:

- overall organisational level training to enhance managerial skills,
- group occupational training, and
- individual training to foster personal development.

Training should therefore focus on:

- bridging of the gap between current levels of competence and those needed in the future,
- maintaining current standards of performance, and
- facilitating movement into new roles and responsibilities.

Attention should be directed towards the outcomes of training, and especially upon the effectiveness of training in changing workplace practices. This of course clearly implies that training is employment directed, and all decisions on participation in training activities must be made against the criteria of relevance in the work situation.

The strategy should also include elements of Human Resource Management covering guidelines and standards for selection of staff, development of job descriptions, performance appraisal, discipline, motivation, remuneration, conditions of service, entry and exit procedures, and human resource development (or training). CGFP, as part of the pilot activities, should assist DFW and PFO to establish and implement more effective procedures in many of these areas, and should thus begin to think not of HRD/training but of the bigger, more inclusive picture of HRM.

The training program must focus particularly on the needs of provincial and/or district based forestry extension workers, and in general terms the topics would be divided into two groups:

- Forestry technologies, and
- extension methodologies (including farming systems and community development).

HRD procedures

Training must be structured to get the most effective results, and it must meet the needs of the participants in developing greater competence and confidence to carry out their roles and responsibilities. Training also should be structured so that trainees are able to later train others. The principle of cascade training is an important one for the project. It would also be essential to have follow-up, on-the-job training and to ensure that the more formal training course material is supplemented with field application to help staff apply the knowledge and skills gained from training.

A systematic approach can be represented as follows.

IDENTIFICATION OF PARTICIPANTS
To obtain the best outcome from training; skilled and experienced training providers should be used. CGFP would be responsible for identifying those organisations and individuals within Cambodia who have a reputation for excellence in delivering relevant training. For training recommended in this Report, training service providers are identified.

Whether or not the recommendation for a short term HRM/HRD Advisor is accepted, staff in DFW FEU are urgently in need of further training in the short and intermediate time frame. Some of this should be group training, some should be provided to individuals within the FEU with the objective of making them Subject Matter Specialist resource persons in particular disciplines to support others in the FEU and to support the provincial and district staff and programs. This support is the primary function of the FEU staff. The FEU clearly needs skilled resource trainers now in planning and management, in HRD/Training, in media/extension materials and in community development.

**Training Program**

It is **recommended** that a training program be developed as follows.

**High Priority – within 6 months**

**Computer and English Language training** - continue existing training for all staff until all have a basic competence. After basic level training, assess the needs for individuals to go on to higher levels in either or both English and computer use.

**Training in Extension Principles.** Provide all staff of FEU with a basic one week training to be developed and provided by HRD/Training Section of DAE.

Cost estimate:

- DAE Senior Trainer $80 per day $400
- 7 Class participants (standard rates) $375
- Course materials ($10 / person) $70
- Morning/Afternoon Tea ($0.5/person/day) $17.5
- Cost of training room $0
- Total estimated cost $862.5

This course should be developed out of the 10 day training course given in November 2000 by DAE to staff in Kampong Speu, taking account of the evaluation report of the K. Speu course. It needs to be emphasised that principles of extension to be presented in the course apply equally to agriculture and to forestry extension.

**Intermediate Priority. (6 to 18 months)**

**Training in Principles of Community Development.** For one staff member of FEU to develop skills as a resource person for the program.

Provide training through Royal Agricultural University, Chamcar Daung. A 5 day training course costs
Training in HRD Principles

Training courses in HRD (Work effectiveness evaluation, TNA, Training effectiveness, Survey Techniques,) should be contracted from DAE HRD/Training Section. Costs will vary with length of course (suggested to be 5 days) and number of participants but DAE will provide a senior trainer at a rate of $80 per day and would be expected to charge $10 per trainee for course materials and consumables. CGFP would pay activity allowance for each participant at standard rates.

Training of Trainers Skills Course. For one staff member of FEU to develop skills as a ToT resource person for the program.

Provide training through Royal Agricultural University that has a 10 day course.

Cost $220 or $250 full cost depending on whether or not the participant stays on campus for the course plus daily activity payment ($10/day) to participant.

Training in Writing Skills for Production of Printed Extension Materials. For one staff member of FEU who is designated as the extension materials/media resource person, a formal training through Cambodia Communication Institute of the Ministry of Information. CCI provides a range of study units, each of usually 1 or 2 days duration and these can be spread out over work time. Costs vary according to particular "units" of study taken. This training must be linked to a workplace experience program for the same staff member seconded (at no cost other than the daily $10 activity allowance) to work from time to time for short periods with staff of the DAE Media Unit.

Lower Priority (between 18 months and 3 years)

Training in Community Forestry. For one staff member of FEU to develop skills as a resource person for the program to reduce the lack of knowledge within the FEU which currently has to use Community Forestry Unit staff as resource persons and who appear to have limited skills to provide this function.

Provide training through RAU which currently provides specific courses in the provinces but which for the year 2001 program will provide a 10 day course on campus.

Cost $220 or 250 depending on whether or not the participant stays on campus plus ($10) daily CGFP activity allowance.

General Training

When asked to list their own ideas of their requirements for training, FEU staff requested training more in general management training and training in document analysis. This last request is not possible – no such courses are known to exist in Cambodia. The need reflects the lack of analytical skills that exists in most people educated in the Cambodian system. The best response to this need is by Advisors taking a proactive approach when working with staff on tasks where analytical skills are needed. Advisors should work in these situations to make the activity a personal skills development experience for the staff.

Staff also requested a study tour to a regional country with a functioning community forestry management program.

Management and Support To Provincial Staff and Programs

It is recommended that CGFP Advisor staff should take a much more proactive role in development of national and provincial/district work plans to ensure that the plans developed are realistic in terms of being able to be achieved within the plan timeframe. It is important that plans are not too ambitious and examination of the current work plans shows that the planning process is still in need of considerable guidance. Approach the task as a “learning by doing” exercise for the staff and expect that it will take two or three cycles of developing an activity plan before the staff become competent and confident to do it on their own.

CGFP should also ensure that funds are available to allow DFW FEU staff to spend more time in the province in general support of the provincial/district activities. The working linkages between national and provincial staff should be strengthened in areas including production of extension material, community forestry, planning and community development.

CGFP Advisor staff must also ensure that all stakeholders in the project have a better understanding of what the project objectives are and how these are to be achieved.

Links to Other Participants in Extension

As already described, DAE is a major participant in the development of extension services and systems in Cambodia and it is strongly recommended that DFWM should form formal and working links with DAE to create synergies in extension effort. Both DAE and DFWM can benefit from working together in partnership.

Discussions with Director DAE and senior staff have revealed a willingness to cooperate with DFW FEU through providing workplace (on-the-job) training and experience for FEU staff within DAE for media and all aspects of Farming systems development (including EPF development for forestry topics). Initially the media experience should be confined to production of printed extension materials. If in the longer term, DFWM decides to enter into the production of video or radio extension material, DAE would also provide workplace experience to supplement any formal training. In this event, formal training would be obtained through TVK Phnom Penh.

To recognise these links, it is recommended that a National Extension Working Group should be formed involving, for the purposes of the present projects, DFWM and DAE. This may later be extended to include other departments of MAFF and other Ministries as needed. The Working Group should be co-chaired by DFWM and DAE at the level of Deputy Director DFWM with responsibility for Forestry Extension and vice Director DAE, with responsibility for Farming Systems and HRD/Training.

It is also recommended that CGFP and CAFAEP should exchange a Letter of Agreement setting out areas and avenues of mutual cooperation at national level and in Kampong Speu province.
For the present target areas of CGFP, it is **recommended** that CGFP should exert as much influence as possible to have CAAEP II select Oudong District as one of the three target districts in K. Speu and work alongside the OAE/CAAEP II programs.

### 2.3.2. Provincial Forestry Extension – Kampong Speu

Forestry extension supported by CGFP is implemented through a Forestry Extension Working Group that consists of two sections and has a total of 10 staff for the province and pilot area. The group was formed by transfer of existing staff from within PFO according largely to relativity of seniority to the levels proposed for the PFEU.

At the Provincial Forest Office, there are 4 staff lead by the Chief of Forest Extension in the “Provincial Sub-Team”. The remaining 6 staff form the “Field Implementation Team” and are responsible for all district extension activities in the target villages. Members of the “Sub Team” have province wide responsibilities for e.g. planning while the members of the Field Team have a primary responsibility in the villages in community development and field implementation.

The province is divided into 3 regions (each covering several districts) and staff of the Field Implementation Teams are fully responsible to the Chief of PFO. This contrasts with the organisational structures for other technical offices of PDAFF which have staff located at District Agriculture Offices who are administratively responsible through the District Agriculture Chief to the District Governor and responsible for technical disciplines to their Chief of Office of PDAFF.

