REPÚBLIKA DEMOKRÁTIKA TIMOR-LESTE

MINISTÉRIU AGRIKULTURA NO PESKA

**Diresaun Nasionál Apoiu ba Dezenvolvimentu Komunitária Agrikola**

# National Agricultural Extension Manual (NAEM) Timor-Leste

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**RDP II**

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## List of Abbreviations

| | |
|---|---|
| AAP | Annual Action Plan |
| ACDF | Agriculture Rural Development Fund |
| AE | Agricultural Extensionist |
| APS | Agente Pecuaria Suco (VLW) |
| ARP | Agricultural Rehabilitation Project |
| CDO | Community Development Officer |
| DCED | District Chief of Extension Department (District Level) |
| NCED | National Chief of Extension Department (National Level |
| CFA | Core Function Analysis |
| DG | Director General |
| DNADCA | National Directorate of Agriculture Community Development Support |
| ESIC | Extension Strategy Implementation Committee |
| FAO | Food and Agriculture Organization of the United Nations |
| FFS | Farmer Field School |
| GoTL | Government of Timor-Leste |
| GIZ | Gesellschaft für Internationale Zusammenarbeit |
| HRD | Human Resources Development |
| LBL | Agriculture Advisory Centre (Switzerland) |
| MAF | Ministry of Agriculture and Fisheries |
| MED | Ministry of Economic and Development |
| NAEP | National Agricultural Extension Policy |
| NAES | National Agricultural Extension Strategy |
| NGO | Non-Governmental Organization |
| OD | Organizational Development |
| PSA | Participatory Situation Analysis |
| PRA | participatory Rural Appraisal |
| PTD | Participatory Technology Development |
| RDP | Rural Development Program |
| SDAEC | Sub-District Agricultural Extension Coordinator |
| SMS | Subject Matter Specialist (Espesialista Materia) |
| Suco | Village |
| SWOT | Strengths, Weaknesses, Opportunities, Threats |
| T&V | Training & Visit (Extension Approach propagated earlier by the World Bank) |
| USAID | United States Agency for International Development |
| VDP | Village Development Plan |
| VWL | Village Livestock Worker |

## Preface

The following Agricultural Extension Manual is built on the Agricultural Extension Policy and Strategy for Timor-Leste and serves the following purposes:

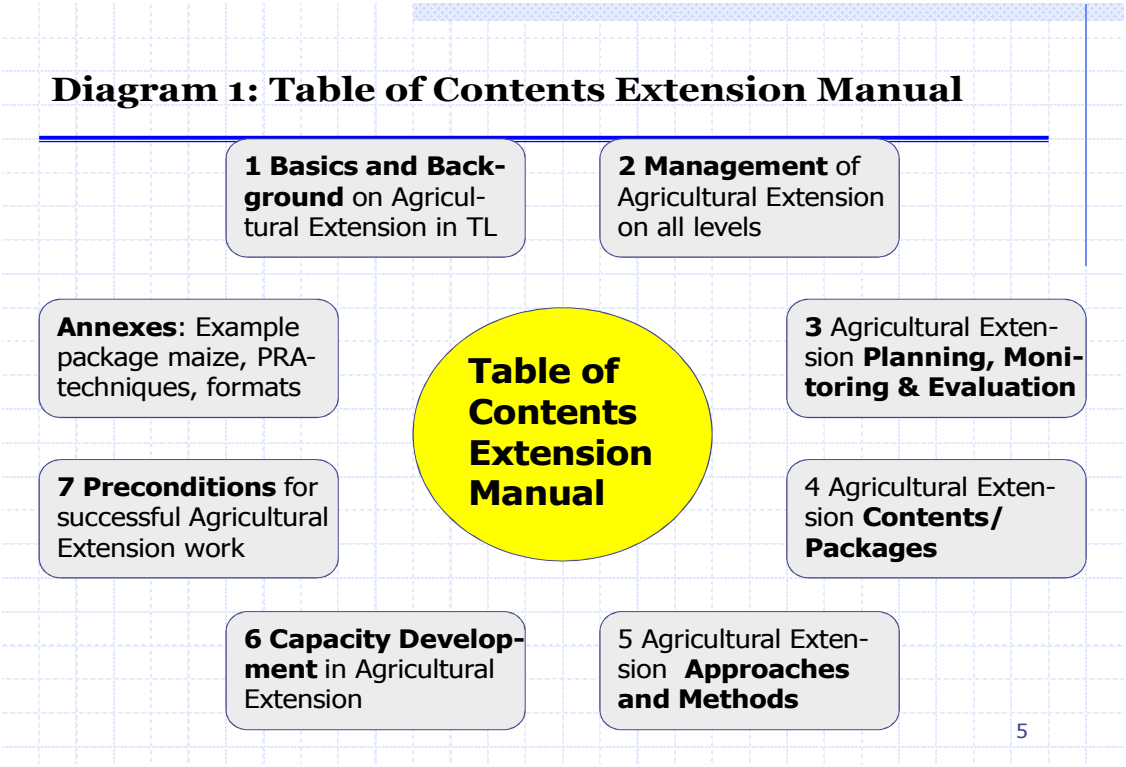
- It guides Agriculture Extensionists (AE), Sub-District Coordinators (SDC) and Chiefs of District Extension Department (CDE) of the Ministry of Agriculture during planning and field level implementation of agricultural extension activities
- It gives guidance to Directorates/Departments/Officers on National and District levels as to their supportive roles in the development of agricultural extension contents (packages), technical/methodological capacity building and backstopping for agricultural extension staff and
- It serves as reference/guidance for agricultural extension personnel of donor funded programs, local NGOs, INGOs working in agricultural extension in Timor-Leste.

However, **the Manual alone will not lead to the desired results of agricultural extension**

- Unless extension contents (technical packages) for the most important farming enterprises in the countries are fully developed and
- Unless the users of the Manual are intensively trained in the correct application of the agricultural extension methodology described in the Manual as well in the agricultural extension contents (packages).

Both, the development of technical agricultural extension contents (packages) as well as capacitating extension staff in technical contents and agricultural methodologies will be the key challenges for experts from the Directorates/Departments (technical and extension) on national/district level.

The following diagram 1 gives an overview of the table of contents of the Manual.




This effort of Manual development has to be seen as a start of a process and the present version of the Manual has to be seen as a 'living document'. Many aspects in the Manual are still not fully developed or only vaguely formulated. It will be the mandate of the MAF Extension Department to periodically update the present version of the Manual, based on experiences from the reality check and on final policy decisions and policy changes.

# 1 Background and Basics on Agricultural Extension

Section 1.1 gives some background information of agricultural extension in Timor-Leste starting from 1975 until now and summarizes relevant elements of the National Agricultural Extension Policy (NAEP) and the National Agricultural Extension Strategy (NAES; Section 1.2). Section 1.3 stresses the importance of recognizing that we deal with adults (and not with children) in agricultural extension work, while Section 1.4 points at the importance of participation in extension work. Finally, Section 1.5 summarizes how agricultural extension is defined in the NAES for Timor-Leste.

## 1.1 History of Agricultural Extension in Timor-Leste[1]

During the Indonesian times (1975 to 1999), a strong agricultural extension system was installed, based on the Training & Visit approach. Inputs was given primarily free of costs to farmers, partly because the Indonesian Government was interested in the 'good will' and the cooperation of people against the resistance movement fighting from the beginning for an independent Timor-Leste.

After independence, the Indonesian agricultural extension staff returned to Indonesia. The village based agricultural system was abolished and few Timorese agricultural extension staff looked for new jobs in other sectors. From 1999 until 2008, there was practically no agricultural extension system existing in Timor-Leste. The few agricultural staff remaining in each district were occupied with mostly administrative duties.

After restoration of independence (2002), the new Government of Timor-Leste had plans to build on private extension services, based on private input supply and marketing. However, it was recognized soon, that the private sector was extremely weak and will not emerge in a short and medium term. In the meantime, agricultural production even decreased further due to a deterioration of agricultural knowledge and skill as well as the availability of improved farm inputs and machinery. Therefore, the Government decided to invest in a publicly funded and publicly managed agricultural extension system in 2007.

Based on this decision:

- A large number of about 400 field level Agriculture Extensionists (AEs) including 61 sub-district Agriculture Extension Coordinators (SDAECs) had been employed and posted to their villages (Suco) and sub-districts for which they are responsible in terms of extension
- AEs and SDAECs received pre-service training, mainly on agricultural technologies and to a minor extend on extension methodologies
- A nAE extension set-up on district and sub-district levels has been structured and partly put in practice
- A National Agricultural Extension Policy (NAEP) and a National Agricultural Extension Strategy (NAES) have been designed (see Section 1.1.2) and pending approval by Council of Ministers.

The present (mid 2011) situation concerning agricultural extension in Timor-Leste can be characterized as follows:

[1] Source: MAF, 2010

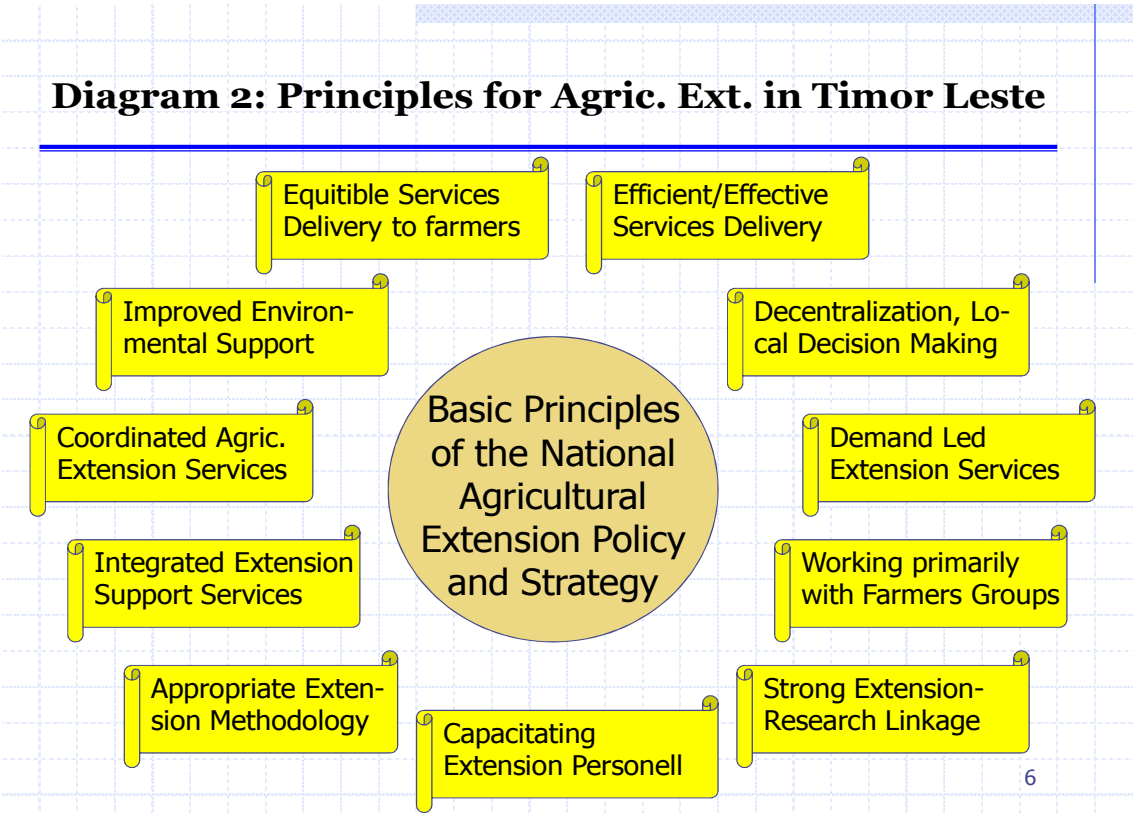
- Most of the Agriculture Extensionists have been employed and posted to their villages only in 2008 and 2009 last year. They got a pre-service training of one month but virtually little further training or re-training and follow-up has been done so far. On-the-job coaching of extension workers and guidance is only taking place to a very little extent. This applies to technical as well as to extension methodology training
- The agricultural administrative setup on district level has only recently emerged as well in the present form. In most of the districts, the Technical Officers have only limited transport and other facilities to do their job as advisors, trainers and supervisors to the AEs
- A law (organic law 18/2008) has been decreed last year which gives the District Director Agriculture full authority over all district level staff and below. Still, in many districts there is subject matter interference from the national level directly to the Technical Officers or even to the Agriculture Extensionists creating confusion amongst responsibilities on district level
- One reason for this confusion is that the role of the Technical Officers (and other officers) is not clear to the job holder. Most of the SMS still see themselves as the 'prolonged arm' of their Subject Matter Directorate on National Level and not as subject matter support and training services to the extension set-up in district level (mainly SDC and AE)
- Support from the national level to the district level is still weak as even the national level extension setup is quite new. This applies to extension and to subject matter support as well as to the extension-research link
- Agriculture Extensionists have only very limited information about improved farm technologies (crop and livestock packages) and little to no access to extension materials like leaflets, poster, etc. neither to equipment
- Transport facilities for AEs are particularly limited in districts, where not donor funded programs work. In other districts, donors have procured motorcycles to part of the Agricultural Extensionists (AE)
- Consequently, agricultural extension efforts are only taking place to a very little extent, except in Districts where donor funded projects are implemented and where NGOs support in agricultural extension
- In addition, there are large top-down Government Programs with free services (e.g. ploughing and marketing services) and inputs (e.g. seeds). Such programs are not sustainable and to some extent compete with the scarce extension resources (the extension set-up is strongly involved in services organization and input distribution).

## 1.2 Agricultural Extension Policy and Strategy for Timor-Leste

Timor-Leste has developed and adopted a National Agricultural Extension Policy NEAP)[2] in 2008 and, based on this, a National Agricultural Extension Strategy (NAES)[3]. The following key principles for effective and efficient agricultural extension services in Timor-Leste were agreed in these papers and are the basis for the agricultural Extension Manual (see Diagram 2).

[2] Source: MAF/ARPIII, 2008

[3] Source: MAF, 2010




Annex 1 describes these principles in more detail.

The following Sections describe basic conditions for agricultural extension as an adult learning process (Section 1.2.1), define agricultural extension in Timor-Leste (Section 1.2.2) and, based on that, define the principles to be followed in agricultural extension in Timor-Leste (Section 1.2.3).

## 1.3 Basics on Adult Learning

Target groups of agricultural extension are female and male farmers in the age of 15 to 65. Compared to children and teens, adults have special needs and requirements as learners. Adult learners can be described by the following characteristics with the following obvious consequences for Agricultural Extension:

- **Adults are *autonomous* and *self-directed*.** They need to be free to direct themselves. Extension Workers must actively involve adult farmers in the learning process and serve as facilitators for them. Specifically, they must get the farmers‘ perspectives about what topics to cover and let them work on projects that reflect their interests. Extension Workers should allow the farmers to assume responsibility for presentations and group leadership. They have to be sure to act as facilitators, guiding farmers to build on their own knowledge rather than supplying them with facts. Finally, they must show farmers how their participation in extension events (group discussions, training sessions, demonstrations, field days, etc.) will help them to reach their goals

- **Adults have accumulated a foundation of *life experiences* and *knowledge*** that may include work-related activities, family responsibilities, and previous education. They need to connect learning to this knowledge/experience base. To help them to do so, Extension Workers should draw on farmers‘ experience and knowledge which is relevant to the topic. Extension Workers must relate theories and concepts to the farmers and recognize the value of experience in learning
- **Adults are *goal-oriented***. Upon enrolling in a course, they usually know what goal they want to attain. They, therefore, appreciate an educational program that is organized and has clearly defined elements. Agriculture Extensionists must show farmers how this extension will help them to attain their goals
- **Adults are *relevancy-oriented***. They must see a reason for learning something. Learning has to be applicable to their work or other responsibilities to be of value to them. Therefore, Agriculture Extensionists must identify objectives for adult farmers before the extension session begins. This means, also, that theories and concepts must be related to a setting familiar to farmers. This need can be fulfilled by letting farmers choose projects that reflect their own interests
- **Adults are *practical***, focusing on the aspects of a lesson most useful to them in their work. They may not be interested in knowledge for its own sake. Extension Workers must tell participants explicitly how the lesson will be useful to them on the job
- As do all learners, **adults need to be shown *respect***. Extension Workers must acknowledge the wealth of experiences that adult farmers bring to the extension session. Adult farmers should be treated as equals in experience and knowledge and allowed to voice their opinions freely during the extension events

These basics on adult learning will be reflected when defining what we mean by the term ‘Agricultural Extension’ (Section 1.1.5) and the principles for agricultural extension to be applied in the Timor-Leste context (Annex 1).

## 1.4 Participation in Agricultural Extension[4]

Considering the principles of adult learning (Section 1.1.3), the demand for **participation by farmers in the planning of agricultural extension** becomes a must, especially as extension work is, by its very nature, a partnership-based activity. It necessitates the **active involvement of client groups in decision-making processes**.

In the past, the **involvement and personal responsibility** of the population has **remained largely wishful thinking,** not only in extension but even in community development. The concept of participation in the sense of responsible, critical involvement in development and extension measures has often turned out to be superficial (if at all).

This is also the reality in Timor, where the **farmers have virtually no say in the design of the national priorities and the national annual action plans**. Even during the district development planning process, there is at the moment little to no involvement of farmers (at least not in decision making).

Based on experiences of farmers during the Indonesian times, the mass of the rural population is used to adopting passive roles. It is **wrong**, therefore, **simply to assume** that **a willingness to participate** exists in the client group of small farmers. This is even truer when it comes to

[4] Adapted from BMZ/GTZ, 2010

participation in terms of cost sharing: Farmers still have the attitude that inputs are free of costs. Such a receiving mentality is even strengthened with present policies to, in principle, still deliver free tractor services and inputs to farmers.

Despite of these difficulties, research shows again and again the **high importance of participation if we really want to aim at self-sustaining progress and development**. This is also and particularly true for agricultural extension. **Participation of farmers in planning and implementation is a major criterion for the success of extension service** – in particular the agreement of the client groups on their labor and financial inputs.