Staff had no previous experience in extension although they have since been provided with a 10 day training course in extension methods provided by DAE trainers. There has been no follow-up support to this including, particularly importantly, no support for field application of the course principles. Relevance of the training was apparently lost on the trainees as they regarded this as training in "agricultural extension" and requested that they should now be provided with training in "forestry extension”

Members of the PFEU have no experience or skills in community mobilization for development. They do have some technical skills in e.g. seedling nursery establishment and management.

PFEU has a work plan covering an 8 month period and the activities are related to the tasks identified as required for the PFEU (see Section 1.1.2). The work plan is very detailed and far too ambitious for the time period or the skills and experience of the staff. The work plan was developed through a workshop process facilitated by 1 staff member of FEU of DFW and it is clear, with questioning of the staff who are required to implement the activities, that they do not understand many of the activities in the work plan and had little input to developing the plan.

Staff (particularly in the Field Implementation Team) lack confidence and practice in extension, all provincial extension staff lack support from FEU DFW in topics such as TNA and development of job descriptions that they are required to do in the work plan. They lack support from Subject Matter Specialist for community forestry activities from CFU DFW. They lack of skills in forming and working with community people. They have no skills in developing village forestry plans nor in selecting and supporting Village Volunteer Forest Extension Workers. Finally, despite the fact that the CGFP Advisors have held several information workshops and meetings for PFO staff, they appear to not understand the CGFP – what they are supposed to be doing and why they are doing it through the project support.

Since November 2000, field extension staff have visited target villages at least twice each month and have held meetings at which the villagers put requests for help. Unfortunately the extension workers are not able to deliver on any of the requests for assistance and unless they start to do so quite quickly, they will totally lose the confidence of the villagers. They have been unable to form village community forestry groups. In these particular target villages, this would be a particularly difficult task as there are significant issues of land titles for the degraded forests to be resolved. Without considerable skills and experience in community mobilisation, the extension workers could not be expected to achieve this objective.

Although one of the task responsibilities of the PFEU staff is to develop forest extension material, they have not done so yet and seem uncertain about how to go about such an activity. They see it as their primary role here to identify the needs but recognize that they need assistance from FEU with layout and quality of production.

In discussions with PFEU staff, they requested more assistance (from any source) to help them to form and support community groups. They also requested assistance from DFW FEU in general program areas. Stated FEU tend only to come for special meetings. Also raised the very important issue that there was never any response or problems identified in monthly reports to DFW.

Provincial staff members have recently been through the process of completing what has been described as a TNA. As was done at DFW level, the process is producing a personal profile of the person holding the position. It is then a self assessment of personal needs (seen by each individual) rather than an assessment of the needs to fulfill the functions of the position in the organisation before the roles and responsibilities of the position in the organisation have been properly defined. If the staff do not understand the roles and responsibilities, they will have great difficulty in defining their training needs.

### 2.3.2.1. Recommendations for Forestry Extension Capacity - Provincial

The recommendations contained in this section are developed on the basis of project activities in K. Speu. Many of them would also apply to a larger forestry extension service, even under a range of providers of financial support. Several of the issues discussed above for the national level (e.g. HRD, M&E, Planning ) also apply to the provinces but addressing them at a national level should also cover the needs existing at the provincial level.

**HRD/Training**

For training, some skills should be developed in particular people in the PFEU Sub Team to enable them to act as resource persons to support field staff who need help in their district activities. Some training should be given to all staff to lift their general skills. The project must also recognise the need for staff to have “learning by doing” practice of any theoretical training to develop skills and confidence and that developing confidence is a slow process. The project should be prepared to support more visits to the provinces by DFW REU resource staff and other Subject Matter Specialists from DFW → e.g. in Community Forestry to support the development of skills and confidence.

Some staff at provincial level require some of the same training as was recommended for national staff.

It is **recommended** that the following training be funded.

**Training in Principles of Community Development.** For one staff member of the FEU SubTeam to develop skills to act as a resource person for other provincial staff.
Provide training through Royal Agricultural University. Chamcar Daung which provides a 5 day training course

Cost $150 for full course if participant stays on campus.

Plus $10 daily activity allowance to the staff member from CGFP.

As an alternative to the above course for one person,

Conduct a 5 day Training Course in Community Development for all provincial Extension staff in the province to give a basic understanding of CD principles and practices. RAU will provide a trainer at between $50 and $100 per day (depending on experience/seniority) plus per diems plus travel to conduct training courses in provincial locations. Other costs would be the daily activity allowances to be paid to participants while attending the training, plus any costs of venue.

Training in Community Forestry. For one staff member of PFO FEU Sub Team to develop skills as a resource person for the province.

Provide training through RAU which currently provides specific courses in the provinces but which during the year 2001 program will also provide a 10 day course on the RAU campus.

Cost $220 or 250 depending on whether or not the participant stays on campus plus ($10) daily CGFP activity allowance.

Again, as an alternative to the above course for one person,

Conduct an abbreviated Training Course in Community Forestry of 5 days duration for all provincial Extension staff in the province to give them a basic understanding of CD principles and practices. RAU will provide a trainer at between $50 and $100 per day (depending on experience/seniority) plus per diems plus travel to conduct training courses in provincial locations. Other costs would be the daily activity allowances to be paid to participants while attending the training, plus any costs of venue.

For Community Forestry, the second course of action would be the preferred option.

**Linkages**

It is recommended that the PFO FEU should undertake a survey of all projects working within Kampong Speu to determine which ones have significant Community development activities and experience and could benefit FEU with training or by providing other workplace experience. It is recommended that CGFP should then exchange Letters of Agreement with these other funding agencies for suitable projects to establish the framework for areas and avenues of mutual cooperation. It is highly likely that one of these agencies used to develop workplace experience for FEU staff will be Lutheran World Service.

Once these agreements have been reached, a workplace training program should be developed particularly for field implementation team staff.

It is recommended that CGFP should take greater effort to explain the project goals, objectives and approaches to staff and the staff part in meeting the goal and objectives.

As will be developed in Section 2.4 of this Report, the preferred model for forestry extension will be for very close system and service links with the CAAEP funded OAE agricultural extension programs in target districts. It is recommended that CGFP should provide the work environment to allow "learning by doing" for forest extension staff to develop experience in Extension systems and techniques by linking Field Implementation Team staff with District Agriculture Team programs. CGFP should also enable forestry extension staff to participate in annual District Integration Planning Workshops for preparation of annual field activity plans and CGFP must facilitate joint field activities by such measures as sharing farmer groups with the agriculture extension teams.

This linkage should also cover the development in Farming systems skills by working with K Speu district field agricultural extension staff after CAAEP II starts to work in K. Speu, and the development of EPP’s. In EPP development for forestry technology extension topics, DFW/PFO has much to offer the DAE/PDAFF- OAE programs.

**2.3.3. Longer Term Goals for Forestry Extension**

It is recommended that the following issues be adopted as objectives in the longer term planning and support through CGFP to be achieved by the end of the next 3 years.

- Work toward developing a capacity to meet needs for development in agro-forestry as this is likely to be demanded by farmers within this time frame.

- Work toward achieving a lower ratio of government staff to villages – work towards the model being implemented by DAE/OAE for district based delivery of services through a wide range of methods all aimed at reaching the widest number of stakeholders with the smallest number of government forest extension staff. This model would then have the current 6 members of the “Field Implementation Team” providing extension services in forestry to all districts in the eastern zone of K. Speu. Do not expand to new villages by taking on more staff, instead concentrate resources and training on small numbers of increasingly highly trained staff and facilitate them to provide service to larger numbers of villagers.

- In cooperation with DAE/OAE, produce and disseminate EPP’s on a range of forestry topics that are relevant to other parts of Cambodia.

- As soon as possible, move to a second pilot area in K. Speu where there are not the same complex issues of land title/tenure as in the present target villages. Examine a district where CAAEP is established for a site for this expansion, which also has degraded community forests. The present target area is particularly difficult to use as a training ground for forestry extension staff with complex land title issues. The present site is also particularly difficult as there are no other government services to agriculture to increase farm income from agricultural activities e.g. rice production or small livestock systems. It is essential to have increased family income from activities not derived from forest exploitation, to relieve pressures on the degraded forest and allow these areas to make some recovery to a point where a sensible and sustainable management may be put in place. Service this expansion with a second group of Field Implementation Workers and develop skills in these similar to the skills in the Oudong group. Service the field support needs of this field group with the 4 members of the existing Sub Team. Do not expand the numbers in the Sub Team but build the skills in the existing team members. Develop working linkages, supported with Letters of Agreement between GTZ and the funding agency of other, existing, groups in the new district after an assessment of the skills existing in other projects. Costs of such an expansion are estimated. Staff costs required would be for activity allowances for 4 staff at $7 per day (including transport allowance) for up to 10 days per month. No extra staff costs would be required for the Sub Team members at PFO who would support the extra pilot program.
2.4. Options for a Forestry Extension Service and System

Options that have been canvassed for institutional development of forestry extension within Cambodia range from:

1. Building an extension service capacity within DFW that uses already existing MAFF extension systems and using these systems through a close working relationship with others (e.g. DAE) who are already providing government agricultural extension services to clients.
2. Developing a stand-alone extension system and service within DFW and the PFO’s independent of any other government or non-government extension capacity or system.
3. Transferring GTZ support from DFW/PFO and developing a capacity for forestry extension within DAE and the OAE’s.
4. Fostering a forestry extension capacity (and system) outside government.