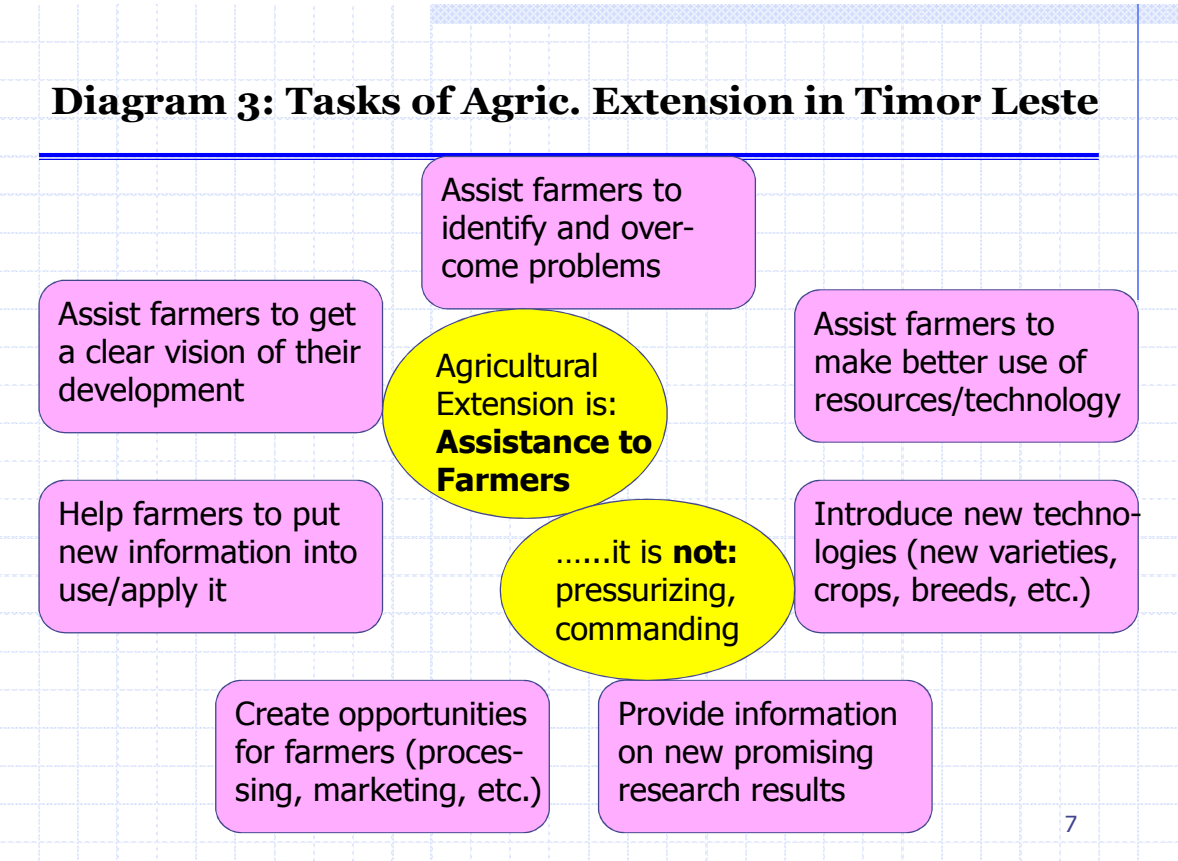
**References**

BMZ/GTZ, 2009, Vol II, E2, E3

### 1.5 Definition of Agricultural Extension in the Timor-Leste Context

In general, extension is about **getting information to people** and to **help them to judge the vast amount of information available to help to find sound solutions**. Thus, extension also tries to develop human resources. It puts the individual person in the centre of its activities.

Agricultural extension of MAF, Timor-Leste, has the following tasks[5] (Diagram 3):




[5] GoTL, 2008

- Agricultural extension is a service or system which **assists farm people**, through educational procedures, **to improve farming methods and techniques**, increase production efficiency and income, better levels of living, and lift the social and educational standards of rural life
- Agricultural extension is assistance to farmers to **enable them identify and analyse their production problems**, and to **increase their awareness of the opportunities for improvements**. Clearly, agricultural extension is an extremely important process which can accelerate technological, social and economic development. In particular, effective extension:
    - helps farmers identify and overcome production, farm management and marketing problems at farm level through the exchange of information among farmers, extension staff, input suppliers, credit agencies and marketing agents
    - helps farmers make better use of existing technology, for example, through more efficient use of feed, fertilizer or irrigation, etc.
    - introduces new technologies to farmers, such as new breeds, new varieties, new crops and new equipment
    - provides information to agricultural research institutions on farmer's production constraints so that appropriate basic, applied or adaptive research can be carried out to address them
    - helps in the successful creation of opportunities or situations in which farmers gain abilities and skills necessary to meet their needs and interests in such a way as to attain continuous improvement and self-satisfaction
    - helps farmers learn to put information into use in ways that result in improvements of their living standards and
    - helps farmers gain a clear vision of what can and should be done, encourages farmers to improve their pattern of living and helps them develop the necessary skills to do so.

From this definition we can see that 'extension' is a very wide field and that Extension Workers require many skills: in addition to a solid knowledge of the technical aspects of the farmers' concerns, they must also be knowledgeable and skilled in the methodology of extension (interpersonal and personal qualifications). But the ultimate decision on how useful the extension content is to the farmers, lies with the farmers themselves. The fundamental point is the **basic positive attitude of Extension Workers towards the farmers**: mutual respect, regarding the farmers as an equal partner, and generally being open-minded.

Based on this extension definition, the following principles are important for extension work:

- The objectives of agricultural extension and the people involved (e.g. their job descriptions) should be clear, transparent and compatible with the definition of extension
- The extension approach should centre primarily on the farmers' resources & potentials as well as problems & constraints. National priorities and programs for agriculture should primarily build on resources & potentials and address problems & constraints
- The homogeneity of the target group, regarding their problems and situation, provides potential for group extension approaches
- The choice of appropriate methods and tools needs to be adapted to the nature of the organization, the capabilities of the staff and the local resources available
- Without technologies to offer, there is little scope for extension related programs to have an impact on production.

# 2 Management of Agricultural Extension

As mentioned in Section 1.1., the MAF installed an agricultural extension setup on district, sub-district and Suco level by employing and posting relevant agricultural extension staff on the different levels in 2008. The challenge during the last 3 years was to get this setup functioning effectively by installing appropriate procedures for extension organization and management on all levels.

Section 2.1 deals with the organizational structure and functions of extension units on different levels. Section 2.2 describes the necessary communication and meeting system within and between the levels while Section 2.3 describes the core extension functions, processes, roles and responsibilities. Section 2.4 presents important steering mechanisms for agricultural extension, while Section 2.4, finally, points at cooperation & coordination needs with non-MAF actors in agricultural extension in Timor-Leste.

**Reference**

BMZ/GTZ, 2009, Vol I, Section 3.12 and Chapter 7

## 2.1 Organization and Functions of Agricultural Extension

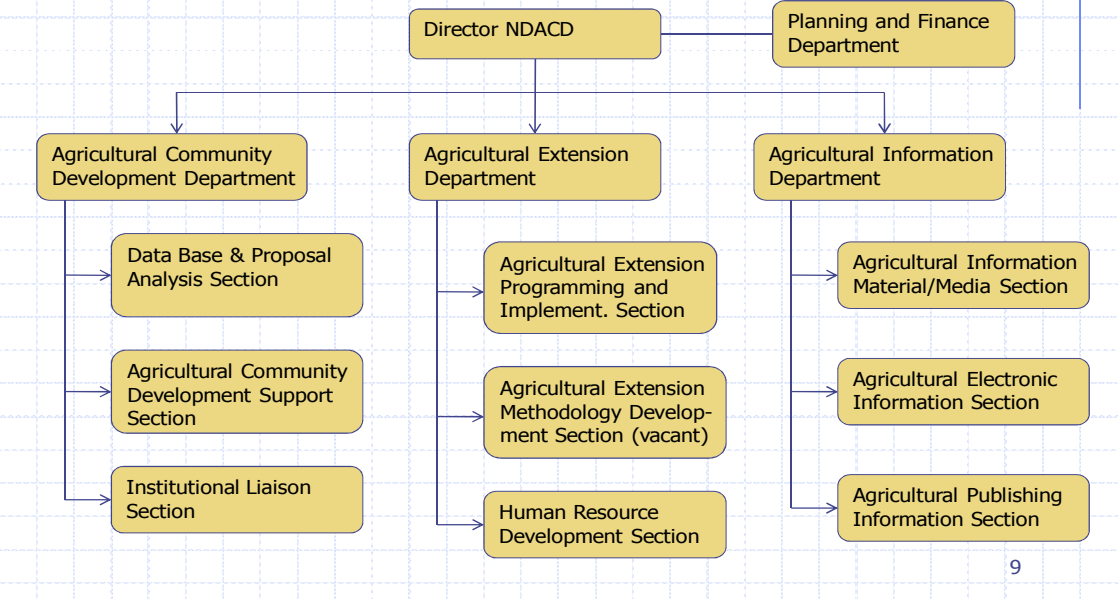
Section 2.1.1 gives an overview of the **organizational setup of the MAF** on national and district levels; Section 2.1.2 describes **core functions of different units** and Section 2.1.3 gives hints **how present core functions have gradually to change** in future.

### 2.1.1 Organizational set-up of the MAF on national and district level

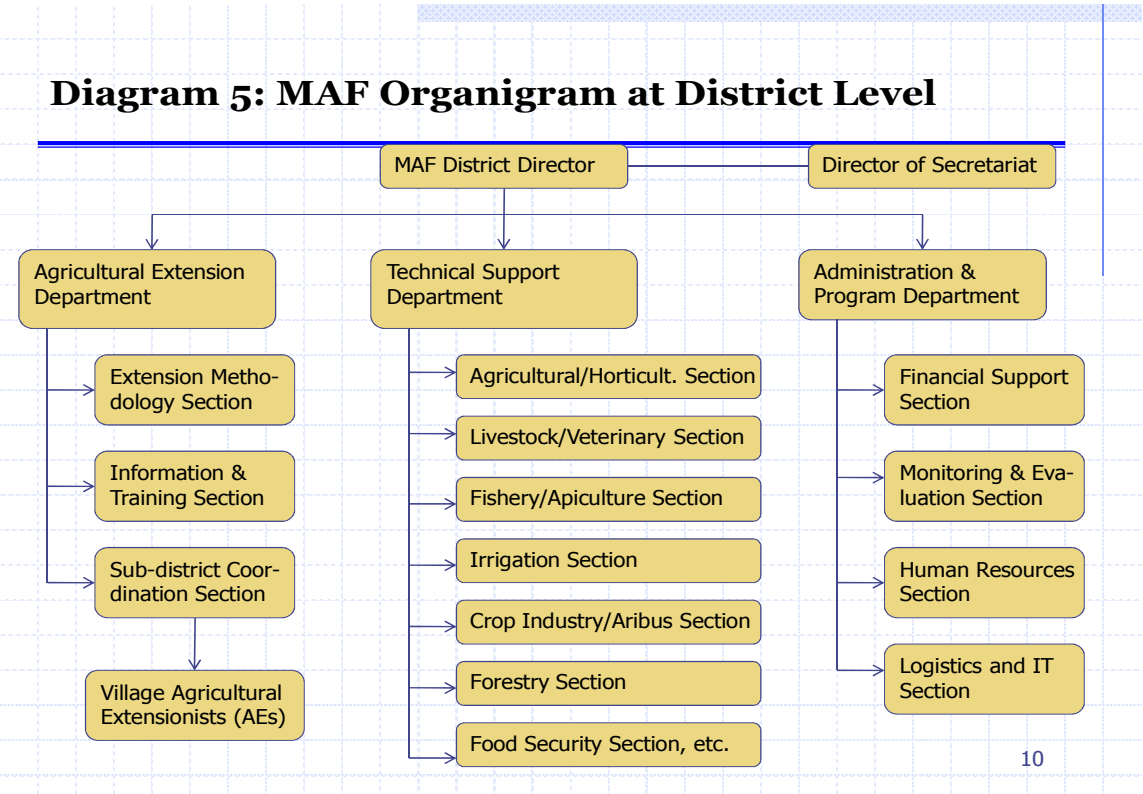
The organizational set-up on national and district level has formally been established. Diagrams 4 and 5 show the formal organizational set-up on national- and district levels respectively.

As can be seen from both diagrams, the formal set-up of the DNADCA as well as the set-up in the 12 districts is clear. However, many foreseen positions, especially on district level, are still vacant. There is the urgent need to **fill these positions**.

## Diagram 4: Organigram DNDCA at National Level




## Diagram 5: MAF Organigram at District Level




The organizational set-up of the DNADCA presents the national support structure for extension on district level. The Agricultural Extension Department is the key Department for extension work

at district level, while the Agricultural Community Development manages the Community Development Fund and the Agricultural Information Department supports extension work with the development of extension materials (e.g. leaflets and posters) as well a supporting media (radio and television spots).

The District Directorates represent the agricultural extension set-up on district, sub-district and Suco levels. While all lower level extension staff (SECs and Suco-level AEs) is administratively directly under the Agricultural Extension Department, the Technical Support Department disposes of the technical expertise so important for training and technically supporting SECs and AEs.

### 2.1.2 Core Functions of different Units (Core Function Analysis)

The functions of the different units as well as job descriptions of position holders on national level and district level have been analysed and defined in the meantime.

The functions of the **National Directorate of Agricultural Community Development (DNADCA)** have been defined under Decree law No. 7/2007 and 18/2008 art. 12 as follows:

- Supervision and management of the Directorate
- Build capacity of extension personnel
- Provide information based on extension policy
- Ensure technical support for approved proposals to implement the FDCA programs, and coordinate with Local Governments regarding the monitoring of these programs
- Develop mechanisms to support management
- Develop farming planning modules
- Regulate, coordinate, and monitor extension activities carried out by the private sector and
- Help prepare job descriptions for consultants preparing agricultural extension manuals.

Concerning effective extension work in the districts, the most important functions of these is probably the capacity building of extension personnel (by the Extension Department under the DNADCA).

The functions of the **National Directorate of Animal Husbandry and Veterinary Services** have been defined under Decree 7/2007 and 18/2008 art. 12 and is shown here as **one example for all other Technical Directorates** (e.g. Crop, Pest Management, Irrigation, etc.) to show the problem we have for extension from these functions:

- Build livestock centres
- Facilitate livestock trading
- Guarantee quality of meat
- Prevent diseases in livestock
- Facilitate livestock programme planning

- Eradicate livestock diseases
- Diagnose livestock diseases
- Control traffic of livestock
- Develop livestock industries and licensing
- Develop green plant feed for livestock

As can be seen from that list, the functions of the National Technical Directorates **do neither relate to the development of extension packages nor to technical training of livestock extension staff neither to regular backstopping of livestock extension staff in the field** (at least not the Directorate of Animal Husbandry and Veterinary Services).

This is very surprising, because the Technical Directorates are the only ones who will have the **technical expertise and knowledge to train extension personal in their related techniques**.

This question needs urgent attention by decision makers and should be addressed during the further steps of the Core Function Analysis.

The functions of the **District Directorates** have been defined under the Law 25/2008, the Ministerial Diploma on district Directorates and the Timor-Leste agricultural extension policy (draft) as follows:

- Analyse village needs based on potentials
- Plan district funded programs
- Facilitate and implement national programs
- Implement district programs
- Facilitate donor programs
- Manage district Directorate, supervise finances and operations
- Monitor, evaluate and report outputs
- Coordinate with district administration, other sectors, and CBOs and
- Facilitate planning at village level with local government.

The functions of the district Directorates clearly include all extension functions on district level and below (needs assessment, implementation of programs).

Importantly, the functions also include a **close cooperation with non-agricultural actors** in the district (second last bullet) and **with the Village Level Planning Process**, once Local Governments are installed (last bullet). This has to be taken into consideration at a later stage as well.

**Job descriptions** are presented in Annex 2.

### 2.1.3 Present and Future Agricultural Extension Functions

Agricultural Extension, in principle, can have three functions:

**Function 1: Coaching of Farmers in problem solving**

This function aims at the **day-to-day assistance and support to farmers in helping to solve problems**. Problems appear all the time, be it with the application of improved practices, with the emergence of pests and diseases, storage, input supply, marketing, etc. The extension workers' task is either to assist the farmers directly in problem solving of to link the farmer with other support services (technical expertise on district and national level, private support services, etc.)

**Function 2: Transfer of Knowledge and Skill through technical recommendations**

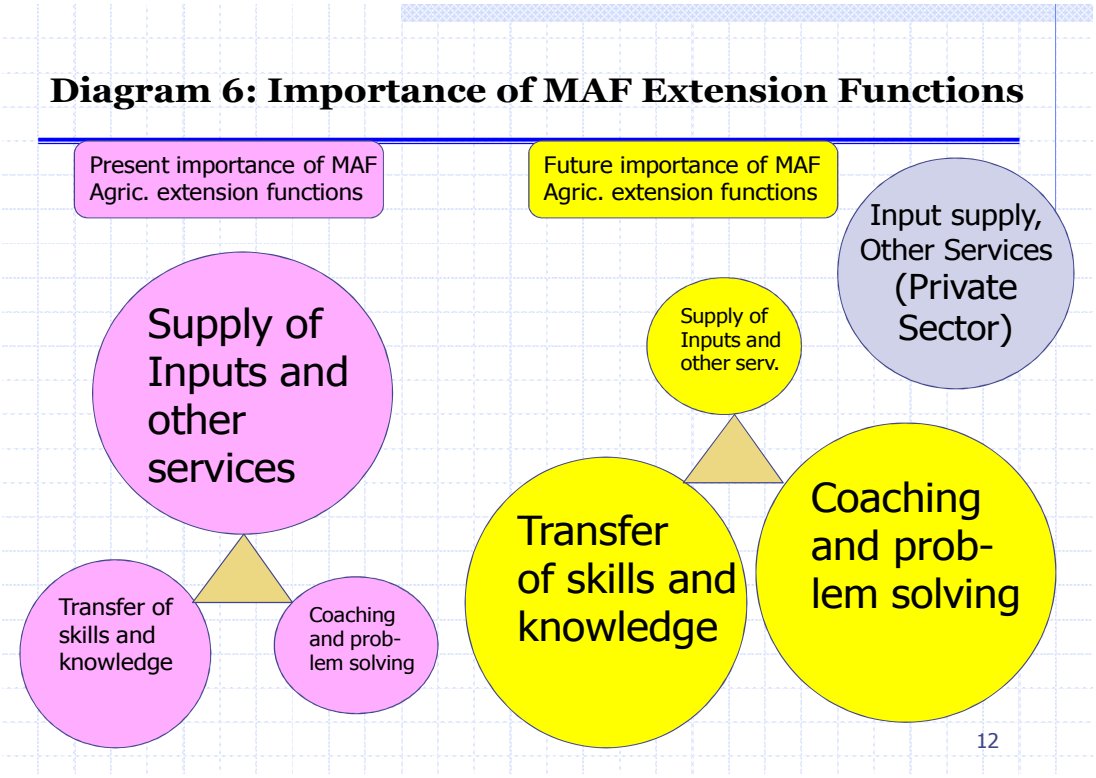
This function aims at improving the farmers' agricultural knowledge and skill concerning improved farming practices. The basis of this function is the extension packages (see Chapter 4 of this manual. Main task of extension is to **inform famers** about proven improved farming practices, **train farmers** in the application of these improved farming practices (theoretical and practical), **demonstrate the superiority** through **on-farm-demonstrations** (see Section 5.1.4. and Annex 10).

**Function 3: Provide inputs and other services to farmers**

This function is usually taken over by the private sector if the private sector is working efficiently. Unfortunately, this is not the case in Timor-Leste. Therefore, input supply and other services (e.g. tractor ploughing services, marketing services, etc.) are still coordinated by extension as well.

As Diagram 6 shows, the extension services in Timor-Leste are at the moment quite intensively occupied with the delivery of inputs and the management of other services (e.g. organization of tractor ploughing, etc.). 'Coaching and problem solving' and the 'Transfer of Knowledge & Skills' is still suffering. This is partly due to a lack of coherent improved technical agricultural packages and partly due to the limited skills of AEs in coaching and problem solving.