2.4.1 A DFW Forestry Extension Service working with and through the MAFF Extension System for Agriculture (that is thus expanded to include Forestry)

As described elsewhere (Section 1.5), DAE and the OAE’s have the mandate within MAFF for Agricultural Extension and have had considerable assistance in developing an extension system for Cambodia. The operating methods developed for this system for agricultural extension have direct application to forestry extension.

It would seem most logical and cost effective therefore that the preferred model for forestry extension should be one of closely linked activities through a common system while each Department maintains control over the staff providing the service.

This model has in fact informed the development of discussions and arising Recommendations in other sections of this Report (see Sections 2.3.1 and 2.3.2), and is the model that is strongly recommended.

This model would aim at achieving a close working association of a Field Implementation officer from PFO with the District Agriculture Team where there was a community need identified for a forestry extension component in the district integrated plan for “agricultural” development. The term “agricultural” development is defined here in the broadest possible terms to include the community forestry and (later) agro-forestry activities that are so important for many rural communities in Cambodia. The ideal model would support the physical location of the PFO staff person in the District Agriculture Office. For this, it is assumed some small fund contribution might be expected to provide for resources used.

The members of the expanded District team would work together on planning and implementation, they would support each other with particular skills. It would be expected that where community forestry was a high community priority, the Forest extension worker would in fact be the leading person in many of the district programs.

Administrative control of the agricultural staff would be exercised through the District Governor as at present with technical leadership from the PDMAFF. The forestry extension staff would continue to be administratively and technically lead from PFO. All staff would work to the activities defined in the annual activity plan for each district.

It is therefore recommended that this model should be pilot tested in a joint program between CGFP and CAAEP in Kampong Speu Province with a view to later wide-scale replication.

2.4.2 A Stand-Alone DFW Extension System/Service

The option of a stand-alone Extension System and Service for DFW was raised at the First National Workshop on Forestry Extension held in DFW May 2000. It was claimed that creation of a separate DFW extension system/service would give DFW full responsibility for the overall development of a forestry extension – both systems and services including greater control over forestry extension delivery guidelines, media production, and development of forestry extension program packages.

In part, the desire for a stand-alone system and service for forestry extension appears to stem from a lack of understanding within DFW (and PFO’s) of the nature of extension and lack of understanding of the difference discussed above (Section 2.2) between service and system. It may also arise from the perception in DFW that DFW would either lose some resources or lose the opportunity to increase Departmental resources unless it has a separate extension system.

Developing specific systems for forestry extension because of a wrong perception that forestry systems are quite different from those needed for agriculture in general, would lead the RGOC down a pathway of wasteful use of scarce resources and should not be supported by CGFP.

If the distinction between service and system is explained, DFW management should be able to see that the DFW can retain control of the resources (i.e. staff of the service), without need to fund development of a duplicated system.

For these broad reasons, it is recommended that DFW should not be supported to develop a stand alone extension service and system for forestry but should be supported to develop an extension service capacity.

2.4.3. Transfer of GTZ Support from DFW/PFO to Develop a Capacity for Forestry Extension Within DAE and the Provincial Offices of Agricultural Extension

A strictly legalistic interpretation of the mandate for Department of Agricultural Extension as stated in MAFF Sub decrees 43 and 17 could be used to provide support to this option. However, in real terms and having regard to the present state of development of government extension services in Cambodia, this is not a viable option. The Department of Agricultural Extension does not have the capacity to provide technical services to the community in forestry related topics/areas. The Department of Forestry and Wildlife would be most unlikely to cede control of any of its’ resources to another department. This option is not considered further.

2.4.4. Using GTZ Support for Forestry Extension Capacity (and System) Outside Government

The Guidelines for (Agricultural) Extension for Cambodia, which have been referred to elsewhere in this Report (Section 1.5.) and which are presented in Annex 7, emphasize the use of all possible avenues for transfer of (technology) information to farmers using all possible methods of transfer. Possible avenues include cooperation and collaboration with other government and non-government agencies and any community groups which have programs in extension for – in this case – forestry.

But, the Guidelines do not support development of an independent capacity for extension and do emphasize the strong role of the government service (staff) in coordinating extension activities of all participants to the benefit of the target communities. They also emphasize the strong role of government in maintaining standards to avoid false, inaccurate or misleading information being given to clients. So while GTZ support through CGFP remains within government (according to the inter-government agreements), this support to foster capacity in organisations and groups
outside government should always emphasize the coordinating function of government in these activities. This can be achieved through support for the program of training already recommended for DFW and PFO forestry extension staff. GTZ support should not be aimed at fostering an extension capacity independent of government. Government staff supported will then perform the required coordination role towards non-government service providers of extension.

A fully non-government extension service for forestry for Cambodia is totally unrealistic as an option.

### 2.4.5. Cost Estimates of Extension Delivery Options

The costs estimated for GTZ CGFP for either management Option 1 or Option 2 (above) are the same, as discussed below. These costs are additional to the existing level of base cost presently being provided by GTZ to CGFP.

Department of Forestry and Wildlife, Forest Extension Unit. Neither option allows for expansion in staff numbers in the FEU. Staff are expected to become more proficient after receiving the training defined so both options are cost neutral for staff costs compared to the present system of support. Operating costs, estimated at $US 3000 per year, will allow for additional inputs from FEU staff to support provincial programs and for liaison with DAE and others involved in extension.

PFO. Kampong Speu. The Forest Extension Unit Provincial “Sub Team” is also cost neutral for either option with no increase in staff numbers allowed. Staff are expected to become more proficient after training, to enable them to provide planning, supervision and coordination support to field activities.

FEU Field Implementation Team. Staff numbers are maintained at the present level with therefore no additional cost for staff support. As staff increase their skills, extra field operating costs will be required for activities including establishment of seedling nurseries (or assisting community groups and monks to establish nurseries), for community forestry demonstration sites, for preparation of simple extension material, for farmer field days and for farmer training activities. It is estimated that an amount of $US 1500 should be allowed for full year 1, rising to $US 2500 and $US 4500 in years 2 and 3 respectively. These amounts assume expansion to a much larger number of community stakeholders, as recommended, i.e. beyond the present small number of pilot villages.

The only extra staff costs will occur if the recommendation to expand into another pilot area is implemented. These costs will be the same for either Option 1 or 2. Additional staff costs will be incurred to support the new Field Implementation Team that is assumed to be in a different region of the province from the existing pilot area. The team should be of between 4 and 6 persons who will be supported at standard rates of $US 5 (plus $2 for transport costs) per day per staff member for up to 10 days per month. Thus, maximum cost of staff for the second field implementation team would be $US 420 per month.

Staff training for the members of the second field implementation team will follow the recommendations (therefore costs) made elsewhere in the Report for field staff.

The activities of the second field implementation team will be supported by the present FEU "Sub Team" without any additional cost at this level. The field implementation team will require operational costs for demonstrations etc of $US 1,000, $US 2,500 and $US 4,500 in years 1 to 3 respectively.

Costs for the additional staff training and operations from the recommendations made in this Report for the recommended option (see 2.4.1 above) are detailed in the following table.

### Table 1

**Estimated Costs ($US) for Additional Activities Recommended for the Preferred Institutional Option for Forestry Extension**

#### 1.1 National DFW/FEU

<table>
<thead>
<tr>
<th>No</th>
<th>Activity</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Sub Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Principles of Extension</td>
<td>900</td>
<td>900</td>
<td></td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>Community Development</td>
<td></td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td></td>
<td>Principles of HRD</td>
<td>900</td>
<td>900</td>
<td></td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>Training of Trainers</td>
<td>400</td>
<td></td>
<td>400</td>
<td>400</td>
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<tr>
<td></td>
<td>Writing Extension Material</td>
<td>400</td>
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<td></td>
<td>800</td>
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<td></td>
<td>Community Forestry</td>
<td>400</td>
<td></td>
<td>400</td>
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</tr>
<tr>
<td>N2</td>
<td>Advisor Inputs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M&amp;E (1 month)</td>
<td>10,000</td>
<td>10,000</td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td>HRD/HRM (2 months)</td>
<td>20,000</td>
<td></td>
<td></td>
<td>20,000</td>
</tr>
<tr>
<td>N3</td>
<td>Operating</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Extn Working Group</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>900</td>
</tr>
<tr>
<td></td>
<td>FEU general operating</td>
<td>3,000</td>
<td>3,000</td>
<td>4,000</td>
<td>10,000</td>
</tr>
</tbody>
</table>
1.2. Provincial Forestry Extension

Integrating forestry and agricultural extension into a single annual district activity plan for agricultural and forestry will require a new flexibility in operating due to the present organisational arrangements of the government service in Cambodia.

As described earlier, forestry extension staff operating down to district level are administratively and technically responsible to the Chief of PFO, who in turn is administratively answerable, through the Provincial Director of Agriculture, Forests and Fisheries to the Provincial Governors office in each province. Responsibility for technical matters for the Chief of PFO however, lies with the Director General and Deputy Director Generals of DFW in Phnom Penh.

For District Agriculture staff, the administrative responsibility is through the District Agriculture Chief to the District Governor then to the Provincial Governor. Responsibility for technical matters is directly to the Chiefs of Provincial Offices of PDAFF and ultimately to the Provincial Director of DAFF. For agriculture, the same relationships exist between provincial and national staff as exist for forestry.

In practice, these lines of responsibility are not well observed, with Directors of MAFF Departments seeking and assuming more power and authority over provincial staff than is actually vested in them according to the structural arrangements. While this system has the potential to create problems of authority, structural arrangements that do favor maximum decentralisation which in turn encourages maximum community input to priority setting, planning and implementation, should be encouraged. For an integrated forestry and agricultural extension program as defined for the preferred option, the key to making the system work lies with the Provincial Director of Agriculture, Forests and Fisheries. The Provincial Director must be encouraged and assisted by all projects (including GTZ CGFP) supporting activities in the province, to develop integrated annual activity plans. At the same time, GTX CGFP must seek to limit the powers assumed by the Director General DFW over provincial staff and matters.

These administrative arrangements and links are likely to be changed yet again over the next two years with the promulgation of Forestry Law and the establishment of Commune Councils that will (largely) replace Commune Development Committees where these exist. If as is widely predicted, the Commune Councils are granted extensive powers of planning and implementation, and receive direct funding from the national Ministry of Economics and Finance, they will automatically become a key stakeholder in the implementation of a successful agricultural and forestry extension service and system. The relationship between Commune Councils and Village Development Committees has yet to be defined. New relationships between Commune Councils and government services provided down to district level by most ministries will have to be worked out. The potential importance and the role of the Commune Councils is already described in the Guidelines for Agricultural Extension for Cambodia (see Annex 7 for detail) for agricultural extension. Similar roles and importance will attach to these councils for forestry extension. There will need to be ongoing review of working systems as institutional arrangements change and the detail of the changes becomes available.

ANNEX 1:

TERMS OF REFERENCE

CONSULTANT IN FORESTRY EXTENSION SYSTEMS

Duration of Assignment: Ten days in country (April – May 2001)

Duty Station: Phnom Penh

The major task of the consultant, in close collaboration with the GTZ and CGFP national project staff is to provide options to GTZ-CGFP for a workable institutional framework for forestry extension at national, provincial, district, commune and village level against the background of efforts of the RGoC to decentralise government services.

Two topics were identified as being of major concern:

- Current extension systems, potential partners and linkages, and,
- Existing institutional structures and requirements.

To achieve these objectives, the consultant is required to make recommendations and to present proposals for alternatives and for procedures on how to establish a forestry extension system with short (to 6 months), medium (6 to 18 months) and long term (to 5 years) actions and with
estimates of costs of activities proposed.

In particular the consultant was required to present findings on the following:

- Is there a concerted extension structure in Cambodia or scattered efforts?
- What or where are linkages to existing extension efforts or structures?
- Who are potential extension partners for a developing forestry extension system?
- Should Forestry Extension be linked to an existing structure or should it be implemented as a parallel government service to other extension services?
- Are there alternatives to extension being provided by a government agency?
- What are possible structures at provincial and district level to service the needs of villagers through which a forestry extension system could function?
- What are the necessary supportive requirements and structures at national level?
- Is the present structure of DFW/PFO suitable for extension efforts and what changes if any would be necessary
- Is there a need and a potential for a National Extension Working Group and if yes, what should be done to establish such a Working Group?

In addition, the consultant was required to examine and comment on CGFP’s procedures and approaches to date at national and provincial levels regarding forestry extension and in particular:

- Contents of workplans prepared to date,
- On working partners in Kampong Speu,
- Potentials of Provincial Forest Office and Agricultural Extension Office
- Prepare proposals on how to cooperate with CAAEP in the future.

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**ANNEX 2:**

**WORKPLAN SCHEDULE OF ACTIVITIES FOR EXTENSION SYSTEMS CONSULTANT**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 23</td>
<td>Collect CGFP documents, meeting with GTZ CGFP staff, discussion of program, meeting with Deputy Director General DFW Chea Sam Ang, Meet with staff of DFW FEU. Collect forestry extension material</td>
</tr>
<tr>
<td>April 24</td>
<td>Field visit to K. Speu. Meet Ms Britta Yell DED, Provincial Director PDAFF Mr. Bin Sareth and senior staff. Meet Mr. Wulf Raubold, Zonal Advisor PRASAC. Meet Mr Kim Ly and staff of PFO/FEU. Discussion on PFO structures and work programs.</td>
</tr>
<tr>
<td>April 25</td>
<td>Field visit to CGFP target village of Turn Nup Bak in K. Speu. Meet D/Chief of commune Mr. Mouk Dem discuss village situation. Visit office of District Administration Office village Puol Now. Meet Mr. Lim Bun Lep, District vice Chief of Administration and staff. Meet staff of District Forest Field Extension Team – discussions on work programs.</td>
</tr>
<tr>
<td>April 26</td>
<td>Visit Department of Agricultural Extension MAFF Phnom Penh for discussions on DAE – DFW cooperation on extension activities with senior staff lead by vice Director Kuy Hout. Met with staff of DFW FEU to discuss training needs of FEU.</td>
</tr>
<tr>
<td>April 27</td>
<td>Document Review, Report Preparation</td>
</tr>
<tr>
<td>April 28</td>
<td>Saturday – reading background literature</td>
</tr>
<tr>
<td>April 29</td>
<td>Sunday – reading background literature, Report preparation</td>
</tr>
<tr>
<td>April 30</td>
<td>Visit DAE met with H.E Chun Sareth Under Secretary of State MAFF and mr. Sing Var, Director DAE, discussions on possible framework and scope for DAE – DFW cooperation. Visit Royal Agricultural University Met with Mr Von Monin Dean Faculty of Forestry Science and Mr Phat Muny Vice Rector Faculty of Forestry Science discussions on scope of relevant short course training. Visit LWS, discussions with Mr A Weinmann, Program Coordinator LWS on LWS programs in K. Speu, potential for LWS – DFW field cooperation.</td>
</tr>
<tr>
<td>May 01</td>
<td>Public Holiday, Report Preparation</td>
</tr>
<tr>
<td>May 02</td>
<td>Report Preparation</td>
</tr>
<tr>
<td>May 03</td>
<td>Report Preparation.</td>
</tr>
<tr>
<td>May 04</td>
<td>CGFP Debriefing.</td>
</tr>
</tbody>
</table>

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**ANNEX 3:**

**LIST OF MAIN PERSONS MET DURING THE CONSULTANCY**
Department of Forestry and Wildlife, MAFF

Mr. Chea Sam Ang, Deputy Director General
Mr. Ma Sotha, Chief, Reforestation Office
Mr. Nup Sothea, Head, Forest Extension Unit
Mr. Kong Puthyra, FEU
Ms. Y Chheang Meng, FEU
Mr. Prom Si Voun, FEU
Mr. Kheang #Eang Tech, FEU
Mr. Sean Srun, FEU
Mr. Dy Sophi, FEU
Ms. Keiu Charda, Head, Training/HRD Section, DFW

Oudong District Office

Mr. Lim Bun Lep, District Vice Chief, Administration Office

Village Tum Nup Bak, Oudong District

Mr. Mouk Deam, Deputy Commune Chief,

GTZ

Mr. Jurgen Fichtenau, Community Forestry and Extension Advisor CGFP
Ms Sarah Burgess, Project Advisor

CAAEIP

Mr. Terry O’Sullivan, Team Leader CAAEP II
Mr. Pech Romnea, Project Coordinator, CAAEP II

DeD

Ms. Britta Yell, K. Speu Forestry Office

Department of Agricultural Extension, MAFF

H.E. Chun Sareth, Under Secretary of State, MAFF
Mr. Sing Var, Director, DAE
Mr. Kuy Hout, Vice Director, DAE
Mr. Sokun Rithy Kun, Vice Director, DAE
Mr. Sameng Keomoin, Chief, Office of Farming Systems
Mr. Kim Dara, Chief, Office of Media
Mr. Lun Tina, Deputy Chief, Office of HRD/Training

Provincial Department of Agriculture, Forests and Fisheries, K. Speu

Mr. Bin Sareth, Provincial Director, PDAFF
Mr. Seng Seung, Deputy Director, PDAFF
Mr. Sar Panha, Deputy Director, PDAFF
Mr. Kim Ly, Head, FEU PFO
Mr. ** Sarun, OAE, PDAFF.