The future focus of the agricultural extension system should be primarily on coaching and problem solving, secondarily on the transfer of technical knowledge & skills. In the ideal case, the private sector will deliver inputs and services to farmers in future so that the extension system can fully concentrate on their main future functions.




## 2.2 Processes/Interfaces in Agricultural Extension

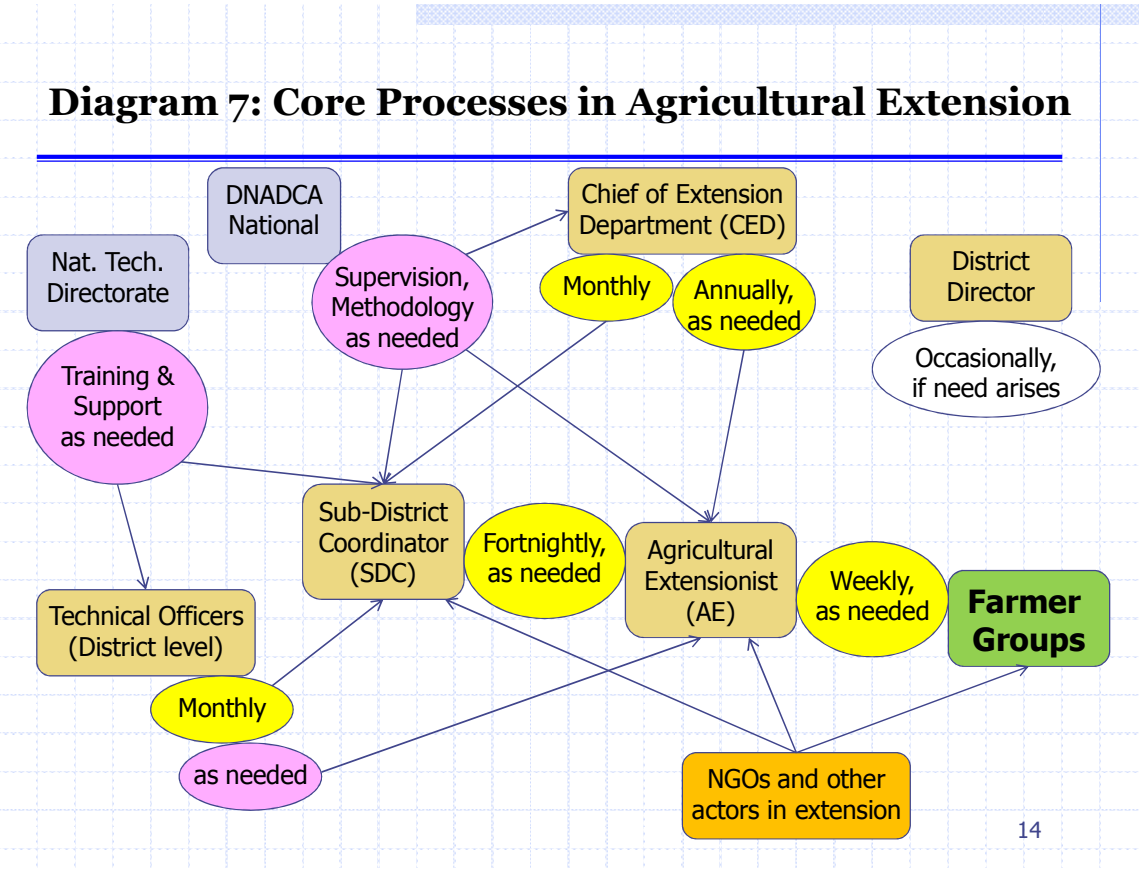
Section 2.2 describes the **processes/interfaces between different actors** in the agricultural extension setup (Section 2.3.1) and proposes a **performances oriented incentive system for AEs** (Sections 2.3.2).

### 2.2.1 Core Support Processes in Agriculture Extension

Diagram 7 shows the interface between different actors in the agricultural extension setup at district level.

The key interfaces are the interfaces between the Agricultural Extensionists (AE) and their farmers groups, between the AEs and the Sub-district Coordinators (SDC) and between the SDAECs and the Chief of Extension Department (CED). Responsibility for actual extension services to farmers lies with these interfaces.

Technical officers at district and national levels have mainly supporting functions (capacity development for extension staff and support in difficult situations).




The **Core Processes/Interfaces** in Agricultural Extension can be described as follows:

- The **key interface in agricultural extension is the interface between the Agricultural Extensionist (AE) and Farmers Groups** (plus individuals where individual advice is given; see Chapter 5, Diagram 11). If the communication and cooperation between these two actors does not work effectively/efficiently, if the AE does not deliver services as expected from the farmers, if there is not trust between these two actors, all extension effort will have no or only limited impact on farmers' level. Therefore, the **efficiency of this interface needs most urgent attention** by supervisors (SDC), managers (Chief of Extension) and support staff (Technical Officers) as well (see Job Descriptions in Annex 2)
- It is foreseen, that the AE, **during the first year in the village, establishes 4 groups**, **visits each of his/her groups once per week** and, in addition, **when need arises**.
- It is foreseen that the AE, **during his/her second year establishes 2 new groups** and advises them as described in the last bullet. The '**old' groups from last year are still supported**, but with **visited less frequently**
- The Sub-District Coordinator (SDC) (besides his/her own extension tasks with his/her own groups) **visits each of the AEs under his/her supervision fortnightly for supervision/support purposes** (see Job Description in Annex 2)
- SDAECs, in addition, hold **weekly meetings at sub-district level** with the AEs under his/her supervision at the extension centre (if existing) or at another place (for fortnightly

work planning and reporting, objectives and procedures of the meeting see Section 2.3.2)

- The Chief of Extension Department (CED, district level) is supposed to visit each of the SDAECs in the district **monthly for coordination/supervision purposes** (best during one of the SDC's meeting with his/her AEs). He also visits AEs on request of the SDC in case of particular issues arising
- The Technical Officers (district level) visit the SDAECs monthly and AEs on need **for training and backstopping in technical issues related to their profession**
- The national level Technical Directorates (including the DNADCA) visit the subject related Technical Officers (including the CED) on district level for **training and technical supervision according to training plans and whenever need arises**
- Finally, the District Director pays **occasional visits to all levels** for monitoring and problem solving purposes whenever need arises.

It should be noted that the above proposals should not be seen absolute 'musts' but have to be **handled flexibly**. The frequency of visits on the different levels might be less e.g. during slack periods and more during the cropping cycle; the number of groups per AE might be more than 4 for experiences AEs and less than 4 for new AEs, etc.

### 2.2.2 Performance Oriented Incentive System for Agricultural Extensionists

The MAF has started an effort to regularly appraise agricultural extension staff. The form is neither yet approved by authorities nor is it envisaged to use the appraisal as the basis for a 'Performance Oriented Incentive System'. Such a system is, however, important for motivating extension staff to do their job properly.

## 2.3 MAF Communication and Meeting System

Horizontal communication on national and district level as well as vertical communication from national to Suco-level is essential for effective extension work. Section 2.3.1 describes the meetings system in place on national level while Section 2.3.2 gives an overview of the meetings system district and sub-district levels.

Meetings are the most important official instrument for horizontal and vertical communication and coordination. Meetings in general serve the following purposes:

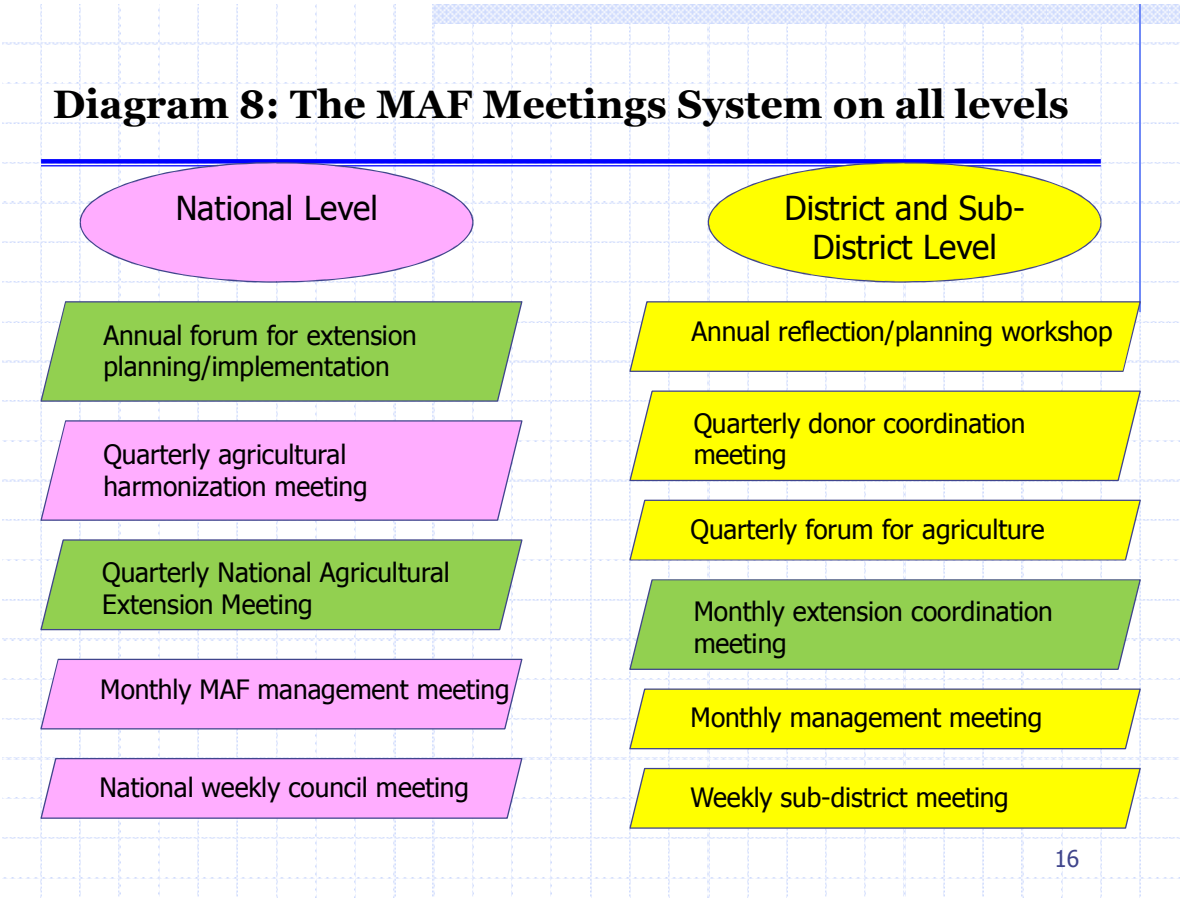
- Meetings are used for exchange of all kinds of information (feedback from the field, information from headquarters, administrative issues, etc.) to keep everybody informed as needed
- To do regular strategic and work planning on all levels and
- To regularly reflect on monitoring data from the field for corrective management decision and re-planning.

The following principles have to be observed for meetings:

- Keep the number of meetings **as high as necessary but as low as possible** (meetings 'consume' personnel resources)

- Invite to each meeting only **people who are relevant for the subjects** to be discussed during the meeting
- **Prepare meetings** well, inform participants well in advance and give them **background materials** well in advance so that they can prepare themselves
- **Facilitate meetings professionally** and make **results and decision oriented** notes of meetings (minutes of meeting) and
- Follow-up decisions made during the meetings.

Annex 3 presents hints for effective meetings. Diagram 8 presents an overview of the MAF meeting system on all levels.




### 2.3.1 Meeting System on National Level

Section 2.3.1 gives an overview of the meeting system at national level related to agricultural extension in the wider sense. For each meeting the participants and objectives are described. Usually, the procedures of the meetings follow the different objectives (e.g. we first share lessons of the past, before we consolidate and define new activities (see Annual Forum for Extension Planning and Implementation).

#### Annual Forum for Extension Planning and Implementation

**Participants**: MAF Director General, MAF National Directors, Department Heads of all National MAF Directorates, NGOs/INGO, donors who work in agriculture (as observers)

**Objectives and procedures:**

- To share lessons learnt, good practices experienced in agricultural extension on national level
- To consolidate agricultural extension activities in the country
- Define nAE agricultural extension priorities for next year.

**Quarterly Agricultural Harmonization Meeting**

**Participants**: MAF Director General, MAF National Directors, Department heads of all National MAF Directorates, representatives of NGOs/INGOs, donors

**Objectives and procedures:**

- To discuss progress related to agriculture (MAF) during the last quarter and arising issues from the field
- To share lessons learnt and good practices experienced during the last quarter
- To consolidate agricultural development activities
- To update participants on new policies on agricultural development.

**Quarterly National Agricultural Extension Meeting**

Participants: DNADCA-staff, all MAF Senior Extension Officers

**Objectives and procedures:**

- To reflect on the extension activities during the last three months on the basis of the Annual Action Plan
- To plan extension activities for the coming three months
- To update on extension activities and programs.

**Monthly MAF Management Meeting**

**Participants**: MAF Minister or Secretary of State, MAF Director General, MAF National Directors, Department heads of all National MAF Directorates, MAF District Directors

**Objective and procedures**:

- To discuss progress related to agriculture (MAF) in the country during the last month and arising issues from the field
- To plan agriculture activities in the country for the next month
- To discuss cooperation and coordination of agricultural activities on national level
- To inform participants on administrative issues and information exchange on other issues

**National Weekly Council Meeting**

**Participants**: MAF Minister or Secretary of State, MAF Director General, MAF National Directors, Department heads of all National MAF Directorates

**Objectives and procedures:**

- Update and brief participants on special agricultural issues that need immediate action

**Picture 1: Staff meeting**

### 2.3.2 Meeting System on District and Sub-District Level

Section 2.3.2 gives an overview of the meeting system at district and sub-district level related to agriculture and agricultural extension. For each meeting the participants and objectives are described. Usually, the procedures of the meetings follow the different objectives (e.g. we first reflect on the experiences made during last year before we plan for the next year; see Annual Reflection and Planning Workshop).

**Annual District Reflection and Planning Workshop**

**Participants:** MAF District Director, MAF District Department Heads, MAF Sub-district Coordinators, NGOs/INGOs, donors working in agriculture and agricultural extension in the district

**Objective and Procedures:**

- To reflect on lessons learnt and good practices during the last year and to compare targets with achievements

- To plan agricultural and agricultural extension programs and activities for the next year (District Annual Action Planning)
- To plan for extension campaigns including relevant staff training.

**Quarterly District Donor Coordination Meeting**

**Participants**: MAF District Director, MAF District Chief of Departments, NGOs/INGOs and donors working in agriculture in the district

**Objective and procedures:**

- To discuss progress related to agriculture (MAF) in the district during the last quarter and arising issues from the field
- To share lessons learnt and good practices experienced on district level
- To consolidate agricultural development activities in the district.

**Quarterly District Forum for Agricultural Extension**

**Participants**: Head of Extension Department (national level), MAF District Director, Senior Extension Officer, Technical Officers, Sub-district coordinators, Extension Workers, private sector, relevant other Ministries

**Objectives and procedures:**

- To share lessons learnt, good practices experienced in agricultural extension on district level
- To contribute and share knowledge to be integrated into Training Modules for AEs and farmers
- To consolidate agricultural extension activities in the district
- To share information on input supply and marketing (with private sector and relevant Government Organization)
- To inform participants on administrative issues and exchange information on other issues.

Such gatherings can also be used for Capacity Building measures during the next day(s), as the Extension Workers are already in the district headquarters.

**Monthly District Management Meeting**

**Participants**: MAF District Director, Chief Departments District, Technical Officers District

**Objective and procedures:**

- To discuss progress related to agriculture (MAF) in the district during the last month and arising issues from the field
- To plan agriculture activities for the next month

- To discuss cooperation and coordination of agricultural extension activities (e.g. involvement of technical officers, etc.)
- To discuss and plan training activities of AEs and Technical Staff
- To inform participants on administrative issues and exchange information on other issues.

**Monthly District Extension Coordination Meeting**

**Participants**: MAF Senior Extension Officer, Section Heads under the SEO, MAF Sub-district coordinators

**Objective and procedures:**

- To discuss progress during the last month and arising issues from the field
- To plan for the next month including extensionist training activities
- To discuss cooperation and coordination of agricultural extension activities (e.g. involvement of technical officers, etc.)
- To inform participants on administrative issues and information exchange on other issues.

**Weekly Meeting on Sub-District level**

**Participants**: MAF Sub-district coordinators, Extension Workers of the sub-district

**Objective and procedures:**

- To discuss progress during the last week and arising issues from the field
- To plan for the next week
- To upgrade capacities of Extension Workers by Technical Officers (when necessary).

## 2.4 Steering Mechanisms for Agricultural Extension

The tasks ahead in agricultural extension systems and capacity development (see previous chapters) demand a strong steering and also inter-organizational cooperation in the design and conduct of related processes and activities. It is, therefore, proposed to form an Agricultural Extension Steering Committee (Section 2.4.1) for the purpose of steering and designing related processes and activities as well as an inter-organizational Technical Working Group (Section 2.4.2) for the further approach development steps (particularly the coordinated design of technical packages).

### 2.4.1 Agricultural Extension Steering Committee

The '**Agricultural Extension Steering Committee'** has the following tasks:

- To initiate and monitor all further **Approach Development** steps still needed as preconditions for proper agricultural extension in the field (e.g. package development) in order to

  - create **synergy effects** by using expertise of all actors for systems development
  - **avoid double work** and waste of resources and
  - **avoid contradictory systems** emerging and being installed
- To initiate and monitor all **Capacity Development** activities needed (technical and methodological training and organizational development)
- To assure that actors in agricultural extension in Timor-Leste are **in line with the MAF Agricultural Extension Strategy/Manual** for Timor-Leste
- **To create formal mechanisms for coordination of extension work** and for **cooperation of different actors** on all levels in the field of agricultural extension
- To assure that **management mechanisms get firmly rooted** within the MAF on all levels, in particular
  - **Specify job descriptions and sensitize job holders for their jobs**. This is particularly **important for the Technical Departments** at National and District levels as their role changes tremendously
  - **Install a sound supervisory & coaching system as well as an effective communication system on all levels.**

The Agricultural Extension Steering Committee would have the following **composition**

- DNADCA Director (Chairman) and the three Department Heads within the DNADCA
- Selected Directors of other relevant national Directorates (depending on the topic)
- Chief of Department of National and International Cooperation
- Selected innovative and capably Agriculture District Directors
- Selected innovative and capable District-level Chiefs of Extension Departments
- Representatives from the most important non-MAF actors in agricultural extension in Timor-Leste.

The Committee will **meet quarterly** before the 'Quarterly Agricultural Extension Management Meeting' (for details see Section 2.3.1), will **monitor** the systems development work which was done during the last quarter and will **plan** systems development work with **clear responsibilities** for the next quarter. Results of the quarterly Committee meetings will be discussed during the 'Quarterly Agricultural Extension Management Meeting'.

### 2.4.2 Technical Working Groups for Further Systems Development

The '**Technical Working Group'** will further develop systems within the agricultural extension approach chosen for implementation. Obvious immediate tasks are as follows:

- To develop **Extension Packages** for priority agricultural enterprises for farmers, based on exiting Good Practices and Extension Materials/Aids

- To discuss and agree on shared roles related to basic **Capacity Development Measures** (e.g. methodology training, backstopping on district level, organizational development on district and national levels)
- To discuss and agree upon **Coordinated Further Support Measures** of different organizations (NGOs, donor funded programs) concerning agricultural extension programs and activities
- To further **Update the Agricultural Extension Manual** on an annual basis.

The Technical Working Group would not have defined members but will work in temporary **Sub-Groups caring about particular subjects**, depending on the tasks, e.g.

- In case of further **package development** mainly the relevant Technical Officers from National and District level and non-MAF actors supporting in the related farm enterprise
- In the case of **Capacity Development** the relevant Technical Officers from National and District level in cooperation with Agricultural Technical Schools
- Etc.

The chairman of the Technical Working Group will be the Director, DNADCA.

The **Technical Working Group including the sub-groups will meet quarterly**, discuss progress during the last quarter and plan for the next quarter. The **sub-groups will be self-managed** and meet according to need and only until their tasks are fulfilled.

## 2.5 Cooperation with other Actors

MAF services are not the only agricultural extension services working in the districts, sub-districts, Sucos and Aldeias. There are a number of donor funded project and programs usually covering one (e.g. RDPIII, AECID), two (e.g. RDPII, JICA) or more (e.g. RDPI, RDPIV) districts with agricultural extension activities. In addition, there are a large number of NGOs and INGOs, usually covering a few Sucos and Aldeias with agricultural extension. Section 2.5.1 points at cooperation needs with donors and NGOs/INGOs while Section 2.5.2 at cooperation needs with supplementary services providers.

### 2.5.1. Coordination/Cooperation with Donors, NGOs/INGOs

The work of these non-MAF agricultural extension actors (donors, NGOs, INGOs) can be characterized as follows:

- Some of them work exclusively through MAF by supporting the MAF extension set-up on different levels. Other work completely independent from MAF and have only occasional contact with the MAF setup on district level
- Some of them plan and coordinate their extension activities with MAF fully or partly; others plan and implement completely parallel to MAF services
- Most of them follow their own extension concepts, methods and offer services deemed necessary. Most services include inputs supply as well, however, under differing conditions (input delivery free of costs or repayable with a revolving fund methodology).

This situation is partly caused by the **absence of clear MAF extension policies, strategies and procedures** (e.g. for input supply, extension approaches, etc.) as well as the **absence of a formal district level extension system** until 3 years ago. Even now, the agricultural extension strategy is not yet endorsed by Government and the extension implementation manual (this draft document) is still emerging. This situation has partly led to confusion on village level.

With the emergence of an extension set-up at district level and MAF extension policies, strategies and procedures, the following regulations for cooperation with agricultural extension activities funded by donors, NGOs and INGOs are envisaged:

- **Coordination of all extension activities** in the district should be done **through the District Director** and the **District Chief of Extension Department** (CED)
- All extension actors on district level should do an **integrated agricultural extension planning** for all extension activities in the district
- **Extension methodologies, technical recommendations for farm enterprises as well as input supply policies should be synchronized** between all agricultural extension actors in the district and
- **Cooperation** should be sought during implementation and monitoring of extension activities on Aldeia, Suco, Sub-district and district level between all extension actors. This means in particular the regular **participation in relevant meetings** on district and sub-district level (see Section 2.3.2)

### 2.5.2 Linking with Complementary Services Providers

Linking farmers and communities with complementary services is crucial for the success of extension. Extension cannot solve all problems and provide services in all areas. However, it is an essential function of agricultural extension services to assist the farmers in getting access to such complementary services which means: **linking farmers to services providers**.

#### Cooperation with research

Timor-Leste has access to a huge number of recommendations for improved practices in crop and animal production (e.g. improved maize and rice cultivation, standard vaccinations for cattle, etc.). Such recommendations are successfully tested under farmer' conditions and can find their way into extension packages immediately.

Other innovations, usually produced by research stations, have to undergo on-farm-research before they can be recommended for application on farmers' level as farmers' conditions are usually quite different from research conditions.

On-farm-trials need to be conducted on farmers' fields, managed by farmers and supported by extension and research. That is the reason, why the extension research linkages are so important for extension. Chapter 4 elaborates more on the **planning and management of on-farm-trials** in cooperation with research.

#### Linking with Services Providers for Input Supply

The lack of farm inputs – particularly improved seeds – is a key bottleneck in Timorese agriculture. Shortages of seeds occur every year on a wide scale, partly due to the existing

'receiver-mentality' produced by free or subsidized inputs (especially seeds) provided by MAF and Donors/NGOs during the last years. However, there is also a small emerging market for farm inputs, particularly in areas where Government and Donors/NGOs are not very active. This is particularly the case for fertilizers, chemicals and special seeds (e.g. vegetables, etc.).

The **extension services** should be active in the following areas:

- establishing the anticipated need for inputs based on the extension measures to be applied and the expected adoption rates
- informing the input providers about needs
- where difficulties arise, intervention and liaison by advisers, if necessary bringing in a higher authority
- using the opportunities for advisory work which automatically arise when production means are handed over.

**Linking with Services Providers for Processing and Marketing**

Surpluses in agriculture mean that markets have to be found where the farmers can sell their produce at a profit. Measures to improve marketing aim to **provide** the mass of farmers with opportunities for selling their crops, to inform them about existing markets and to **limit the marketing risks.**

Agricultural extension services should perform the following functions:

- They should be involved in the planning of processing/marketing services, with the advisers representing the demands of the farmers or advising the farmers' representatives in negotiations with the processing/marketing services providers
- They should help to create client group organizations that can undertake some aspects of processing/marketing, such as solving transport problems, setting up collection points for produce and looking for new outlets for their goods
- They should coordinate the opening times of markets, with the advisers first discussing and checking the wishes and demands of the farmers
- They should advise farmers on the classification of products, the type of packaging, processing and storage to keep quality and storage losses down and to achieve the highest possible returns from sales
- Where prices fluctuate according to region and season, the role of the adviser as a supplier of information becomes particularly important – even though the rapid spread of mobile phones is increasingly placing this task in the farmer's hands
- The adviser can perform various control functions in the marketing process itself. For example, he should try to intervene to settle farmers' complaints about faulty scales, being kept waiting, unsatisfactory quality grading and irregularities in payment. Where necessary, he should inform the authority responsible for supervising marketing that difficulties have arisen
- The adviser should inform the marketing organizations or the traders regularly about estimated harvests, anticipated market supplies and probable dates of delivery.

**References**

BMZ/GTZ, 2009, Vol I, Section 7.2.3

Functions of Agricultural Cooperatives?

Coordination with Extension?

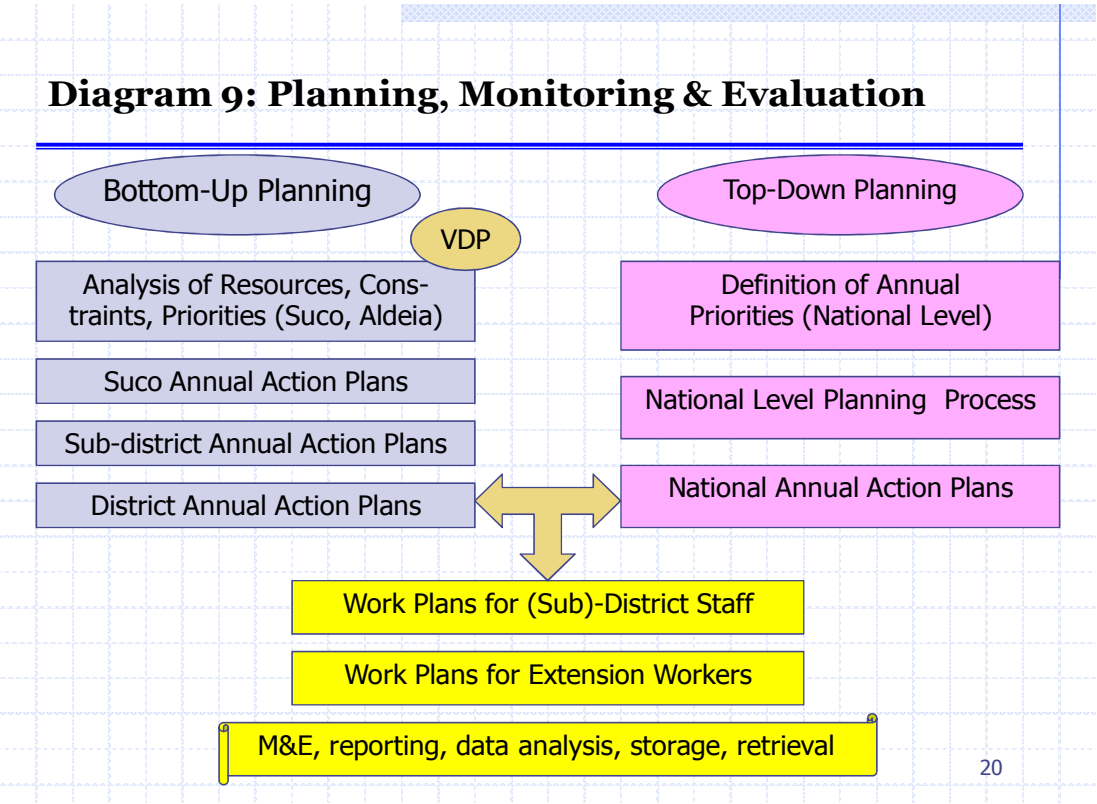
No agricultural cooperative for the time been. Need to be develop soon in cooperation with MED (Ministry of Economic and Development)

# 3 Planning and Monitoring in Extension

Proper Planning and Monitoring & Evaluation of extension activities, outputs and impacts are key for the success of extension programs.

The MAF follows two different planning approaches: the Bottom-Up Planning Approach and the Top-Down Planning Approach.

Diagram 9 presents an overview of these two approaches.




**References:** BMZ/GTZ, 2009, Vol I, Chapter 7

## 3.1 Bottom-Up Planning Approach

Realistic bottom-up planning of extension activities depends first and foremost on the potentials & resources available to farmers and the problems & constraints they face in using their resources effectively. Therefore, the first step in agricultural extension will be the analysis of agricultural and agricultural business related potentials/resources in the Suco/Aldeia and constraints/problems which present to use these resources effectively (Section 3.1.1). Secondly, the Suco/Aldeia community will, with the assistance of the AE, elaborate on a Suco/Aldeia Agricultural Development Plan, including the formation of interest groups for different farm/livestock and related business enterprises (Section 3.1.2). All Aldeia plans together will form the Suco Annual Action Plan as part of the Sub-District Annual Action Plan (Section 3.1.3) which, in turn, will be amalgamated to the District Annual Action Plan (Section 3.1.4) to be approved by the national level.

### 3.1.1 Analysis of Resources and Constraints

When the AE is posted to his/her Suco and its Aldeias, the first step will be to make him/herself familiar with the situation in the Suco and the Aldeias. This should be done in several steps:

- The **Village Development Plan** (facilitated by the Community Development Officers (CDO) of the Ministry of State Administration) have to be consulted to understand the general situation in the village
- Based on the section on agriculture and agricultural business, a '**Participatory Situation Analysis**' will be conducted during a '**Situation Analysis Workshop'**. The objective of such a workshop is **to further specify on the agricultural and agricultural business related resources of the Suco and the Aldeias**. This is done by applying a set of Participatory Rural Appraisal (PRA)-techniques like
    - Physical maps showing the physical resources of the Aldeia and the most prominent crops grown on the land as well as agricultural infrastructure resource (e.g. irrigation structures, etc.)
    - Transect walks to get an impression on the landscape and its particularities which might be important for extension activities
    - Seasonal diagrams showing the cropping cycles over the year
    - Census of the most prominent problems and constraints in the Aldeia and ranking of such constraints and problems by different groups (e.g. men, women, youth).

The workshop should be **facilitated by the Sub-district coordinator and the AE**. If possible, the **Community Development Officer** responsible for this Suco/Aldeia **should be present as well** and assisting with the Situation Analysis and with moderation of groups. In addition, the **Suco/Aldeia Chief** should also participate.

**Picture 2: PRA assessment in the village**

Annex 3 gives an overview of how these techniques can be applied.

Such a situation analysis together with the community has the following advantages and results:

- The community reflects on their own agriculture related situation and gets aware about their resources, problems and constraints
- The AE learns to know about 'his/her' community and their resources, constraints and problems
- The AE creates trust with the community as the basis for extension work with the community later on.

Equipment needed for the '**Situation Analysis Workshop'** are **flipcharts and felt pens**.

### 3.1.2 Suco/Aldeia Agriculture Development Planning and Interest Group Formation

Within two to four weeks after the Situation Analysis Workshop (see Section 3.1.1), a Suco/Aldeia Agricultural Development Planning Workshop should be held. The objective of such a workshop would be

- To roughly plan agricultural development priorities and measures for the Suco/Aldeia during the years to come
- To identify interest groups for different crop/livestock enterprises and related business activities.

The following steps are applied during '**Agricultural Development Planning Workshop'**:

- Based on the results of the 'Participatory Situation Analysis'[6], different strata of the community (e.g. men, women, youth, etc.) will, during group discussions, decide about their agricultural development priorities for the near future (5 to 10 years)
- Secondly, priorities will be selected which can and should be tackled during the coming season or year
- Thirdly, **interest groups will be formed** for each of the main priorities to be tackled during the coming season (it is envisaged that each AE has at least 4 farmer groups per season)
- And fourthly, these interest groups develop their Annual Action Plan for tackling their priority during the coming season.

Equipment needed for the '**Agricultural Development Planning Workshop'** are **flipcharts and felt pens**.

The Suco/Aldeia Annual Action Plans will not only include measures directly related to agricultural crop/livestock extension but also to agricultural infrastructure or agriculture business to be financed from the **Agricultural Community Development Fund**. This fund supports mainly **agricultural infrastructure** (e.g. irrigation facilities) **and processing**.

[6] Annex 4 presents some examples of PRA methods for participatory situation analysis

### 3.1.3 Sub-District Annual Action Planning

In principle, the results of the Suco/Aldeia Annual Action Plans are the basis for the **Sub-District Annual Action Plans**

However, the national level also plans every year National Priority Programs every year which depend less on the needs of farmers but on national priorities (e.g. rice self-sufficiency, etc.). Such priority programs are specified in the **National Annual Action Plan** (Section 3.3.2).

Agricultural extension planning (and also agricultural extension work planning (see Section 3.4), implementation and monitoring (see Section 3.5)), therefore, is only partly based on farmers interests (District Annual Action Plans) and partly on national priorities (**National** Annual Action Plans). However, it is clear that both plans partly overlap because farmers' priorities do not necessarily contradict national priorities.

### 3.1.4 District Annual Action Plan

The annual action plans of interest groups (on flipchart; see Section 3.2) will then be

- Transferred by the AE into the MAF format for Annual Action Plans (see Table )
- Communicated to the Sub-District Supervisor, who, in turn,
- Develops the Sub-District proposals for the Annual Action Plan to be submitted to the district level for approval and aggregation on district level
- Finally, the District Annual Action will be submitted to the national level for approval and financing.

The approved Annual Action Plans are then one of the bases for extension work planning (Section 3.4), implementation and monitoring (Section 3.5) during the year.

## 3.2 Top-Down Planning Approach

The Top-Down Planning Approach starts with the decision on Annual Priorities for agricultural development. These priorities are planned on the basis of national objectives (e.g. food security and self-sufficiency) and relate mainly to irrigated rice and to upland maize. The planning process is as follows:

- The Extension Worker lists all farmers interested in the National Priority Programs (as ploughing and inputs are free, virtually everybody is interested)
- To become national priority about 80% of the farmers with potential for this activities should be interested
- Based on this list and on the available resources (seeds mostly from MAF seeds program) the final list of beneficiaries and amount of inputs is decided upon.

The **National Priority Programs** are implemented especially free services, inputs and even marketing, **are financially not viable** and have to be seen as a temporary measure to overcome acute food shortages.

However, in the short term, agricultural extension services on all levels will have to spend a substantial part of their resources to plan, implement and monitor the National Annual Action Plans as well.

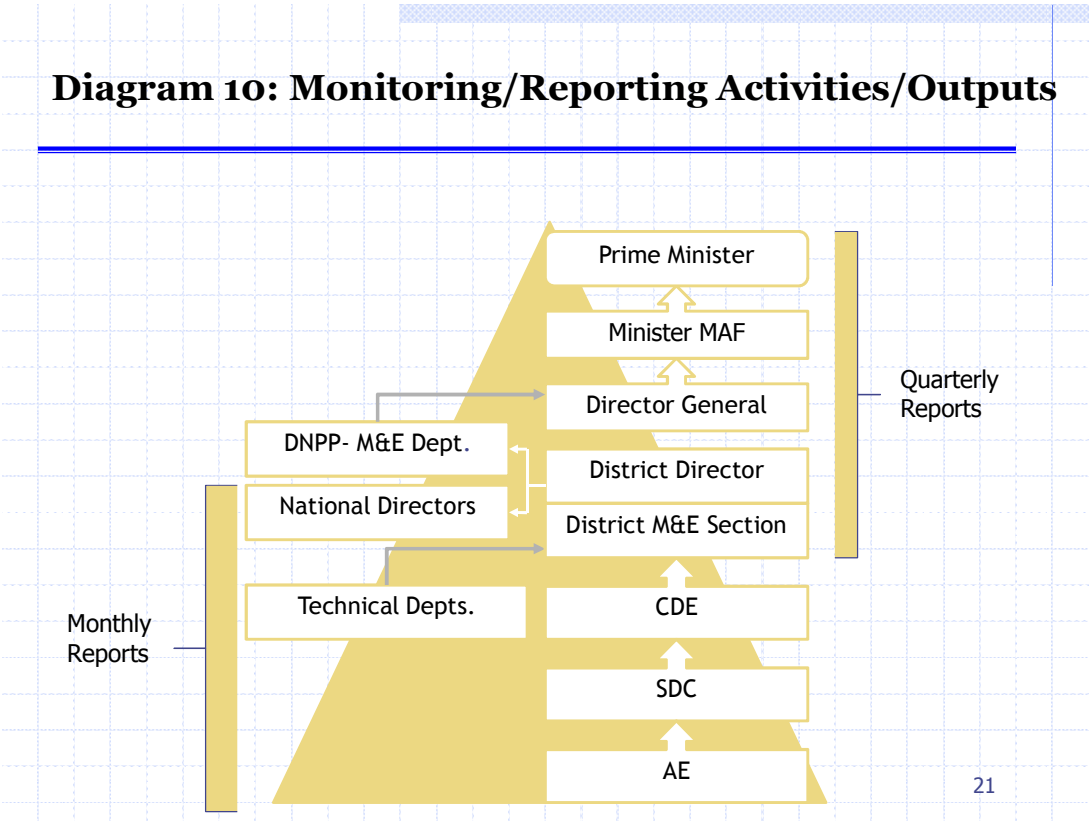
The same format is used for the National Annual Action Plan as for the District Annual Action Plan (see Annex).