PRASAC II. K. Speu

Mr Wulf Raubold, Zonal Advisor, PRASAC II
Mr Se Choup. Co-Zonal Advisor, PRASAC II

Royal Agriculture University - Faculty of Forest Science

Mr Von Monin. Dean, Faculty of Forest Science
Mr. Phat Muny, Vice Rector, Faculty of Forest Science

Lutheran World Service. Phnom Penh.

Mr. Albert Weinmann, Program Coordinator LWS

ANNEX 4:

Excerpts from the draft MAFF Proclamation No 259 Regarding the Organisation, Structures, Roles and Responsibilities of the Department of Agricultural Extension, Provincial Offices of Agricultural Extension and District Agriculture Offices.

I. The Organisation Structure, Roles and Responsibilities of Offices
Department of Agricultural Extension (DAE)

Article 1: DAE organisation comprises six (6) Offices as follows:

- Office of Administration and Personnel
- Office of Planning, Finance and International Cooperation
- Office of Human Resource Development (HRD)
- Office of Media Services
- Office of Farming Systems and Economics
- Office of Farmer Organisation

DAE provides national extension policy guidelines, high level support, advice and assistance to:

- Other Departments of MAFF and to Provincial Departments of Agriculture, Forests and Fisheries, and, facilitates training and provides other technical support, advice and assistance, to:
- Provincial Offices of Agricultural Extension (OAE).
- District Agriculture Offices

OAE provides provincial extension planning guidelines, and facilitates technical support and advice, training and media services to:

- District Agriculture Offices which participate in the agricultural extension program.

Article 2: Roles and Responsibilities of the Department of Agricultural Extension

The Department of Agricultural Extension has the following roles and responsibilities:

- Encourage and facilitate all development research and extension activities within the agriculture sector by fostering effective collaboration among the important participants including expert groups, national, provincial and district representatives of the Ministry of Agriculture, Forestry and Fisheries (MAFF), appropriate research centres including the Cambodia Agricultural Research and Development Institute, producers, farmers and all vocational training organisations.
- Set national extension priorities in line with current MAFF policy and according to an analysis of the agricultural situation nationwide.
- Develop, implement and manage a national level agricultural information system incorporating data in relation to Extension Program Packages (EPPs) under development and the nature, severity and location of agricultural problems nationwide.
- Coordinate and facilitate EPP replication across all provinces according to provincial needs and conditions and the plans and priorities of the Provincial Department of Agriculture, Forestry and Fisheries.
- Provide technical support to the provinces for the collection, organisation and analysis of information to enable the setting of provincial Farming Systems Research and Extension (FSRE) priorities.
- Provide appropriate support to the provinces for the development and implementation of the extension system, including research and development budget, equipment and materials, technical assistance, media support, and training.
- Facilitate the transfer of appropriate technology to the agricultural community of Cambodia by actively fostering and encouraging knowledge acquisition and transfer processes among relevant participants including expert groups, research centres and government, NGO and private sector extension providers.
- Regularly monitor and evaluate the ongoing impact and outcomes of the extension system and develop and implement appropriate initiatives to improve extension system policy and practice.
- Provide mechanisms for coordination, planning and priority setting with other stakeholders at the national level including MAFF Technical Departments, the Ministries of Rural Development, Water Resources and Meteorology, and Women's Affairs, NGOs, international organisations, farmer representative bodies and the private sector.
- Perform other related responsibilities as required by senior management of MAFF.

II. Organisation Structure, Role and Responsibilities of DAE Offices:

Article 3: Each office has a specific role and responsibility to support and assist the planning and implementation of the activities and programs of DAE. Each Office is headed by one Chief and Vice-Chief. The Chief of Office has overall responsibility for leading, guiding and managing the work of the Office and may also have specific responsibilities allocated by the Director, DAE. The Vice-Chief assists the Chief in the management of the Office and has specific responsibility for the supervision of one or more Sections or Units within the Office as determined by the Chief.

III. Role and Responsibilities of the Provincial Office of Agricultural Extension (OAE)

Article 5: The specific structure, role and responsibilities of the Office of Agricultural Extension (OAE) are as follows:

5.1 Structure

This Office has 3 Units:

- Extension Support Unit
- Management Support Unit
- Farmer Organisation Unit

5.2 Role and Responsibilities of the Provincial Office of Agricultural Extension (OAE):

Provide and communicate appropriate policy guidelines to facilitate effective implementation of agricultural extension activities within the province and particularly at district level.

- Provide or facilitate technical, research and other stakeholder support to District Chiefs of Agriculture and to District Extension Teams for the development and implementation of local EPPs, appropriate use of EPPs developed elsewhere and to enable AEWs to respond
effectively to a range of farmer production problems.
- Facilitate the development of District extension plans and programs and their integration into District and Provincial Agriculture Plans.
- Provide ongoing HRD/training programs (in consultation with DAE Office of HRD), including extension and technical training, and other support to provincial and District extension staff.
- Coordinate and manage material support to district extension staff including media products and services, technical leaflets and special equipment and supplies.
- Monitor and evaluate the effectiveness of all district extension activities.
- Provide mechanisms for coordination, planning and priority setting with other stakeholders at the provincial level and promote these plans and priorities at national planning forums.
- Implement the government policy, statutes and regulations pertaining to the formation and administration of Farmer Organisations including the accompanying agricultural credit program.

IV. Extension Role and Responsibilities of District Agriculture Offices

Article 6: The specific extension structure, role and responsibilities of the District Agriculture Office are as follows:

6.1 Structure

This Office has 2 Units:
- Extension Program Unit which comprises a multidisciplinary team including two Agricultural Extension Workers (AEW's), one Agronomist, one Animal Health and Production Officer, and, where necessary, one Fisheries Officer and one Forestry Officer.
- Administrative Support Unit

6.2 Extension Role and Responsibilities of the District Agriculture Office:

In cooperation with district stakeholders, set district agriculture development priorities, incorporating appropriate gender and environmental considerations, and submit proposals for appropriate EPP development and implementation.
- Establish, maintain and update a database on district agricultural information.
- Provide a program of ongoing training to key contact farmers and other stakeholders in the district extension program.
- In relevant districts, participate in a strong program of adaptive research with staff of technical offices to develop new EPPs to meet priority needs identified through ongoing FSRE analysis.
- Facilitate the effective participation of NGOs, IOs, other government ministries and the private sector in the development of the district extension system.
- Monitor and evaluate EPP adoption and effectiveness.
- Contribute to provincial planning processes for agriculture.
- Administer the Farmer Organisation and associated agricultural credit programs.

ANNEX 5:

Information on EPP Development and EPP Format

Derived from DAE/OAE documents developed through CAAEAP.

The Guidelines For Agricultural Extension for Cambodia (see Appendix YYY) emphasize the development of Extension Program Packages (EPP's) for implementation and replication, as appropriate, throughout a province or even nationwide, where the same problem or opportunity for development exists within the same set of agro-ecological conditions as described in the Agro – Ecological Analysis.

An EPP is defined as being a package of information with technical, extension and procedural features which will aid replication in an area different from where the EPP was developed, by people who were not involved in the original development of the EPP. It may be regarded as being a "handbook" for district agriculture staff to help them implement activities more effectively by drawing on the experience of others who have faced the same priority problem.

EPP development priorities must be identified, based on clearly defined provincial and district agricultural system characteristics, problems and opportunities. Identification of these characteristics, problems and opportunities is where FSRE techniques are crucial. Priority EPP’s are then developed according to local needs in conjunction with participating farmers in key target sites by teams comprising district agriculture staff and SMS’s from the relevant DAFF technical Offices.

After developing, testing and refining, the EPP’s will then be available for replication in all areas where similar problems or opportunities have been identified as a priority. In the first stages of the process, the EPP’s are being developed for problems or opportunities identified at the province level. At some time in the future, it is possible that EPP’s will be developed for more specific situations identified through district level AEA’s.

Below is a copy of the standard format developed for an EPP for a cropping activity. Some EPP’s will be much more procedural documents with little technical content compared with the format presented below. For example, and EPP on the topic "Forming and Working with Farmer Groups" would have little technical content.