### 3.3 Agricultural Extension Work Planning

Based on the Annual Action Plan (see above), each Technical Staff, the Senior Extension Officer (SEO) on District level as well as the Sub-District Coordinators will develop their monthly work plans. Monthly work plans specify at which day staff are doing what at which location.

The MAF developed a reporting system for all levels with formats. This reporting system foresees monthly reports, starting from the AEs and being summarized first by the SDC to be delivered to the district level. The district level summarized reports on three-monthly and annual basis to be sent to the national level.

### 3.4 Monitoring of Extension at District Level




Monitoring of extension activities is done for three purposes

- To detect things going not according to plan or going wrong with the purpose to correct
- To inform higher level decision makers about achievements and deviations and
- To draw ‘Lessons Learnt’ and ‘Good Practices’ for future implementation.

# 4 Extension Contents/Packages[7]

Appropriate '**extension packages' are the key to successful agricultural extension**. If the extension worker has nothing to offer to farmers which brings him/her benefits, any extension efforts will be futile. Extension contents could be pure advice to farmers in problem solving, but in most cases the farmers in a low productivity farming environment like in Timor-Leste expect advice on improved practices, sometimes combined with inputs to **increase productivity and production of crops or livestock**.

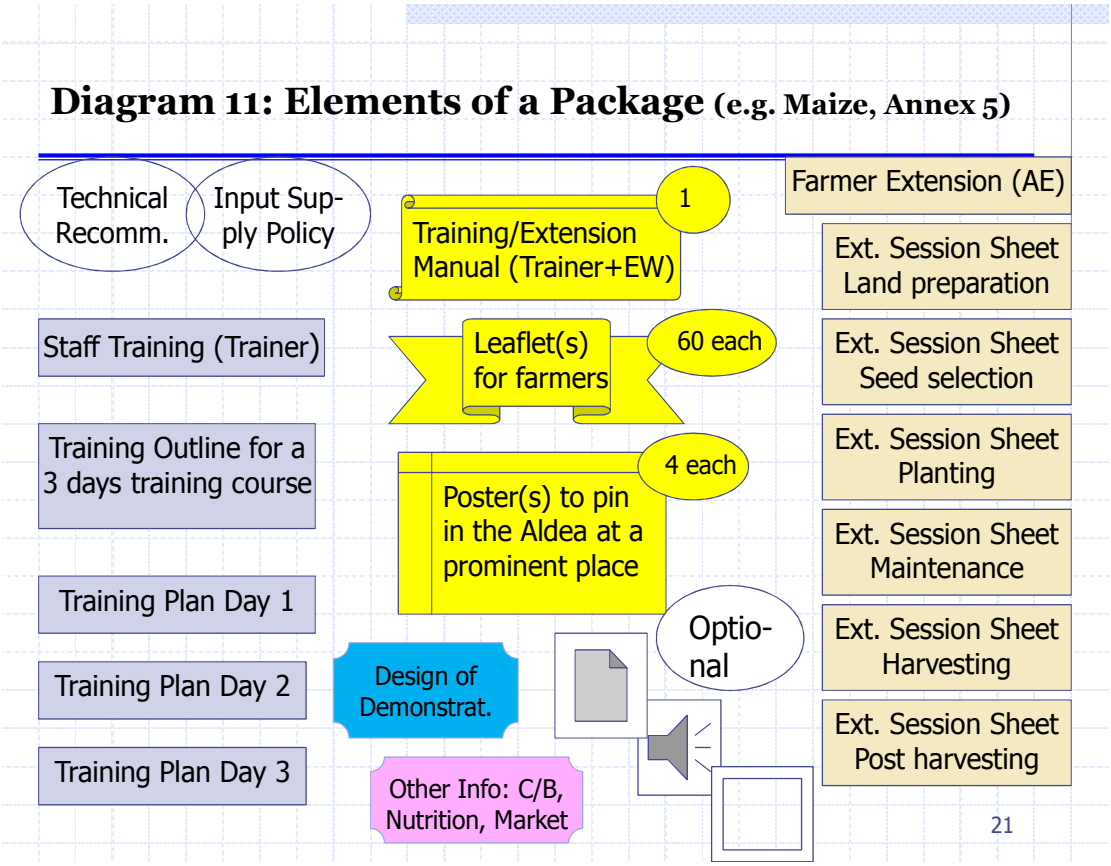
Appropriate '**extension packages'** are, at the same time, the **basis for training extension workers in the contents of the packages** but also in **the way of telling and discussing with farmers** the recommendations spelt out in the package.

A package can be a crop or a livestock package but also a package of how to do book keeping or how to conduct and use demonstrations.

An extension package consists of four major elements, **extension recommendations** (Section 4.1), **input supply policy** (Section 4.2), procedures for **training/extension plans/materials** (Section 4.3) the **design of demonstrations** (Section 4.4) and **supplementary information** (e.g. nutritional value, cost/benefit calculations, information about processing and marketing; Section 4.5). Finally, if recommendations for improved farm practices, varieties, etc. have not yet proven their superiority under farmers' conditions, **on-farm-trials have to be conducted** before tailoring extension packages (Section 4.6).

[7] The following considerations are relevant for those extension contents where the technical recommendations are already developed and fully tested. This is the case with many crop and livestock packages important for farmers in Timor-Leste. For nAE crops and livestock enterprises which need further research before being disseminated, a close link between research and extension is necessary (for details see BMZ/GTZ, 2009, Vol I, Section 4.3)

Diagram 11 gives an overview of the elements of the systematic Agricultural Training/Extension Plans/Material




## 4.1 Extension Recommendations based on Good Agricultural Practices

**Extension recommendations** for a certain crop/livestock enterprise, processing/storage methodologies, etc. are the basis for developing the whole extension package.

Technical extension recommendations are particularly important in situations where basic principles of crop techniques are obviously not yet observed with the consequence of extremely low yields, high losses, etc.. It is said that, due to the history of the country, this is the case for many crop/livestock enterprises and many areas in Timor-Leste.

**Extension Recommendations** are the key message to be delivered to the farmers. These recommendations are the basics of each package and are prominent in all steps and products of the package development process. Extension recommendations for e.g. crop packages are e.g.

- recommended seeds and varieties for different soils and climates
- recommended planting time, techniques and spacing
- recommended irrigation techniques, frequencies, water levels, etc.
- recommended fertilizer levels, frequency and timing
- harvesting and post-harvesting techniques
- etc.

Technical extension recommendations for the most important crop and livestock enterprise but also for other topics like processing, storing etc. have been developed by many organizations in Timor-Leste. There are even attempts made to bring such recommendations from different organizations together and to develop Good Practices[8]. However, until now, no effort has been made to systematically draw from the experiences of all or the most important organizations working in specific fields and to systematically develop coherent extension packages.

Annex 6 presents an example of a complete package for maize production and Annex 7 a list of priority packages to be developed by the MAF during the years to come. Annex 6a presents the set of technical recommendations for maize cultivation in Timor-Leste.

## 4.2 Input Supply Policy

Most of our extension packages are not only based on technical recommendations but also need improved inputs (e.g. seeds, compost, fertilizers, storage facilities, etc.).

At the moment, inputs are often distributed for farm and livestock enterprises etc. mostly free of costs by the MAF and other organizations. Inputs are often also distributed independent from technical extension services. Some farmers get free inputs; others do not get. In most of the cases, there is no systematic and clear input policy.

Extension packages, in future, should include a clear input supply policy as part of the extension package with the following information to farmers:

- What **kind of which inputs** and at **which level** are recommended for the package?
- What is the **input supply policy of the extension organization** (MAF or others) for this enterprise? Are inputs to be delivered free of cost or subsidized? Are the inputs to be repaid after the harvest and to what conditions? Does the farmer have to organize input by him-/herself on the free market or at cooperative stores? Where are the inputs available? (**Inputs also include machinery services here**).

In principle, there are four options for input supply:

- **Free-Input-Option**: Farmers get inputs free of costs by donors, NGOs or Government. This option is, however, not sustainable and can only work in the short term. In addition, it further strengthens the 'receiving-attitude' of farmers. Experience shows that such attitude can only be changed with great difficulties later on
- **Subsidized-Input-Option**: Farmers get subsidized inputs. Part of the costs is paid by the farmers, part by donors, NGOs or Government. Subsidies could be paid to input traders as well so, from the point of free market trade, this option comes close to the Full-Cost-Recovery-Option.
- **Revolving-Fund-Option**: Farmers get the input on seasonal loan basis and have to repay in kind after the harvest (for crop inputs), either the same amount they received or more. The difficulty with this option is high administrative costs and storage costs/risks for the collected crops until the next rainy season
- **Full-Cost-Recovery-Option**: Farmers have to pay the market prices for inputs. This option is the most sustainable one under free-market-conditions. Commercial trade for

[8] MAF, 2010; RDPII, 2010

farm inputs will build up under free market conditions – provided Government issues the necessary licenses for the import (if not produced locally) and local trading of inputs

The Free-Input-Option and is presently the most preferred options by donors, NGOs and Government. Besides being not sustainable, this option has the following disadvantages:

- Input procurement and distribution puts a heavy burden on the administration of MAF-services and, therefore,
- Inputs often are delayed and wasted (as input used depends heavily on the rains)
- Inputs are often not accompanied by appropriate extension advice on how to use them and
- The Free-Input-Option is obviously not sustainable in the long run.

***A decision is needed by Government on future input supply policies for the different farm/livestock and off-farm enterprises.***

## 4.3 Staff Training Plans, Extension Session Outlines, Materials

The availability of extension recommendations and inputs alone not sufficient for farmers adopting improved practices. Both, extension recommendations and a clear input supply policy are rather the basis needed for knowing **what to tell and to deliver** to the farmers. The next question is to ask ourselves **how to transfer and discuss improved practices with farmers**. This question is even more difficult than the mere development of extension packages and input. It focuses on three questions, namely,

- how do we enable the AE to do proper extension works
- how do AEs transfer messages to farmers and discuss them with farmers,
- what kind of supporting materials is suitable and needed in addition to verbal direct communication and
- what are the specific details of appropriate demonstration to show advantages (and also disadvantages) of the particular agricultural extension package.

Package development means to develop and design all elements of a package. These are:

**Training Plans** guide trainers in training the AEs for their job. A training plan typically specifies

- The **topic** of the specific training (or training session)
- A **time schedule** specifying the different sequences of the training
- The **training activity** (e.g. warming-up, asking questions, seedbed qualities, discussions, etc.)
- The **methodology** of each sequence (e.g. lecture, discussion, group work, practical application, etc.)
- The **materials** needed for each sequence (e.g. paper, flipchart, felt pens, manual, background materials, leaflets, posters, life materials, inputs, etc.)
- Responsibilities (if the training is done by a trainer team with changing roles.

Annex 6b presents an example for a training overview for the maize package.

**Session Sheets** guide AEs during their target group events with farmers (farmers' training, group discussions, demonstrations, etc.). The headings of extension session sheets are the same as the headings of trainings (see Annex 6b). The difference is that the extension session sheets contain only the information which the farmers need. Background information which are only necessary for the AE to explain the details to the farmers, should not be contained in the extension session plans.

The **development of training plans and extension session sheets** is the task of the technicians from the relevant **National Technical Directorates**.

**Training/Extension Manuals** contain all information that trainers and AEs need to both, train and conduct extension sessions. These are technical recommendations, background materials to understand the rationale for technical recommendations, hints for the methodology of training and extension, etc. (see Annex 6c)

**Leaflets** are folded A4 sheets which are printed on both sides. Leaflets contain all relevant information – preferably in pictures (especially in communities with high illiteracy rates) and in the local language which must fulfil the following criteria:

- The message to be told has to be clearly and fully understood after having listened once to the extension worker during a session on the same topic
- Leaflets are meant to be handed out to each farmer participating in the respective extension event (farmers training, group discussion, demonstration, etc.).

Usually, there are several leaflets for a package, e.g. one for planting, weeding, irrigation, another one for pest control and a third one for processing and storage.

Draft leaflets have to be tested several times after training and re-designed if messages are not fully or clearly understood (or even miss-interpreted)

Leaflets should preferably be laminated so that rain cannot destroy them.

**Posters** are larger pictures (usually A1 or at least A2) which are placed at a prominent public place in a community, an Aldeia or Suco. Posters contain simple messages which have to be understood **without having attended an extension session beforehand**.

Not all extension topics are suitable to be propagated by posters as well. The simpler the message is, the more suitable are posters. More complicates topics often cannot be displayed simple enough for people to understand or not to miss-interpret. No poster is better than a poster which is not understood or – even worse – miss-interpreted.

Posters have to be tested several times after training and re-designed if messages are not fully or clearly understood (or even miss-interpreted)

Posters should preferably be laminated so that rain cannot destroy them.

**Radio and television spots** can support the spreading of messages as well. Radio and television spots are particularly suitable for spreading simple messages or information quickly and on a wider scale (e.g. price and market information). Radio and television spots are less suitable for more complex issues which would need accompanying extension **advisory services (for more details see Section 5.4).**

## 4.4 Design of On-Farm-Demonstrations

On-Farm-Demonstrations are one of the key methods used in group extension in Timor-Leste. Therefore, the AE also has to know how demonstrations should be made for each of the propagated crop packages.

Annexes 7/11 describe the design of On-Farm-Demonstration with an example (maize). Annex 8 gives first indications about the ranking of packages according to priority.

Annex 6 presents a design for the maize-package. The Technical Working Group working on package development in future (see Section 2.4.2) will design the on-farm-demonstrations for each package.

## 4.5 Supplementary Information

Besides the technical information (see Sections 4.1 to 4.4), the following information is important for the farmer as basis for deciding whether to adopt a package fully, partly or not a tall

### Economic Considerations

One of the most critical factors for the farmers deciding to adopt a package fully, partly or not at all, is the economic superiority of the package compared to his/her traditional practices. These are

- Information about prices of farm products and inputs over the year (fluctuation)
- Information about the economic profitability of a package (Gross-Margin-Calculation)
- Economic risks involved with the adoption of a package.

### Processing and Marketing Opportunities

With higher production and higher input use, farmers will more and more be dependent marketing (and processing) opportunities. Therefore, another decisive factor for decision making on adoption is the question whether markets for inputs and products are available and accessible (roads, transport) and at what cost

### Nutritional Considerations

Finally, nutritional information on crop and livestock produce becomes increasingly important as malnutrition in the country is still on high levels.

**References: Manual for Agricultural Extension , Bauer,** BMZ/GTZ, 2009, Vol I, Chapter 4 and Vol II, E13, F03, G04

## 4.6 On-Farm-Research/Trials

Sections 4.1 to 4.5 describe extension package development for extension recommendations which have been proven under farmers' condition. Further on-farm-research/trials are necessary and suitable for

- Innovations which, under research conditions in the country, have proven to be superior to traditional practices (but not yet under farmers' conditions)
- Innovations which have already found widespread adoption in other countries with similar conditions but may be or may not be suitable for the Timor-Leste farmers (e.g. rice varieties which found widespread adoption in e.g. Indonesia)
- Potential problem solutions from the situation analysis (see Section 3.1.1).

The objective of on-farm-trials is to **develop readily applicable technologies by using action research principles**. Farmers are given an active role in technology design and contribute their knowledge on local farming systems, equipment and practical skills while (extension workers and) researcher contribute their skills and knowledge.

### On-farm-research/trial approach

At the beginning, a promising technology has been identified – either **from problem analysis** on farmers level, **from research within the country or from other countries** – which is, however, not yet proven on farmers' level.

On-farm-research/trials is planned and conducted along the following steps:

- Farmers choose a potentially suitable innovation
- Farmers interested in doing on-farm-research/trials on their fields and on the selected topic, form an interest group (or start from an interest group which has been identified during situation analysis; see last Section)
- The interest group is trained by the extension workers in basic principles of on-farm-trials in order to allow transparent comparison to traditional practices later on
- The interest groups decides whether it is worthwhile to try the innovation or not
- The group is trained by the extension workers in basic principles of on-farm-trials in order to allow transparent comparison to traditional practices later on
- Field trials are carried out on proposed innovations on farmers' fields by farmers, supported by the extension worker (and potentially researchers)
- During critical stages, group discussions are held with the interest group and interim-results are discussed and analysed
- **In case of failure**, no further steps are foreseen. Trial results may go back to research stations for further research on the issue
- **In case of success**: Field days could be held at the on-farm-trial sites to demonstrated results also to other interested farmers. During the field day, crop cuts will be done to **demonstrate yields**.

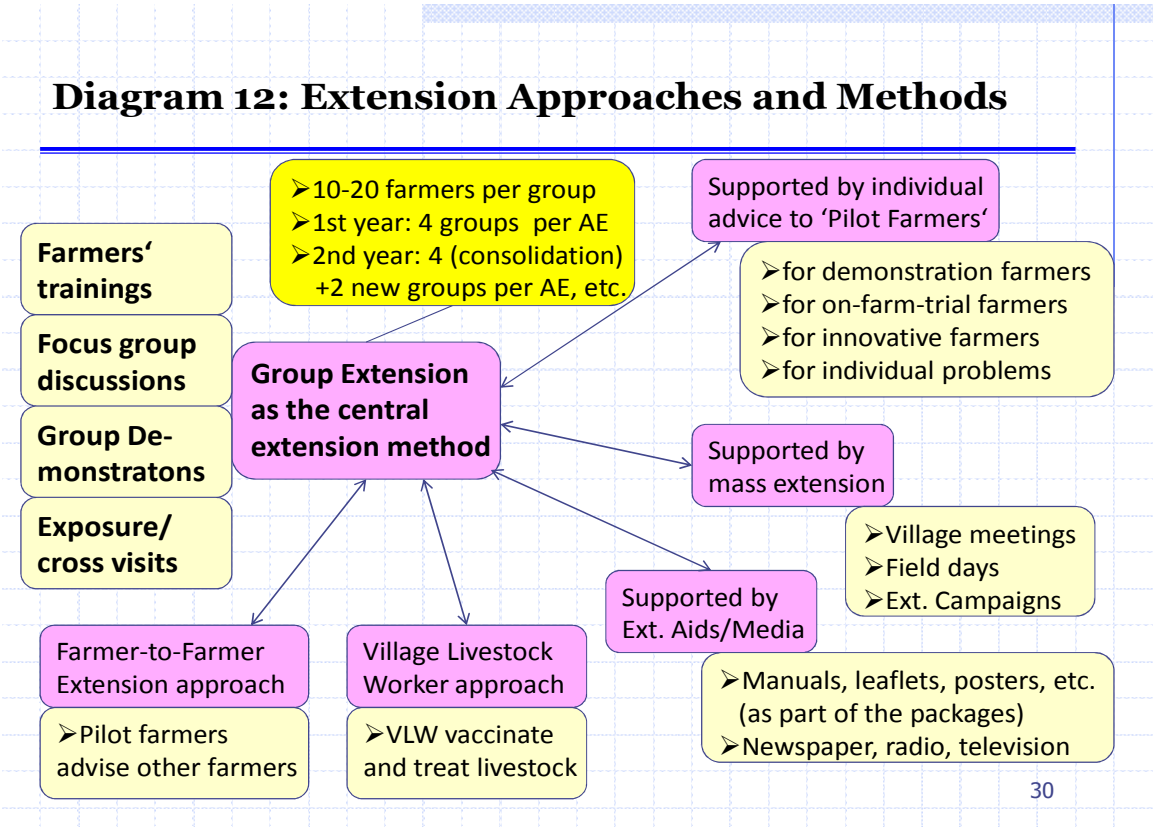
The basic principles of on-farm-research are as follows:

- Farmers themselves are the ‘owners’ of the trials and testing processes; farmers themselves decide whether to conduct the trials or not
- The on-farm-trials always have to be held under farmers’ conditions. That means only the variables to be tested have to be changed compared to the ‘normal’ way, nothing else in the environment (only such setting allows real comparison)
- Amongst interested farmers, there should be a variety of better-off and poorer farmer so all farmers during the discussions/field day can identify themselves with the results
- Farmers get free inputs for the trials as they take the risk of failure. In case the trial results in financial losses for the farmer going beyond losing the inputs alone, the farmer gets a compensation – if the loss is not his own fault
- In case of success, the farmer keeps his/her benefit as a compensation for his/her involvement and work.

# 5 Extension Approaches and Methods

**Extension approaches** are **principle ways of proceeding in extension** which need a particular set of extension management and organization as well as methods (e.g. the Public Funded Participatory Extension Approach, the Village-Livestock-Worker Approach, the planning of an Extension Campaign, etc.). This manual is basically building on a Public Funded Participatory Extension Approach. However, where important links to other approaches are seen (see above), such approaches are briefly mentioned as well. **Their design, however, would overstretch this manual and has to be done separately.**

**Extension methods** are **techniques of communication and interaction** between extension workers and farmers. In the Timor-Leste context, the following extension methods are proposed, as shown in Diagram 12:




- **Group extension methods** as the **principle and core agricultural extension methods in Timor-Leste** (Section 5.1)
- **Individual extension methods** to support individuals supplementary and in special cases only (Section 5.2)
- **Mass extension methods** to spread messages quickly to a large number of people (Section 5.3) and
- **Support** to all these extension methods **by appropriate extension aids and media** (Section 5.4).

The Farmer-to-Farmer extension approach (Section 5.5) and the Village-Livestock-Worker extension approach (Section 5.6) are only briefly addressed in the manual. Both approaches are important for Timor-Leste but **need special and additional design efforts (and probably separate manuals) which would overstretch this manual**. However, reference materials are given at the end of the Sections for the next design steps.

**References:** BMZ/GTZ, Vol I, Chapter 5 and Vol II, F10

## 5.1 Group Extension Methods

Group extension is certainly the **most important and common extension method** for advising and promoting the interests of larger groups of farmers, not only **in Timor-Leste**, but in most of other extension services as well. Group extension is suitable for the **spreading of proven**

**technologies** but also to some extent for intensive talks about **problem solving** and **testing nAE practices**. Annex 8 presents the basics about groups and group processes.

The advantages of advising groups of farmers and not one farmer alone are obvious:

- A **larger number of farmers can be reached** simultaneously, thus time and costs per farmer is less than with individual extension
- Group extension permits **more participation by the participants** and exchange of experience between participants. Experiences made by the farmers themselves are usually more convincing than experiences told by the AE
- Techniques of group dynamics can be used to **accelerate the speed of information dissemination** and increase the willingness of farmers to make group decisions.

However, group extension demands considerably more didactical skills from the AE than individual extension. The AE has to be more confident about the session outline and contents, he/she needs sound knowledge on group dynamics and he/she needs to know the rules for group formation and selection of group members. Badly selected group composition will not result in effective results of group extension.

**References**: BMZ/GTZ, Vol I, Section 5.2 and Vol II, F10

**Picture 3: Extension session/event**

### 5.1.1 Gender Specific Selection of Farmers for Extension Groups

The selection of group members is crucial for targeting people as for agricultural extension work. Selection procedures have to be gender specific to **assure that female farmers and young farmers get equal access** to agricultural extension services.

The following criteria should be used for the **selection of members of extension groups:**

- Farmers selected for extension groups should be farmers
  - who are in the **productive age** (17 to 55) with **special focus on younger farmers and female farmers**

  - who are **respected** in the village and
  - who are **interested in the subject in question**
  - who have at least **reasonable/average development potential in the agricultural enterprise in question (**e.g. irrigated land if we talk about rice farming, etc.**)**
- **Very resource-poor farmers** (e.g. no access to arable land, no productive labour force, etc.) with little or no development potential in agricultural production should **not be included in agricultural extension groups** but supported with other means (e.g. small enterprises like petty shops, etc.)
- **Very resource-rich farmers**, who have already reached high productivity with own means (e.g. inputs, etc.) should also **not be in agricultural extension groups.** They are no examples for the farmer with average agricultural development potential.

In principle

- only **one person of each family** should be group member (to be cancelled)
- farmers should be encouraged to register both – husband and wife – when the work in the field is done by both
- At least 30% of the group member should be **women,** if the socio-economic situation allows (such a combination)
- women headed households should get preferred access to groups and
- there can also be **pure women groups**.

Concerning the **number of groups per extension worker**, the following guidelines are in place

- As a guideline, an AEs should **support 4 groups** during the first year (1 working day per group per week)
- During the second year he/she should consolidate the four 'old' and form 2 new groups
- Etc. for the following years

At present, the AEs sometimes have already a **huge number of farmers groups** from earlier extension efforts. It is proposed that these groups consolidated are further advised on a somehow low profile.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.2 and Vol II, C11, D18, E1

### 5.1.2. Leadership in Extension Groups

Each group should elect a group leader, a secretary and a treasurer with the following functions:

**Group leader** (could be at the same time a pilot farmer, see Section 5.2 and Annex 10)

- Act as the official link between the group and the AE
- Link the group with other actors (e.g. input supply, processing, marketing, etc.)
- Inform group members about meeting dates and organize group meetings
- Motivate group members to participate in the extension sessions

- Address internal conflicts within the group and
- Facilitates the selection of demonstration farmers, with the assistance of the AE and
- Controls the financial administration and approves expenses.

**Secretary**

- Manages administrative issues of the group (registration for input supply, prepare list of participants for extension events, prepares the minutes of meetings, keep group files, etc.)
- Prepares project proposals to other actors (e.g. NGOs, etc.), with the assistance of the AE
- Keeps group equipment (e.g. manual weeder, sprayer, etc.).

**Treasurer**

- Collects and accounts for membership fees
- Accounts for group credits
- Reports about the financial status and progress to group members.

### 5.1.3 Farmer Trainings and Discussions in Groups

Farmer trainings and discussions in groups during extension sessions are an appropriate method for **conveying technical messages** to a group interested in these messages and for **discussing problems or issues of interest**. Such group sessions are **also suitable for formal trainings**.

The following **rules and procedures** should be kept in mind **for group extension sessions**:

- Group sessions have **to be prepared very carefully** in terms of contents and methods but also in terms of potential group dynamics. This applies particularly to the availability of communication materials like blackboards, flipcharts or other materials where the group can focus attention
- Group events need a **clear agenda**, so that everybody knows the topics to be dealt with during the session
- If group events are used to **disseminate a package** (either for extension or training), it is important to have **clear messages**, **clear input supply regulations**, **clear session outlines** and necessary **extension aids** at hand (see Chapter 4)
- The AE has **several functions during group events**: he/she conveys messages, he/she facilitates discussions and he/she handles group dynamic (he assures particularly that quiet participants are encouraged to speak as well).

Annex 11 presents Guidelines for Farmers' Training and Discussions in Groups.

### 5.1.4 On-Farm-Demonstrations

Demonstrations on improved practices are very powerful in **convincing farmers of the superiority of improved practices**; they see with their own eyes and are not told only. Demonstrations should only be made for practices **which proved their superiority** over

conventional practices for a large number of farmers. If that is not the case, the practices have further to be tested until extension and research are fairly well convinced that the recommended practices will not fail.

Annex 6 presents an example design of On-Farm-Demonstrations for the maize package; Annex 10 presents further details on On-Farm-Demonstrations in general.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.2.2.3/5.2.2.4 and Vol II, C6, E6

**Picture 4 and 5: Demonstration plot and a farmers group**

### 5.1.5 Cross-visits

During cross visits, a group of farmers travels to another location to observe agricultural practices, projects or demonstrations that are not available locally. The purpose of a cross-visit is:

- To provide first-hand observation of practices that might be of benefits to the visiting farmers
- To enable the group to interact with individuals' knowledgeable about the practices and
- To present a fresh and different learning environment for both the extension worker and the farmers.

Exposure visits have proven to be very powerful for innovative practices which have worked very well in other areas but are still unknown to farmers in the target area.

Before exposure visits are planned, it should be checked whether the socio-economic and natural conditions in the exposure site are similar to that in the target area. If that is not the case, successful innovations in the exposure site could be a complete failure in the target area.

Annex 11 presents guidelines for Cross-Visits.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.2.2.4

## 5.2 Individual Extension for 'Pilot Farmers' and for Individual Problems

Individual extension is an extension method to be used **supplementary to group extension** only. Individual extension is the most expensive and time consuming form of extension. Individual extension talks with farmers or individual advice to farmers will be limited to occasions:

**Individual farmers – 'Pilot Farmers' have an outstanding role to play in extension** (and research), e.g.

- Farmers selected for **on-farm-demonstrations** (see Annex 6)
- **Innovative farmers** who are willing to try out technologies (**On-farm-trials;** for details see Annex ). This is the case when **unproven technologies with a high risk of failure are to be tested the first time**. In this case it is best to **choose one farmer only** with high trust in the extension worker and who is capable to fully grasp the idea and understands the risks as well. If the trial fails, **the farmer has to be compensated for his losses**.
- **Innovative farmers** with the potential to become **leaders for the farmer-to-farmer extension approach** (see Section 5.5)

Farmers who receive individual extension advice in addition to group extension are called '**Pilot Farmers'**. These farmers play an important role for trying and demonstrating improved farm practices and have also the potential to advise other farmers (farmer-to-farmer approach).

Criteria for selecting pilot farmers are presented in Annex 12.

Individual extension advice is also given

- to **farmers who have an individual problem** which nobody else has and which is of no relevance to others and or
- **to farmers who have a problem which cannot be discussed in public**.

In these cases, there is no other option than talking to the farmer on an individual basis. Understanding difficult and individual problems becomes easier when the farmers is addressed and respected as an individual.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.1 and Vol II, E5, F9

**Picture 6: An individual advice-situation**

## 5.3 Mass Extension

Extension methods for a **larger public** (**mass extension**) are most suitable for **fast and wide-spread transfer of easily understandable information and proven messages.** They are not suitable for extension packages which cannot be understand without intensive discussions, questions and feedback from farmers.

The advantages of mass extension are obvious:

- They **reach a larger public** and are **highly cost-efficient** in terms of costs per reached farmer
- They can **re-enforce points already introduced** during group and individual extension processes
- They can **convey messages on emergencies** like outbreaks of endemic diseases (e.g. grass hopper, grain borer, etc.) and therefore make a larger public aware of such outbreaks in a very short time.

The most common mass extension methods are village meetings (Section 5.3.1), field days (Section 5.3.2) and extension campaigns (Section 5.3.3).

**References**: BMZ/GTZ, 2009, Vol I, Section 5.3

### 5.3.1 Village meetings

Village meetings will be used for spreading a message **relevant for the whole or large parts of a village**. Village meetings are used for the following purposes:

- To inform the village about a **topic of interest to all or most of the villagers** e.g. about an outbreak of disease and consequent emergency measures
- To **inform the village about a village event** like Participatory Situation Analysis or a Government Crop Program and to agree with the village population on timing and overall principle procedures of village events

- To **inform the village about the results** of village research, Participatory Situation Analysis, etc. and get feedback from the whole village.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.3.1

**Picture 7: Large village meeting**

### 5.3.2 Field days

Field days will be used to show improved production techniques being used by one or more farmers, demonstration plots or research stations, to a large number of farmers. Field days are a very **powerful extension method to share concrete results of extension work** like the results of demonstrations in terms of superior cropping practices, yields and other results of extension. Field days are usually carried out **during critical stages** of the vegetation period in order to show as many results as possible, **particularly the yields** resulting from improved cropping practices.

**Picture 8: Farmers field day (FFD)**

Guidelines for the planning and conduct of field days are presented in Annex 13.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.3.2 and Vol II E8

### 5.3.3 Extension campaigns

Extension campaigns are suitable to **spread a central message to a larger number of farmers**. The objective is to propagate this central message as quickly as possible to as many farmers as possible via mass meetings and the use of all available media (see also next point). Campaigns are particularly suitable for implementing pronounced policy objectives (e.g. the policy of **self-sufficiency in rice in Timor-Leste**. Therefore, campaigns have been conducted in **Timor-Leste** during the last years mainly on the intensification of (mechanized) **rice production)**.

The advantages of extension campaigns are as follows:

- Campaigns **make the farmer aware of existing programs** supported by Government (or others), usually with subsidized inputs (as is the case in Timor-Leste with mechanization, seeds and fertilizer for the rice campaigns)
- Campaigns **give clear and simple messages** which do not need strong backing by group extension (however, many campaigns need follow- up on a group extension basis).

Extension Campaigns need thorough and specific planning, organization, implementation and monitoring. **To outline the design of an extension campaign would over-stretch this manual and needs a separate manual**.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.3.5 and Vol II D10, F11

## 5.4 Extension through Media

Media for extension (newspaper, radio, television, etc.) are written, spoken or visual messages or information transmitted region- or country-wide to everybody who reads newspapers, listens to radio or watches television. The use of all media is particularly effective when messages are repeated which have been disseminated by individual or group extension methods.

Timor-Leste has a recent history in the use of media for extension. The Communication Department of the DNADCA has produced and delivered weekly radio messages country-wide on agricultural topics. Also, there are regional weekly radio messages (e.g. in Covalima). In addition, some of the donor funded programs have also used community radio. The methodology of most of these radio-spots is questions-of-farmers which receive answers-by-experts.

Limited use has, until now, been made of media for systematically spreading extension messages. As soon as priority extension packages (see Chapter 4) have been tailored and campaigns been planned (see Section 5.5), the supporting use of media for spreading messages can be planned.

Capacity building measures are probably necessary in the Department of Communication as part of the DNADCA for such purposes.

**References**: BMZ/GTZ, 2009, Vol I, Chapter 6 and Vol II, E13, F3

## 5.5 Farmer-to-Farmer Extension

The Farmer-to-Farmer Extension Approach is an innovative approach where innovative farmers lead the extension process. **In Timor-Leste, it is probably too early to really embark on this approach** until the minimum extension effectiveness has been reached with the regular MAF-extension services. However, the following considerations **give a few first ideas on this approach.**

Skilled and successful farmers with a high reputation in a village have a high potential to transfer their skills and knowledge to fellow farmers in the village or the area for the following reasons:

- Contrary to the AE they have practically proven on the ground that they perform farming better than the average and they can show results to the other farmers
- They are always present in the village and available for anytime-advise and services, therefore, can be more efficient and effective than from an AE even if the AE comes frequently and
- Services are cost-efficient as farmers do not depend fully on payment for their advisory services due to their income own agricultural activities.

That is the reason why Government and Non-Government extension services increasingly train and coach innovative, skilled and successful farmers with a high reputation in the village as extension promoters in the village.

Farmer-to-Farmer extension will also be a major extension method within the National Agricultural Extension Strategy.

Innovative, skilled and successful farmers with a high reputation in the village who are willing to serve as farmer promoter in the village will

- Receive preferential treatment in terms of training and involvement in demonstrations and field days
- Receive individual extension methodology advise and training necessary to work as advisor to other farmers in the village and the area
- Be encouraged to give extension advise to other farmers and to act as demonstration farmer
- Receive equipment and materials needed for farmer-to-farmer extension work and
- Will get additional coaching support during the initial stages as farmer promoter.

Before the implementation manual will be developed, international experiences with the farmer-to-farmer approach will be analysed in order to learn from experiences and not to make the same mistakes again.

**References**: BMZ/GTZ, 2009, Vol II, A14

## 5.6 The Village Livestock Worker Approach

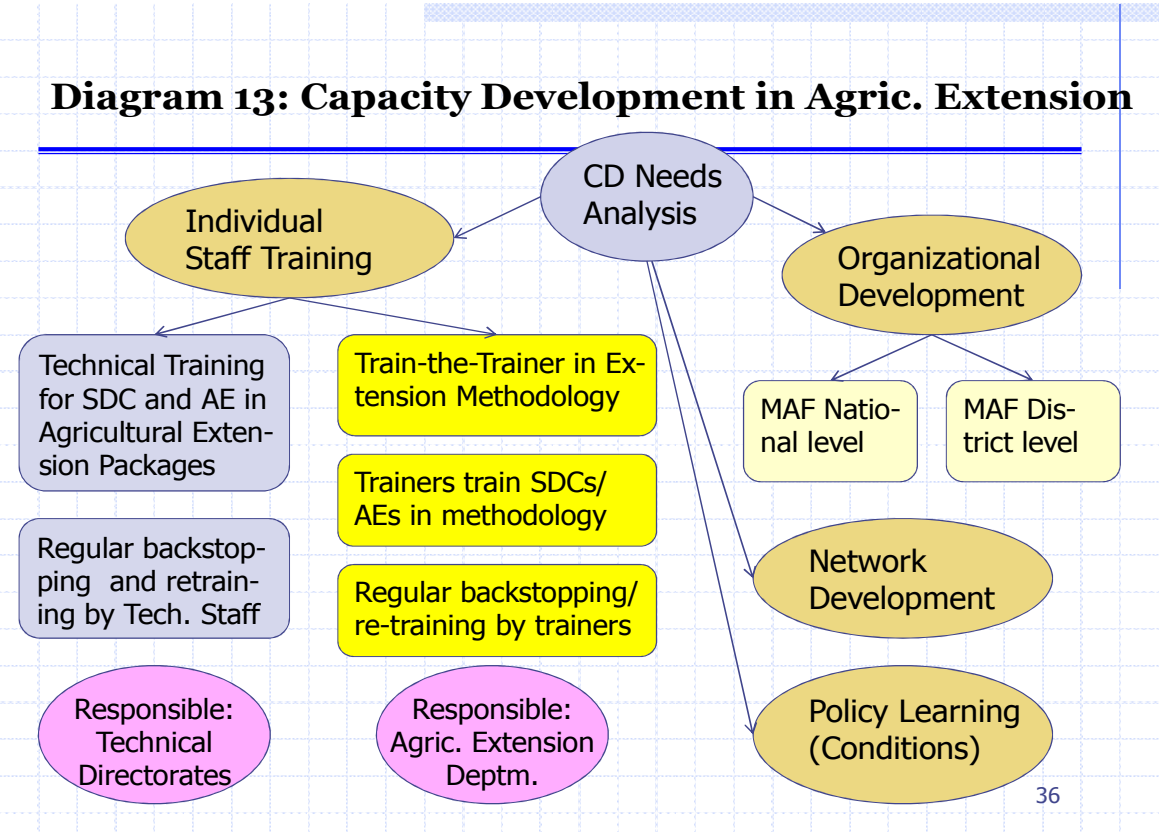
Private Veterinary Services through Village Livestock Workers (VLW) have emerged in different countries and also tried out previously in Timor-Leste by ARPIII and supported presently by RDPIII in Manufahi and FAO on the national level. Experiences are promising compared to Governmental Veterinary Services. The Agricultural Extension Strategy in Timor-Leste will adopt the following approach:

- Experiences with Private Veterinary Services in Timor-Leste (ARPIII-Evaluation Report) indicate that there is a potential for such services also in Timor-Leste. These experiences in Timor-Leste and experiences worldwide will be analysed in view of the situation in Timor-Leste. If proven promising for Timor-Leste,
- VLWs get basic training in delivering these services (primarily curative measures and vaccinations, but also general animal keeping knowledge) based on a fixed curriculum. Ideally MAF will issue a license after successful training, to assure the minimum quality standard of services. Regular re-training is intended as well
- VLWs receive a basic starter kit of equipment and drugs which they have to replace by themselves in the midterm advancement of the process. Their area of operation is their respective village, but can sometimes reach to neighbouring villages as well. Under ARP III 421 VLWs (1 VLW per Suco) were trained for 2 weeks, but the content and quality of the training is not documented.
- The basic training should include aspects of record keeping about his/her activities on treatments and occurrence of diseases, and success of treatments.
- Payment scales should be standardized as far as possible in order to avoid exploitation. The payments should cover the costs of equipment, transportation and drugs plus a fee, which should give the VLW a reasonable income.