EPP Format

(Rice & Field Crops)

I. Subject Title of EPP

II. Background/Relational (2-3 pages)

1. Production situation of the subject in the area
2. Agro-ecosystem analysis
III. Technical Information (vary according to subject) Extension method

a). Technical information

1. Cultural Practices (including critical information)
   - Varieties
   - Land preparation (preparation date, date of plowing)
   - Sowing (sowing date, rate per hectare)
   - Transplanting (number of stem per hill, transplanting date, spacing)
   - Fertilizer (date of application, rate of based application, top-dressing)
   - Water management
   - Pest control (control date, rate of pesticide/herbicides used)
   - Harvesting and threshing
   - Post harvest handling and storage
   - Marketing

b). Extension methods

c). Gender in agricultural production and environment

IV. Financial Analysis

4.1 Before the project starting/Use of traditional practices
   - Yield per hectare
   - Cost
   - Income/net income

4.2 After the project starting/Use of traditional practices
   - Yield per hectare
   - Cost
   - Income/net income

V. Case study (farmer's experiences)

Reflect to finance information and farmer's personal situation (history)

VI. Further resources

- Place, person/staff, information (media): video, radio, technical books, posters and training
- Location of demonstration, sites
- Other organizations (i.e.: PRASAC)& institutions (i.e. CIAP)
- Detail plan
- Human resources-training of staff and stakeholders
- Implementation strategy
- Budget
- Schedule

APPENDIX VI:

THE AGRICULTURAL EXTENSION WORKER
Roles and Responsibilities
Developed for CAAEP for DAE/OAE

Introduction

This statement of the role and responsibilities of the agricultural extension worker in Cambodia i.e. the job description, was developed to provide the basis on which to undertake assessment of training needs. It also provided the basis for undertaking performance appraisal and for developing selection criteria.

The role and responsibility statement was developed through an interactive process involving AEWs, HRD staff of DAE/OAE and CAAEP.

The statement, abbreviated from the original CAAEP document, is appended here as a possible guide of development of similar statements for staff in the Forestry extension service who would be expected to have very similar roles and responsibilities.

Agricultural Extension-the definition and context

From various descriptions of agricultural extension, a number of important characteristics of agricultural extension were identified:

- based in an organisation/agency structure
- giving informal and out-of-school education
- concerned with changing the farmers outlook
• training and influencing farmers to make decisions to adopt new (improved) ideas and practices
• meeting farmers needs (helping to help themselves)
• focused on the whole farm system
• age and gender neutral
• about technology for today, but considering also requirements for the future

The Role Statement

The extension worker is a change agent, the catalyst and facilitator for technological and organisational change within the farm family and the rural community.

Therefore in summary the agricultural extension worker has three major roles:

• to meet the farmer’s needs for information so that the farmer (and his family and community) can make changes in order that they might achieve the lifestyle they desire,
• to be the agent for dissemination of information to the farmer in order that the government might meet its policy objectives for farming communities (and nationally), and
• to be the conduit for transfer of information from the farmer to relevant persons and agencies such as researchers and policy makers so they might better meet the farmers needs

How these roles are carried out provides the detail around which the job description can be written, but they can be summarised as-

• understanding strategies and methods for information transfer,
• understanding the processes for introduction and adoption of change
• understanding the policies/technologies/information being transferred
• managing/administering the work schedule

The Job Description

A description of the extension workers job is;

• to provide the farmer with information on production and post production technologies, and on marketing of produce
• to advise farmers of government policies of relevance and/or importance to farmers
• to conduct meetings, field days, demonstrations, personal interviews and other extension activities for technology/information transfer to farmers
• to gather information from farmers, and to be the conduit to relay this information to policy makers, researchers and other persons serving the farmer and the rural community
• to facilitate the formation of farmer groups/associations and to assist farmers in the management of such groups
• to conduct monitoring and evaluation of extension programs and of his/her own work
• act as a liaison between farmers, and organisations providing special services and farming inputs in both public and private sector
• conduct surveys to identify farming systems of the district and to gather, analyse and disseminate basic farm economics data
• identify and analyse problems related to farming
• perform such administrative tasks as are required by higher authorities, and maintain appropriate records of all work
• coordinate with other agencies-government, non-government, international and private enterprise
• undertake professional and personal development training

The Key Competencies

In order to effectively discharge these duties, an AEW must therefore have diverse competency and capability i.e. the knowledge, skills and attitudes if they are to effectively carry out their assigned duties. These competencies include:

KNOWLEDGE

The AEW should have knowledge and understanding of theories and practices in relation to:

• adult and non-formal education
• adoption and diffusion of ideas/innovations
• extension approaches, and extension methods together with the ability to use them in practical situations eg farmer field days, demonstration plots, personal and group discussions
• communication methods
• Khmer rural society
• use of Word Processing and Spreadsheet computer software
• work planning – scheduling, resource allocation
• budgeting
• research methods
• farming systems – AEA, RRA, PRA
• sustainable agriculture
• technologies for production of crops and animals of importance in the area District/ assigned
• post harvest technologies and agricultural marketing
• government policies relating to agriculture
• problem and opportunity census techniques and analysis

SKILLS

The AEW should have developed practical skills i.e. the ability to do things, including

• use of (computer) keyboard
• verbal communication including listening
• writing, both reports and technical material
In summary therefore the selection criteria would include:

- completed secondary education and preferably have a diploma level qualification in agriculture,
- previous work experience in an agricultural related field, at District or commune level
- knowledge of extension principles and practices, and of the extension system of Cambodia
- age less than 35 years
- male or female equally acceptable
- physically healthy and capable of working in the field

ANNEX 7:

MAFF GUIDELINES FOR THE CAMBODIAN AGRICULTURAL EXTENSION SYSTEM

1. INTRODUCTION

The national mandate for agricultural extension in Cambodia is placed with the Department of Agricultural Extension (DAE) in Phnom Penh and the Offices of Agricultural Extension (OAE) in the provinces. Although staff have been appointed at both levels and financial and reporting systems are in place, farmer delivery systems are still in their infancy and a fully functioning national extension system does not currently exist. As a consequence, the design, development and setting in place of an effective national extension system has been a high priority for CAAEP.

These Guidelines describe the structures and linkages of the organisation and the operating systems of agricultural extension for Cambodia. They cover the national, provincial, district and program-implementation levels. They were developed in close cooperation with the AusAID-funded Advisor to MAFF who developed an Agricultural Research and Extension Policy for Cambodia (1998) and are in line with the national extension policy framework. The guidelines form the basis for putting into place the institutions and refining the operations for an effective and efficient national extension system over the life of CAAEP and beyond.

The guidelines use a Farming Systems Development (FSD) approach to extension. This is considered as being the most cost effective and efficient means of providing extension assistance to all farmers in Cambodia. An extension system based on FSD requires the use of Farming Systems Research and Extension (FSRE) techniques to identify priority needs for programs and to create close, two-way links between research and extension staff and farmers and farmer organisations at the national, provincial, district, commune and village levels. This is reflected in the structure and functions proposed in these guidelines. Part of the FSRE process is to conduct Agro-Ecological Analysis at provincial and district levels. These describe the range of agricultural systems in the study area and help identify activities or programs of high priority to the farming community.

The guidelines have been drafted with an emphasis on the development of an extension system rather than an extension service. This means that rather than having a government extension officer providing a service directly in every commune or village in the country, a system will be put in place at the provincial and district levels which enables farmers to access extension services in a systematic manner according to priority needs and local conditions through a range of channels. Many farmers will not have direct access to district agriculture staff on an individual basis and farmer to farmer transfer of information will be very important.

The system is based on having a multidisciplinary team of well-trained agriculture workers at the district agriculture office level. These District Agriculture Teams will have a range of skills (e.g. extension, agronomy, animal health and where necessary, fisheries and forestry) and operate in a planned and systematic way through a range of extension channels to deliver new or improved technologies to all extension stakeholders. The district staff will receive technical and other support from Subject Matter Specialists who are located at either provincial office or national department level. Relevant private sector stakeholders in agriculture will also be an important component of the extension network. The District Agriculture teams will be managed by, and be responsible to, the District Agriculture Chief.

This model requires the development of a community based structure at the district, commune and village level that interfaces with the agriculture staff at the district agriculture office and which is capable of transferring information down to all farmers at the commune and village level. Much of...
this transfer of information must be achieved through farmer to farmer links with extension workers acting as facilitators in the process. It will not be possible for the RGOC to provide government funded service below the district office level.

Strong links between the extension department and other stakeholders (other government departments, private sector organisations, farmer organisations, IO’s and NGO’s) will be most important at the provincial and national level for co-ordinated strategic and operational planning.

Providing assistance to the development of provincial and national level farmers organisations at all levels will be an important activity to allow the farming community to make inputs to the agricultural planning processes. This community based structure is equally important as a major pathway for inputs from farmers and farmer groups to priority setting and planning of research and extension programs at the district and province level. Strong links at the field operational level between extension and research staff and farmers will also be most important. This linkage process should occur through a program of adaptive research and use of demonstration and research sites by the agriculture staff in district offices. Farmer representatives must be involved in these processes.

The guidelines emphasise the development of **Extension Program Packages (EPP’s)** for implementation and replication, as appropriate, throughout the province or even nationwide where the same problem or opportunity for development exists within the same set of agro-ecological conditions as described in the Agro – Ecological Analysis. An EPP is defined as being a package of information with technical, extension and procedural features which will aid replication in an area different from where the EPP was developed by people who were not involved in the original development of the EPP. It is a “handbook” for district agriculture staff.

EPP development priorities must be identified, based on clearly defined provincial and district agricultural system characteristics, problems and opportunities. Identification of these characteristics, problems and opportunities is where FSRE techniques are crucial. Priority EPP’s are then developed according to local needs in conjunction with participating farmers in key target sites by teams comprising district agriculture staff and SMS’s from the relevant DAFF technical Offices.

After developing, testing and refining, the EPP’s will be replicated in all areas where similar problems or opportunities have been identified as a priority. In the first stages of the process, the EPP’s are being developed for problems or opportunities identified at the province level. At some time in the future, it is possible that EPP’s will be developed for more specific situations identified through district level AEA’s.

These guidelines should be read in conjunction with MAFF Proclamation 259 (revised July 2000)

### 2. NATIONAL POLICY INITIATIVES

A national extension policy framework developed by an AusAID-funded policy advisor has been accepted by MAFF. Under this policy initiative, government extension delivery systems will focus at the district level and create a situation where:

- Agro-ecosystems analysis or similar procedures are used at the district level to identify locally important problems or opportunities and set district extension priorities.
- District agriculture staff, whose main responsibility is for technology transfer to the farming community, are given responsibility for developing and managing extension programs for their district. These staff are part of the District Agriculture Office under the management of the District Agriculture Chief.
- The district agriculture staff are supported technically by subject matter specialists from the technical offices of the Provincial Department of Agriculture, Forestry and Fisheries (PDAFF) or from MAFF central technical departments.
- District agriculture staff are supported with HRD and training managed by Provincial OAE and central DAE staff to upgrade their analytical, group organisation and communication skills and capacity.
- District agriculture staff are supported in extension programs and activities with extension media materials produced in co-operation between OAE staff and the central DAE.
- Extension delivery systems involve key contact farmers in the design, implementation and evaluation of programs and make use of contact farmers and community/group entry points for the implementation of extension activities.
- MAFF develops an environment under which the private sector and other agencies are encouraged to participate in information transfer and the provision of extension services.

Figure 1 describes the role of the district agriculture staff under the proposed structure. In essence, this shows that in the replication phase of any EPP, the district agriculture staff conduct demonstrations on contact farmers fields and uses these demonstration sites as a major vehicle for transferring the specific EPP message through any of a range of appropriate extension methods.

Before the replication phase, the district agriculture staff will have been involved with research, SMS staff and contact farmers in developing and verifying the research finally into an EPP. The AEW is therefore, as shown, the bridge between research and the farmers. Figure 1 also shows the importance of farmer groups and key contact farmers in transmitting extension messages to the majority of farmers through a process of farmer to farmer extension.

### 3. STRUCTURE AND ORGANISATION OF THE EXTENSION SYSTEM

These guidelines have been developed with the aim of producing a system that:

- is compatible with national policy initiatives,
- can operate through existing administrative levels and structures,
- promotes the free, two-way flow of information,
- is simple and practical to implement,
- meets the needs of the AEW and farmer end-users, and,
- should be cost effective for the RGOC.

To meet these criteria, roles, processes and structures which are considered critical to the success of the system, have been defined at national, provincial and district levels. Specific functions and responsibilities at each level are detailed later in these guidelines, but the overall structure and inter-relations of the system are described in Figure 2. Not shown in detail in Figure 2, but highly important to the success of agricultural extension are other government departments and offices (e.g. Education, Rural Development, Water Resources and Meteorology) and government supported community structures (Village Development Committees and the proposed Commune Councils).

### 4. STEPS AND PROCEDURES IN THE EXTENSION SYSTEM

Implementation of the extension system guidelines involves a series of steps which will ultimately evolve into an extension system with the capacity to respond to the priority needs of farmers throughout the country. The steps are as follows:
4.1. Setting provincial and district FSRE priorities

Agro-Ecosystems Analysis techniques are used to identify and prioritise the major problems facing farmers in each province and district. This will produce a classification of the major farm-types along with their key problems and an identification of their location across all districts in the province. The process will also help identify areas of opportunity for future development.

4.2. The development of Extension Program Packages

An EPP is the end product of the process of solution and pilot testing of a response to a priority problem or an opportunity. New EPP’s will be developed by district-based FSRE teams comprising both district agriculture office staff and SMS’s from technical Offices within the Provincial Department of Agriculture and other Provincial Offices (Rural Development, Water Resources, Women’s Affairs) working with local farmers. Where appropriate SMS support is not available in the province, it will be sought from central technical Department sources. Depending on the nature of the problem addressed by each EPP, the development of the packages is likely to involve the design of farmer training courses, extension manuals, on-farm trials and demonstrations, field days, television programs, radio broadcasts, etc. Support for the development of these will be provided by the provincial OAE, and where necessary, by the appropriate sections of central DAE.

Some EPP’s will be developed in cooperation with other organisations including specialist NGO’s who may have developed the technology on a local scale but who do not have the skills or resources to extend and replicate the technology widely where it is applicable.

4.3. Testing and refining EPP’s

EPP’s will be tested in appropriate target sites in the districts and then modified, refined and improved according to the lessons learned and the feedback received from participating farmers. Procedures for evaluating the performance of the EPP’s and determining their readiness for wider implementation will be developed in association with the relevant MAFF technical departments.

4.4. Implementation of the EPP’s

Once developed, refined and proven, the EPP’s will be expanded throughout their district of origin and, through a provincially based coordination system, will also be replicated in districts in the same or other provinces with similar conditions where the problem or opportunity addressed by the EPP is assessed as a high priority. Provincial management information systems (MIS’s) will be developed to hold and manage on-the-shelf EPP’s, assist in the identification of other areas where they might be relevant and support the replication of EPP’s in these areas throughout the province.

4.5. Identification of other priority problems

Agro-ecosystems analysis will be used at the district level to identify and prioritise locally important problems and opportunities and to direct further EPP development, and later replication to other areas. As the FSRE teams work on EPP development in selected target sites, they will also identify new problems for which additional EPP’s will be required at some time in the future. Proposals for EPP development will be screened by OAE, who will use the provincial MIS to determine whether such development is warranted based on provincial priorities and the potential for future replication.

The process is continuous and iterative, and as the process develops, it is anticipated that many districts will eventually be conducting all of the following steps at some time:
- Implementing EPP’s developed in selected target sites in other appropriate areas throughout the district.
- Using locally appropriate, from-the-shelf EPP’s, developed in other areas, for district-based farmer extension programs.
- Identifying new priority problems for which additional EPP’s are required.
- Developing new EPP’s which address these priority problems.
- Through a provincial level coordination system, providing proven EPP’s to other districts and provinces where similar problems or opportunities exist.

5. CRITERIA FOR EPP DEVELOPMENT AND IMPLEMENTATION

While the development and implementation costs for the first EPP’s have been met by the CAAEP Initiatives Fund, as the system becomes established, funds from other sources will have to be used. As the EPP is at the core of the extension process, it would be expected that these should be from MAFF recurrent funds. To ensure a compatible approach is used irrespective of the funding source or program, the following criteria should be used to assess the merits of each request:
- Must have high compatibility with Provincial Agricultural Development Plans and national MAFF policy directives.
- The extent to which the EPP addresses provincial priorities as identified by the agro-ecosystems analysis should be high.
- High level of potential impact across the province or even wider (i.e. must be replicable).
- The extent to which the EPP builds on or complements the efforts of previous or on-going development projects and programs should preferably be high.
- There should be a high level of appropriate collaboration with relevant MAFF Technical Departments, NGO’s and other organisations.
- A high level of community and/or farmer participation should exist during problem identification, planning and EPP development.
- There must be strong involvement of grassroots organisations wherever appropriate such as, Commune Councils, VDC’s, WUA’s, schools, farmer groups.
- The level of farmer or community (including ‘in-kind’) contributions to EPP development and implementation should be high and there should be attempts to minimise the provision of “free” infrastructure.
- There should be a high probability of economic and social sustainability after program support ceases.

Each EPP should contain an assessment of the environmental, social and gender impacts of the technology package.