# 6 Capacity Development in Agricultural Extension

There is no doubt that **Capacity Development in all aspects and on all levels is the key for an effective planning and implementation of the agricultural extension system** in Timor-Leste in the long run. Section 6.1 outlines necessary fields and activities concerning Capacity Development and Section 6.2 points at the present Capacity Development Responsibilities in Timor-Leste.

Diagram 13 gives an overview of the different levels of capacity development for agricultural extension in Timor-Leste.




**References**: BMZ/GTZ, 2009, Vol I, Chapter 8

## 6.1 Capacity Development Planning

As a crucial step a **Capacity Development Plan** will be elaborated (Section 6.1.1). However, in the meantime CD measures could start in field where the deficiencies are obvious even in the absence of such an analysis. Sections 6.1.2 to 6.1.5 describe such obvious CD measures.

Appropriate extension packages (Chapter 4) and participatory extension methods (Chapter 5) will have no impact if extension workers do neither know the **techniques to be disseminated** nor the **methodology for advising farmers in an appropriate manner (individual training;** this aspect is dealt with in Section 6.1.2).

Even if staff is trained in technical and extension methodological skills, the management of extension on national district level **will not work automatically if organizational aspects are**

**not addressed adequately** (**organizational development**; this aspect is dealt with in Section 6.1.3).

Also, the **cooperation mechanisms proposed** (Section 2.4) **will also not work** unless extension personnel **does not know adequate mechanisms for networking with relevant cooperation partners (network development;** this aspect is dealt with in Section 6.1.4).

And finally, the present **policy/national frame conditions** for agricultural extension (Chapters 2, 3, and 7) will only improve if policy makers will recognize the **importance of conducive frame conditions for agricultural extension work (Policy Learning;** this aspect is dealt with in Section 6.1.5).

### 6.1.1 Capacity Development (CD) Needs Analysis and CD-Plan

With its Core Function Analysis (CFA), the MAF has made a substantive effort to clarify roles and functions of different level officer and to define the needed **qualifications needed for the different staff positions** and corresponding **job descriptions** (see Sections 2.1.2 and 2.2).

Also, actual qualifications of staff at all levels are assessed annually by their superiors. However, this is not done very systematically and should be improved.

MAF will,

- More systematically analyse the results of the CFA by more clearly specifying the required capacities and capabilities of the different staff categories
- Conduct an annual staff assessment for all staff by comparing the qualities needed for a job with the qualifications of the respective staff and
- Develop a staff Capacity Development plan for all levels of staff, based on such staff assessment.

### 6.1.2 Individual Capacity Development in Extension

During 2009, the following Capacity Development measures were conducted by the MAF:

- Most of the 400 AEs received a one-month Pre-service training covering all major aspects of farming and livestock production
- Most AEs in the 6 districts covered by RDP and RDPII (Bobonaro, Covalima, Baucau, Viqueque, Lospalos and Manatuto) got specific training in technical aspects on ICM/SRI, animal health and organic pesticides and fertilizer
- 20 AEs have been trained for one week in extension methodologies (with some follow-up for all AEs in Covalima and Bobonaro districts)
- 23 AEs got extension management and methodology training in Thailand for 3 months
- 50% of the AEs in Covalima and Bobonaro get Logical Framework training
- AEs from Baucau, Viqueque, Manatuto, Lospalos was done on the Job training on Extension Methodology such as Individual, Group Extension, Mass extension like Farmer Field School, Farmers Field Day and Demonstration.

All these CD efforts were not done on a systematic CD needs assessment but rather were offered by donor funded projects. No systematic VD approach has been applied so CD so far.

Therefore, a **CD-strategy will be worked** out and officers on all levels will receive training and other CD measures.

The methodology to be followed is described for **Agricultural Extension Contents (Packages) Training** and for **Agricultural Extension Methodology Training**.

Annex 14 presents hints for training courses.

**References**: BMZ/GTZ, 2009, Vol I, Section 8.4.1

**Picture 9: Training course**

**Training on Agricultural Extension Contents (Packages)**

After technical extension packages have been fully developed (which means: the **technical recommendations** are clear, the **input policy** is clear, the **training outlines and extension sessions sheets** are available, supporting **extension aids are produced** and **demonstrations are designe**d; see Chapter 4)

- A sufficient number of **Technical Officers on national and district will be trained as trainers in a set of priority extension package** (e.g. crop production, animal production, processing, etc.) by technical experts either from the MAF or from an NGO **with experience in the chosen package or set of packages**
- These Technical Officers will, in turn, conduct trainings in the districts and **train all AEs and SDAECs in the relevant technical extension packages** along session plans
- The Technical Officers will follow-up extension work in the field in his/her subject matter as need arises (mentoring and supervision)

The group of new trainers (trained Technical Officers) for each extension package will also **include six lecturers, two from each of the three agricultural schools**. These lectures are then supposed to develop curricula for the respective extension package for new recruits and re-training for existing staff at the training schools.

**Training on Agricultural Extension Methodology**

All AEs and SDAECs will certainly need basic methodological skills in the main extension methods to be applied (see Chapter 5). Such skill will be created by the following way:

- A **number of Tetum-speaking trainers with high training skills** (**15 to 20**) will be trained as trainers (or Technical Officers in extension methodologies) in principle procedures of participatory extension and particularly in the extension methods to be applied (see Chapters 5)
- These future trainers should **preferably come from within the MAF (DNADCA)**, so that the MAF can guarantee their availability as trainers in the near future at least to some extent. Most of these trainers would come from the group of **Chiefs of Extension Department in district level**
- The group of future trainers will also **include six lecturers, two from each of the three agricultural schools**. These lectures are then supposed to develop curricula for extension methodology training for new recruits and re-training for existing staff at the training schools
- The **trainer-trainers for the train-to-trainer exercises will be expatriates**, preferably Bahasa or Tetum speakers. When contracting these master trainers, it is of high importance
    - to **specify the training requirements in the Terms of Reference**. Both, **training contents and methodology should, very closely, be linked to the approaches and methods proposed in the extension manual**. What should **be avoided**, by all means, is **to employ trainer-trainers with a top-down training approach** and **having only the Training & Visit (T&V) extension approach in their minds**[9]
    - This should include the development of training manuals (including training curriculum, training evaluations and systems for retraining and monitoring of training efforts)
- The master trainers would
    - Develop a training curriculum and manual
    - **firstly design a basic methodology course (which will carefully be counter-checked by the DNADCA)**
    - **give basic training to the future trainers** and **supervise them during their first trainings for AEs and ECs** in the field until the AE trainers can run the trainings for AEs and ECs by themselves
- The **AE trainers will train all SDAECs and AEs in extension methodology and supervise/follow-up** AEs and SDAECs during their field work.

It should be clear that a **one-shot training is not sufficient for all extension methods to be applied**. During the first year, the focus will be on **participatory extension in general** (including Participatory Situation Analysis) and **group extension** (including demonstrations) and **technical training in a few priority packages** (from the farmers' point of view) because these methods very likely will be the key methods in extension. Consecutive train-the-trainer courses and training courses would follow **later when basic methods are firmly settled and applied fairly effectively**. These will then focus on additional training methods and contents and on the farmer-to-farmer approach etc.

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[9] It is obvious that **this danger is particularly high when Indonesian trainer-trainers** will be used for this purpose **due to their long history with top-down extension and the T&V approach**

The group of AE trainers could potentially also lect**urers from the Agricultural Technical Schools and/or** from the **Agricultural Faculty of Timor-Leste**.

### 6.1.3 Organizational Development on National and District Level

MAF internal Management & Coordination at National and District levels is one of the weakest points of the present agricultural extension setup in Timor-Leste. MAF will concentrate in the short term on the following organizational development measures:

- **Decentralization efforts** to the district level will be supported within the upcoming decentralization in the agriculture sector with the establishment of Municipalities in 2014
- **Central level**: The mandates of the different Directorates within the MAF and the Departments within the DNADCA will be clarified and rules and regulations for coordination and cooperation between and inside Directorates will be clarified
- **District level**: Cooperation and communication requirements between extension and Subject Matter Specialists as well as the responsibilities for monitoring and supporting the sub-district and Suco-level, will be clearly clarified.

During the years to come, **management training measures** will be conducted with senior staff (Chief of Extension Department, other Department Heads on District level, MAF District Directors, Chief of Departments on national level, Directors on national level).

Additional organizational development efforts would have to be clarified during the Capacity Development Needs Assessment (Section 6.1).

### 6.1.4 Network Development for Agricultural Extension

Section 2.4 proposes procedures for cooperation and coordination of agricultural extension activities on all levels. At the moment, such necessary cooperation and coordination is not taking place sufficiently. Actors in agricultural extension on all levels obviously tend to design agricultural extension activities independent from each other, on national as well as on district, sub-district and Suco levels.

The meeting systems on national and district level (Section 2.3) address this problem only partly: still, donors, NGOs and MAF develop their separate forms for planning and monitoring of extension activities, input policies are not coordinated, extension materials are developed independently from each other, different extension approaches and methodologies are designed and used, etc. Such diversity is welcome if it targets at trying out different approaches, methods etc. In the case of Timor-Leste, the reason for limited cooperation and coordination is different: MAF is **not yet prepared to take the lead in coordinating such activities by networking with other agricultural extension actors** on all levels.

A CD strategy for network development will be worked out and presented during the next **Annual Forum for Extension Planning and Implementation** (Section 2.3.1).

### 6.1.5 Policy Learning

Policy/decision makers in Timor-Leste need to be made aware of the **contradictions inherent in the present extension system** in Timor-Leste (Section 2.1 and Chapter 7). Awareness creation with policy/decision makers will be the task of policy advisors within the MAF, central

level. The next **Annual Forum for Extension Planning and Implementation** (Section 2.3.1) could be used for announcing consequent policy changes.

## 6.2 Capacity Development Responsibilities in Timor-Leste

Section 6.2.1 describes the role of the Agricultural Technical Schools for Capacity Development in Agricultural Extension, Section 6.2.2 the role of the Extension/Technical Directorates on national level and Section 6.2.3 the role of the Extension/Technical Officers at the district level.

### 6.2.1 Agricultural Technical Schools in Extension Capacity Development

The Agriculture Technical Schools are vital for **basic agricultural training** of extension staff on all levels. With a publicly delivered participatory agricultural extension strategy emerging, **the need for CD**, particularly **in extension methods and participatory procedures increases tremendously.**

The Agriculture Technical School, besides their traditional role of technical training in agricultural practices, will play the major role in creating the extension skills necessary for applying such methods and procedures (see also Section 6.2).

The following steps are foreseen under RDP IV towards meeting the emerging CD requirements with the new extension strategy

- **Analyse the capacities and capabilities** of the Agriculture Schools, particularly with respect to training skills in extension methodology and participatory approaches
- **Clarify the mandate, roles and responsibilities** of the schools with respect to the upcoming additional needs with the emerging participatory extension strategy
- **Clarify the mandate, roles and responsibilities** of the school for station- and adaptive research in the research field attached to the schools
- Agree on roles and functions of the schools in future and
- To upgrade, the skills of lecturers as well as the teaching infrastructure and equipment, and to certify the offered courses under Timor-Leste regulations.

### 6.2.2 Role of Technical Officers in Extension Capacity Development

Functions, Roles, Responsibilities, Job Descriptions on national level are not yet available (only the function of the Directorate for Animal Husbandry and Health is available, Section 2.2.1)

The results of the Core Function Analysis (CFA) reveal that the National Directorate for Animal Husbandry and Health does not have functions related to

- The development of **technical extension packages**
- **Technical training** of the district level Technical Officers and
- **Technical backstopping** on district, sub-district and Suco level in case of emergent problems **which cannot be solved on district level**.

If that is the case for all National Directorates the job descriptions of Technical Officers from the National Directorates need to be corrected and

***above functions have to become their core functions-***

***the further CFA-steps need to address this issue urgently in RDPIV steering committee meeting.***

Their present main task of planning and implementing national programs, in addition to the district level programs (partly without involvement of the MAF district setup) should be revised.

Functions, Roles, Responsibilities, Job Descriptions on district level are not yet available

Like the national level, the Technical Officers' main functions on district level should be training AEs and SDAECs in technical matters.

### 6.2.3 Role of the Extension Departments for Extension Capacity Development

While the Senior Extension Officer (SEO, district level) has the clear task of training AEs and SDAECs in questions relevant to agricultural extension (Section 2.1.2), the National Chief of Extension's job description and function to promote training for SEOs in extension methodology. This question needs follow-up and clarification.

## 6.3 Monitoring of Capacity Development in Agricultural Extension

**References**: BMZ/GTZ, 2009, Vol II E12

# 7 Preconditions for Successful Extension Work

The envisaged participatory agricultural extension system in Timor-Leste can only be successful if the present strong Bottom-Up planning system is gradually giving way to a more Bottom-Up planning system (Section 7.1) and the personnel policy in MAF becomes conducive for participatory extension (Section 7.2).

## 7.1 Decentralization and Bottom-Up Extension

At the moment, the main agricultural extension functions are on equipment/inputs supply and the management of machinery/distribution of inputs. Such focus is a consequence of centralized decision making on agricultural programs and Top-Down Planning. This Top-Down Planning is connected with the following realities on district level and below:

a) By far the biggest part of the budget for field activities is allocated to national and top-down planning and implemented programs

b) As a consequence, the emerging participatory extension system is far from being funded and equipped sufficiently for the AEs and the SDAECs to do a proper extension job (for details see Section 7.2)

c) The national directorates are mainly busy with planning and implementing national programs thus having little time to support the district level agricultural extension setup with package development, technical capacity building and technical backstopping

d) In addition, the technical capacities of the national Directorates for package development, technical training and backstopping, have eroded over the years

e) Finally, there is little cooperation and coordination between the national Directorates for services delivery to the district setup

f) As a consequence of c), AEs/SDAECs are mainly occupied with managing input supply and distributions as well as managing other services (e.g. the tractor ploughing services)

g) As a consequence from b (under-funding), c,d,e (lack of professional support and coordination from the national level) and f (overburdening AEs and SDAECs with national implementation tasks), there is little room and capacity to plan and implement the emerging participatory agricultural extension system.

There is the strong need for lobbying with decision makers on national level to change such frame conditions to be more conducive for the emerging participatory agricultural extension system in Timor-Leste. Particular topics for such lobbying are as follows:

**Shift of focus from Top-Down to Bottom-Up Planning and Implementation of Agricultural Extension Programs**

With decentralization, there needs to be a gradual shift in agricultural extension from Top-Down Planning to Bottom-Up Planning and from input supply and services delivery to the transfer of agricultural knowledge and skills and advice for problem solving to farmers (for illustration see Sections 2.1.3 and Diagram 6).

Such a shift should go 'hand-in-hand' with the **gradual reduction of Government involvement in inputs supply and the provision of e.g. mechanical services of the 'free-input/services supply policy'** of the Government and donor-funded agricultural programs alike. The present system is not sustainable in the long terms and increases the already existing 'receiving mentality of farmers'.

**Changing Roles of National Technical Directorates and District Technical Department**

At the moment, the National District Directorates see their main functions in regulatory tasks and in implementing National Programs in the districts. Similarly, the officers of the District Technical Departments are more inclined to assist the National level in implementing national level programs than assisting the district extension set-up. This has to change as follows:

- Both, the National Technical Directorates as well as the District Technical Departments have to see their main role in preparing technical extension contents for the AEs/SDAECs (packages), training them in the dissemination of these packages and provide technical backstopping in the field whenever necessary
- The interference from the National level into district extension activities has to phase out gradually.

**Allocation of sufficient budget for the participatory extension system**

The emerging participatory extension system can only work effectively and efficiently if the necessary funding of investment, equipment and running costs is secured. At the moment this is not the case: equipment and budgets are delayed or cancelled partially or totally.

The minimum allocation of secure funding should guarantee that

- The **District Office and the Extension Centres are appropriately equipped** to allow management of the district setup (buildings, equipment, access to electricity and internet, etc.)

- AEs, SDAECs and supervisory staff from the district and national level **can follow the envisaged schedules** (see Section 2.2.1 and Diagram 7). This means the provision of transport facilities and budgets for running costs and operation & maintenance
- AEs, SDAECs and supervisors staff from the district and national level have the necessary **equipment for doing their job throughout the year** (e.g. rain gear, rubber boots, etc.)
- AECs and SDAECs have the **necessary budget and equipment for their agricultural extension duties** (budget and inputs for extension events and demonstrations, extension materials like manuals, leaflets and posters for their packages, etc.)
- **Appropriate housing** is assured for extension staff on all levels.

A more detailed list of necessary budget/equipment/materials, etc. is presented in Annex 15.

### 7.2 Personnel Policy in MAF

During the employment of MAF field staff, mainly AEs/SDAECs were posted to Sucos/Aldeias where they originally come from. The advantages are obvious: Staff has housing there, knows the situation very well and is known to the villagers.

3 years after recruitment, the vast majority of the AEs/SDAECs have been re-posted to other villages with the following consequences:

- Many of the AEs/SDAECs do not have a house but either stay in a room or travel every day between the sub-district headquarter and their Suco. This causes higher traveling costs as anticipated and also less frequent visits to target villages
- Many of the AEs/SDAECs have to start again in building up trust with the villagers and knowledge about the local situation.

The reasons for frequent reposting are not fully clear.

It is necessary to lobby for longer term deployment of AEs/VDCs in the same village for the following reasons:

- The AEs/SDAECs build up **knowledge about their village** with its resources, constraints, social strata, etc.
- The AEs/SDAECs **build up relationships and trust** with villagers so important for participatory extension work
- The AEs/SDAECs **can have own demonstration plots near their houses** (he will not do that if he runs the danger to be shifted soon).

## References

#### Basic references

#### BMZ/GIZ, 2009: Rural Extension, Volume I, Volume II and Volume III

The BMZ/GTZ Manual for Rural Extension (see above) is used as the basic reference document for this manual. Reference is made in the different Chapters and Sections of the manual to the BMZ/GTZ manual whenever appropriate.