6. DISTRICT LEVEL IMPLEMENTATION AND SUPPORT FUNCTIONS

EPP implementation will be undertaken in appropriate target sites by District Agriculture Office staff lead by the District Agriculture Chief. The District Agriculture Chief will be responsible for managing the planning, implementing, monitoring and evaluation of the activities being undertaken. During the development of EPP’s, AEW’s will sometimes work in inter-district teams supported by SMS’s from the relevant provincial Technical Departments. Under the guidelines, District Agricultural Office staff will have responsibilities for:
- In cooperation with district stakeholders, setting district agriculture development priorities, developing annual plans and submitting these plan proposals to PDMAFF.
- Coordination of agricultural extension programs and plans with Commune and Village development plans.
**7. PROVINCIAL COORDINATION, MANAGEMENT AND SUPPORT FUNCTIONS**

Although the extension system is district based in terms of bottom-up needs-assessment and program implementation, the role of OAE at the provincial level will be crucial to its success. OAE will provide policy guidelines, SMS and material support. In addition, the province will be responsible for the following:

- Screening and approving district requests to implement appropriate on-the-shelf EPP’s developed in other districts.
- Maintaining and updating an MIS data-base on the location and nature of priority problems and the EPP’s developed for their solution.
- Providing or facilitating provision of technical and other support for the development and implementation of EPP’s.
- Providing or facilitating on-going HRD programs (including extension and technical training) and other support to District office staff.
- Preparing a provincial compilation of all district monitoring and evaluation.
- Providing mechanisms for coordination, planning and priority setting with other stakeholders (including farmer extension club inputs) at the provincial level and promoting these plans and priorities at national planning forums.

**8. NATIONAL COORDINATION, MANAGEMENT AND SUPPORT FUNCTIONS OF DAE**

The EPP-based extension system guidelines for the province and district levels also support and complement development of the national extension system, as many EPP’s will be appropriate for replication in more than one provinces or even nationwide. In order to achieve this, the extension system guidelines require that a number of functional processes are put in place at the national level as follows:

1. **DAE will have responsibility for setting national extension priorities in line with current MAFF policy and according to an analysis of the agricultural situation nationwide.**
   - A national level management information system (MIS) will be designed, developed and regularly updated within DAE. The MIS will hold data in regard to on-the-shelf EPP’s, EPP’s under development and the nature, severity and location of agricultural problems nationwide.
   - DAE will have responsibility for facilitating EPP replication between provinces according to provincial needs and conditions.
   - The DAE Office of Farming Systems and Economics will provide technical support to the provinces for the collection organisation and analysis of information with the objective of setting provincial FSRE priorities. The DAE will provide mechanisms for coordination, planning and priority setting with other stakeholders (including farmer extension club inputs) at the national level.
   - DAE will provide mechanisms for coordination, planning and priority setting with other stakeholders (including farmer extension clubs) at the national level.

**9. POTENTIAL ADVANTAGES OF THE PROPOSED EXTENSION SYSTEM GUIDELINES**

The extension system guidelines provide a number of potential benefits to MAFF and to Cambodia:

- The system strengthens linkages between research and extension through joint involvement in the EPP development process. This improved cooperation should provide better feedback to basic research programs within technical departments and CARDI and ensure that these are directed more towards specific problems with a national relevance.
- The problem-driven, bottom-up nature of EPP development and district planning, appropriately supported by national level resources, will enable each OAE to respond to provincial needs in an effective and locally relevant manner.
- The system makes the most effective and efficient use of field operating funds by using these to develop extension programs potentially relevant to the whole of Cambodia.
- The system will be attractive to bilateral, multilateral and NGO donors as it demonstrates the real needs of the majority of local farmers in a transparent manner. As such, it allows DAE and the OAE’s to not only access additional funding for the development and implementation of extension programs, but also to better direct and control external assistance towards real national and provincial priorities.
- The system has provision for strong links with and inputs from farmer stakeholders to all levels of the planning, priority setting, testing and implementation stages.
- Finally, the guidelines complement and support MAFF’s national policy for agricultural research and extension.

**10. LINKING EXTENSION, RESEARCH AND FARMERS**

At the present stage of development of agricultural research and extension services and systems in Cambodia, linkages between all stakeholders are very weak and there are few effective mechanisms in place to foster these links. While some informal links do exist on the basis of discussions at various meetings and field days and through related aid projects, these are unplanned, unstructured and conducted entirely on an ad hoc basis.

The existing links do not constitute an effective mechanism for dialogue and proper planning and review processes embedded in Ministry structures and operating procedures. It is essential that the development of links becomes part of the operational culture of the departments of MAFF. Links must also be institutionalised between MAFF and the other stakeholder Ministries of the ROCC (Ministry of Women’s Affairs, Ministry of Rural Development, Ministry of Water Resources and Meteorology).

Linkages need to be established at all hierarchical levels within the administration, and preferably established simultaneously. This includes links at national level for policy development and overall planning, at provincial level for coordination of operational plans and at district level for activities. The types of links relevant at each of these levels will vary according to the existing structure, and the frequency and nature of these links will depend on what is to be achieved. These links should reinforce each other.

The key level for co-ordination of strategic planning, prioritisation and adaptive research between Offices is at the provincial and must involve all Offices of the PDA. Co-ordination planning meetings should occur between all Offices of PDA at least monthly. These meetings should include representation of farmer organisations and would co-ordinate inputs from and activities of district offices.

The provincial level will report upwards to national level through the Director General of MAFF Cabinet Office. In addition, there will be upward reporting along departmental lines and through relevant Under Secretaries of State and eventually to MAFF Cabinet.

Links required between farmers, farmer organisations, private sector groups, departments of government and other stakeholders are shown in...
Adaptive on-farm research programs have a vital role in technology transfer, in particular in defining the problems of the small farmer, in improving feedback to research, and in defining recommendations appropriate for specific agro-ecological and socio-economic conditions.

The development of new EPP's requires an on-going and properly functioning adaptive research program and successful adaptive research requires that strong links exist between extension, research and farmers. It requires that farmers, extension and research staff all recognise that they are clients of each other and stakeholders in the same process. Farmers need the new technologies in the EPP's to help them to increase productivity and food security. Extension workers need new technologies to promote to the farming community to help the farmers to achieve these goals. Researchers need to be doing relevant research to justify resources invested in them.

The links between each of the three partners are complimentary and vital. One cannot substitute for another. If either of these links is weak, or missing, the entire process will suffer. If adequate links do not exist between extension, research and farmers, technologies developed in isolation by researchers are less likely to be adopted than if they are developed under the pressure of real field needs. In the absence of adoptable technology packages, extension workers operate in a vacuum and may lose credibility with farmers.

A number of general principles apply in planning a framework for improving research-extension linkages for successful adaptive research. These are that:

- Formal linkage mechanisms need to be developed to ensure that research and extension work together. Informal linkages are not enough. Secondment of research and extension staff to adaptive research programs is probably an essential ingredient to forming successful links. Joint field operations and joint planning and review meetings are also important components.
- Certain conditions are required for a program of research and extension to successfully transfer technology to small farmers. These include a shared diagnosis and analysis of farmers problems; a range of relevant improved technologies; a team of well trained and committed professionals; with clear job descriptions; well defined linkage mechanisms with adequate administrative and budgetary support.
- Adaptive research teams are unable to cover sufficient area to make an impact. The use of extension demonstration sites for technology verification and transfer to a wide range of clients after the adaptive research process is crucial.
- In the design of on-farm adaptive research programs, links between extension and research need to be established as early as possible. Extension should be involved in the planning process, not involved only when technologies are ready for transfer. If teams have a common sense of ownership and purpose, they are more likely to succeed.
- Each Research Institute should hold annual or bi-annual field days to present emerging research results to a wide range of stakeholders including members of adaptive research teams and key farmers to allow preview of future directions in research before this reaches the stage of development into an adaptive research program.
- There is a clear need to target resource poor farmers. These are the group who most need improved technology. Often NGOs have a long-term commitment to the resource poor group, and adaptive research should look at dealing through them if possible. Emphasis needs to be placed on upgrading extension, with better qualified and trained staff.

11. THE IMPORTANCE OF FARMER TO FARMER TRANSFER OF INFORMATION IN THE EXTENSION PROCESS

It has been made clear throughout this document that government supported agriculture staff will be placed only down to the district office level and that transfer of information from the extension workers to the general farming community will have to occur through farmer to farmer processes. The guidelines also stress the importance of farmer to farmer transfer of information upward into the priority setting and planning processes that are needed for successful agricultural research and extension services.

Farmer to farmer extension (sometimes known as “farmer participatory extension”) is a process in which key contact farmers become responsible for transfer of information and the extension worker facilitates the activities of these key contact farmers. The extension worker has contact with the key farmers and the key farmers become responsible for training other farmers to share knowledge and skills in a “cascade” training process.

Farmer to farmer extension will require the identification of key contact farmers by the district agriculture office staff, the establishment of key farmer groups (or farmer extension clubs) and development of a training program for these farmers.

Figure 1

Schematic Representation of the Technology Transfer Role of the District Agriculture Staff
Figure 2:
Organisation and Function Relationships of Agricultural Extension