**Bangladesh, 1999: Agricultural Extension Manual**

The Bangladesh Agricultural Extension Manual is another manual which can be used as reference document for agricultural extension.

***Both manuals should be made available as soon as possible in each MAF district Directorate and in each MAF National Technical Directorate*.**

**Supplementary references for Package Development**

MAF, 2010: Proceedings of the National Workshop on Sharing Food Security Good Practices in Timor-Leste

MAF/Food Security Unit, 2010: Technical Guide on Crop Storage for Maize, Rice and Beans

MAF/Oxfam, 2004: Study on Lessons Learnt in Implementing Community Level Agriculture and Natural Resource Management Projects in Timor-Leste

Oxfam/Concern/Care, 2008: Post-Harvest Storage Support to Communities Technology and Strategy Review. Proceedings

Permatil, 2005: A Permaculture Guidebook for East Timor

RDPII, 2010: Good Practices

UNTL/Oxfam, 2006: Maize Production and Storage in Timor-Leste. A report on research conducted by the Department of Agronomy National University of Timor Lorosa'e

**Supplementary references for Extension Campaigns**

Bauer Extension, 2007: Design of an Extension Campaign in Jordan

Adhikarya, 1994: Strategic Extension Campaign: A Participatory-Oriented Method of Agricultural Extension. FAO, Rome. http://fao.org/participation/sec-lessons.html, 209 pp.

Adhikarya, Posamentier, 1987: Motivating farmers for action: How strategic multi-media campaigns can help. GTZ, Eschborn, 209 pp.

Adhikarya, 1997: Implementing Strategic Extension Campaigns. In Swanson, Bentz, Sofranko: Improving Agricultural Extension. A Reference Manual. FAO, Rome, 83-92

# Annex 1: Principles for Agricultural Extension in Timor-Leste

Timor-Leste has developed and adopted a National Agricultural Extension Policy NEAP)[10] in 2008 and, based on this, developed a National Agricultural Extension Strategy (NAES)[11]. The following key principles for effective and efficient agricultural extension services in Timor-Leste for the long term were agreed in these papers and are the basis for the agricultural Extension Manual:

### Equitable Services Delivery to Farmers

All members, male and female, young and old, of all types of rural households are entitled to extension services

### Efficiency/Effective Services Delivery

Cost-effective services, provided by well-trained, highly skilled extension agents, must be provided to help assist farmers to solve and/or overcome their problems. Cost effectiveness will be improved by active co-operation between all institutions (government, NGOs, other agencies, etc.) which provide extension services

### Decentralization/Local Decision Making

Agricultural extension programs should ideally be determined locally because agricultural conditions and farmers' needs will be different according to location, agro-climatic conditions and social customs

### Demand-Led Extension Services

The agenda of extension programs should be set according to farmers' problems, needs and demands. Issues requiring attention need to be identified jointly by both farmers and extension staff using participatory techniques

### Work Primarily with Farmers Groups

Working with groups offers the opportunity for more cost-effective use of limited extension resources, improved sharing of information, and the opportunity for grassroots decision making and participation

### Strong Extension-Research Linkage

Extension and research activities cannot function independently. There must be free flow of information between extension and research to deliver effective services to farmers

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[10] Source: MAF/ARPIII, 2008

[11] Source: MAF, 2010

**Capacitating Extension Personnel**

All extension agents need to be confident of their ability to solve farmers' problems, work together with all types of clients and collaborate with other agencies or individuals. Training is essential for this purpose

**Appropriate Extension Methodology**

No single extension method is suitable for all extension activities. Extension agents can use farm visits, mass media, training, demonstrations, group meetings, farmer field schools and many other methods

**Integrated Extension Support Services**

Advice and information provided to farmers must follow an integrated farming systems perspective. Extension agencies with differing expertise must collaborate if they are to provide whole farm advice.

**Coordinated Agricultural Extension Services**

Co-ordination underlines all components of the National Agricultural Extension Policy. Extension services provided by different agencies must be coordinated at all levels in order to optimize the use of resources. This can be achieved by sharing information and expertise between the agencies involved.

Technical Directorates have the main function to support agricultural extension with capacity development and technical backstopping in their discipline. Coordinated support to farmers should be exclusively done via the extension services. Direct implementation of Technical Directorates parallel to the agricultural extension setup should be avoided.

**Integrated Environmental Support**

The NAEP supports extension programs seeking to encourage farmers to apply sustainable and environmentally friendly agricultural practices. Efforts should be made to support and learn from farmers as well as from the formal research system.

# Annex 2 Job Description

### a) Job description for the Agricultural Extension Worker (AE)

The AE is the primary partner of the farmers' groups on Aldeia level. He/she interacts regularly (weekly and on needs) with the farmers and assumes all extension functions. The AE has to perform the following jobs (job description):

- Identify and form farmer groups
- Mobilize farmers in implementing their agriculture activity effectively
- Assist farmers to realize their regular meetings
- Assist farmers by providing information about agriculture techniques appropriate to the local condition, inputs availability, and credits and marketing
- Assist farmers in formulation of seasonal cultivation and annual needs
- Prepare work schedule or extension events in coordination with SEC
- Conduct plot demonstration (Demo Plot) to stimulate farmer to adopt agricultural technology and arrange Farmer Field Days with farmer groups
- Identify and predict pests or disease that may affect crop, livestock and fish, and provide means to stop or control with the assistance of SMS.
- Participate with SMS or Researchers to establish on-farm adaptive trials and collect relevant data for analysis
- Assist farmers to diagnose farming related problems and propose appropriate solutions
- Coordinate with community leader and development agencies in rural area to ensure successful implementation of programs
- Undertake data collection at village level, such as number of household, hectares, production volume etc.
- Elaborate operational plan for extension activity and monthly report
- Undertake any tasks as may be assigned.

### b) Job Description of the Sub-district Coordinator (SDC)

The Sub-district Coordinator is responsible for the coordination of agricultural extension activities on sub-district level according to the following job description:

- Assist SEO to elaborate Operational Plan, Annual Budget, AAP (Annual Action Plan) and reporting, incidental, weekly, monthly, quarterly, semester and annual)
- Assist each AE to develop their work plans/programs/schedule and extension events to achieve relevant expected results
- Visit each AE in the field every fortnight (per 2 weeks) (is fortnightly the rule now? When we talk of 4 groups per AE, then this should be weekly at the beginning, with tendency decreasing) to guide, advise and motivate.
- Monitor and evaluates AEs' plans/programmes and activities, analyse the result achieved with farmer groups
- Coordinate and supervise ESC/AEs to identify gaps between result expected and achievement made to propose corrective measures
- Ensure the completion of weekly log record, monthly and quarterly report by AEs in each their village
- Ensure successful implementation of the agriculture extension programmes / projects and activities at Sub district level

- Assist SEO to manage human resource and equipment with regard to implementation of Agriculture Extension pregame/project/and activity at Sub district level
- Assist SEO in coordination among department, section within DNADCA (how can the sub-district coordinator assist in coordination of national departments?) to ensure successful implementation of program, project, and activity
- Undertake any other duties that may be assigned.

**c) Job Description of the Senior Extension Officer (SEO)**

The Senior Extension Officer heads the Extension Department under the District Director and is responsible for the coordination of agricultural extension activities at district level according to the following job description:

- Manage administrative aspect in regard to implementation of the agricultural extension program in the field
- Human resource and equipment management associate with the implementation of agricultural extension program in the field
- Organize and coordinate with different Sections and Departments within DNADCA and other relevant internal/external institutions MAF taking part in the implementation of agricultural extension program in the field. (duplication of functions with the national level Chief of Extension Department?)
- Formulate Annual Action Plan (AAP), Operational Plan (OP) and Annual Budget (difference to the functions of the national level Chief of Extension Department?)
- Coordinate and monitor the implementation of action plans/program at district level.
- Coordinate and supervise ESC/AEs to identify gaps between result expected and achievement and propose corrective measures where possible
- Provide Reports (Weekly, Monthly, Quarterly, half annual & Annual) to the director.
- Conduct annual staffs performance assessment
- Conduct TNA (Training Needs Assessment) and provide relevant training to SEC and AEs
- Facilitate them (ESC/AEs) to find out solution for problems or difficulties related to Agriculture Extension Program Implementation;
- Ensure regular data collection from ESC/AEs
- Organize extension monthly meeting at district
- Participate in district monthly management meeting between SMS, relevant department and district director
- Undertake any other tasks that may be assigned

**d) Job Description of the District Technical Officers**

No job descriptions available yet. Here we need a general job description for technical support from the national level to the district level to be included here later. The two main functions should be:

- Capacity development of the district setup in related technical aspects
- Backstopping of technical staff on district level in problems they cannot solve on district level (subsidiary principle). The job description should not include any more responsibilities related to the direct implementation of national technical programs. Also, the Technical Officers on district level should not implement directly but only via the extension structures (SEO-SDC-AE).

**e) Job Descriptions of the National Extension Chief Department**

The National Extension Chief Department heads the Extension Department under the DNADCA and is responsible for the coordination of agricultural extension activities at national level according to the following job description:

- Together with the Director of DNDCA to formulate policy for the promotion of good agriculture practices and the application of appropriate technology
- Support the Director of DNADCA to formulate appropriate strategies and their implementation guidelines for effective and efficient delivery of agriculture extension services
- Formulate Annual Action Plan (AAP), Operational Plan (OP) and Annual Budget
- Coordinate and monitor the implementation of action plans/program both at national and district level
- Coordinate and supervise SEO & ESC/AEs to identify gaps between result expected and achievement and propose corrective measures where possible
- Provide reports (weekly, monthly, quarterly, half annual & annual)
- Establish and maintain linkage with different Sections and Departments within DNADCA and other relevant internal/external institutions MAF taking roles in the implementation of agricultural extension programs in the field
- Manage administrative aspect in regard to the implementation of the agricultural extension program in the field
- Human resource and equipment management associated with the implementation of the agricultural extension program in the field (does this include methodology training for extension staff on district level?)
- Organize quarterly extension meeting at national level (which meeting is that? There is only one meeting on national level related to extension: the annual forum; see Section 2.2.: meeting system)
- Undertake any other tasks that may be assigned.

**Job Descriptions of the National Technical Officers**

No job descriptions available yet. Here we need a general job description for technical support from the national level to the district level to be included here later. The two main functions should be:

- Capacity development of the district setup in related technical aspects
- Backstopping of technical staff on district level in problems they cannot solve on district level (subsidiary principle)

# Annex 3: Guidelines for Successful Meetings/Workshops

**Preparation**

The moderator prepares the meeting well in advance. This means:

- To fix timing and content of meetings and make them known to the participants
- To assure that proposals are worked out in writing for outstanding decisions and that they are made known to the other participants well in advance (at least one day before). Those who want to present cases for decision making, should be encouraged to present proposals in an acceptable form (visualized)
- To prepare the meeting place (chairs in semi-circle, if possible; preparation of visualization materials, for example felt pens and flipcharts etc.)
- To read protocols from previous meetings carefully so that follow up of previous decisions is not forgotten.

**Facilitation**

- The moderator is responsible for the process, not for the contents of the meeting. Therefore, he/she must guide the meeting target oriented, to look for the time schedule and to assure that everybody has the chance to speak and nobody is allowed to talk all the time. Here, a certain strong personality is necessary.
- The mandate for moderation must be accepted from everybody. The moderator is, for the time of the moderation, not colleague, boss or subordinate but the ‘president‘ of this meeting. Everybody must accept his guidance concerning the process and the methodology of the meeting.
- Each moderation starts with seeking acceptance for the protocol of the previous meeting and follows-up which decisions from last meetings have been implemented, which not and why not.
- The moderator is responsible for the documentation of decisions (result-protocol). This does not mean that he has to write the protocol but only that he has to assure that the protocol is written. Usually, he/she asks a colleague to make the protocol because moderation and making protocol is usually too much for one person.
- The moderator must assure that relevant decisions are taken and that responsibilities for the implementation of decisions are clear at the end of the meeting.

**Follow-up**

- Protocols of meetings should be written from the notes immediately after the meetings in order not to forget important points. The protocol should be distributed as soon as possible to all participants of the meeting.
- Those persons who have been made responsible for the implementation should be made accountable for the implementation. This does not mean that they have to do everything by themselves; they only have to assure that things are done. Tasks should be, as much as possible, delegated to lower level staff.

## Annex 4: PRA-Techniques for Participatory Situation Analysis

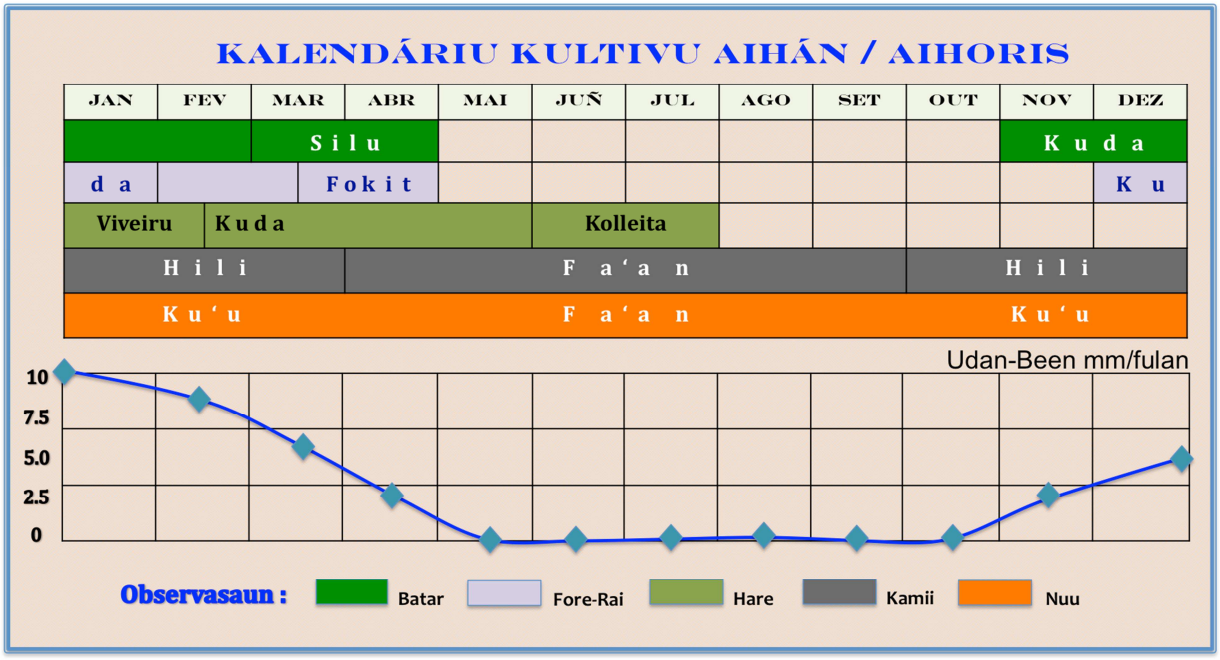
**References**: BMZ/GTZ, 2009, Vol II D13

***Task Force to follow-up***

- ***Transect walks*** *to get an impression on the landscape and its particularities which might be important for extension activities*

- ***Physical maps*** *showing the physical resources of the Aldeia and the most prominent crops grown on the land as well as agricultural infrastructure resource (e.g. irrigation structures, etc.)*

- ***Census of the most prominent problems and constraints*** *in the Aldeia and ranking of such constraints and problems by different groups (e.g. men, women, youth).*




**Picture 10: Example of cropping calendar (tetum version).**

***The following description of three selected PRA-Tool is taken from a field guide on PRA developed during 1999 in Sri Lanka***

## Example: Transect Walk in an Aldeia or Suco

Description

A village walk serves the purpose of becoming acquainted with the village and its people and obtaining, by way of informal chats, some preliminary information about the situation 'on the ground'. The transect is also carried out, in order to assess the characteristics of the village through observation.

Objectives

- to get to know the village, its population, and its surroundings
- to find out something about the flow of information within the village (e.g., has the invitation for the PNA reached everybody?)

- to get a first impression about the problems and potentials of the village
- to provide an information pool for fine-tuning the programme of the PNA

Activities

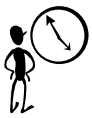
- Ask some local people to be your guides during the walk. Make sure that the groups of guides are mixed in gender and age. Form, if possible, one women's group guided by a local woman.
- While walking, start to ask some general questions about the village (population, history)
- Avoid rushing; pay attention to the surroundings. For instance:
  - *crops in fields and next to houses*
  - infrastructure *(roads, paths, water pumps, wells, toilets, etc.; neglected or well maintained)*
  - *people's activities* (e.g., who does what kind of work?)
  - *the* animals belonging to the households *(e.g., are there a lot of cattle or perhaps only a fAE chickens?)*
  - *different styles of houses* (well maintained, clean, dirty or shabby, very poor or solid looking huts, kind of materials used, etc.)
- Discuss your observations with the people guiding you (e.g., ask about reasons, persons involved and their professions, about distances, etc.).
- Also talk to local people you meet along the way and ask them whether they have been informed about the following PNA round. If not, briefly explain the purpose of the PNA to them and invite them to participate.
- After the village walk, meet with the PNA team in order to brief them about observations made and experiences gained.
- Draw conclusions for the following PNA round (e.g. general situation of selected village, cross-checking of secondary data, first suggestions for suitable tools).

Actors/Responsibilities

- PNA team members
- selected villagers who serve as guides

Time

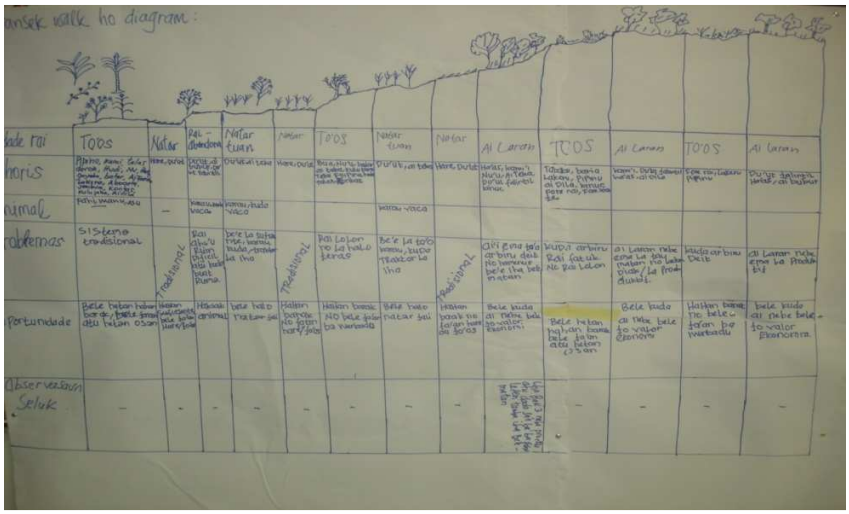
- **depends on size of village**
- **suggested time: between 1 and 2 hours**
- choose a convenient time (e.g., avoid the hot midday period)



Suggestions/ Comments

- ***Try hard to find some local people to guide you, otherwise the village walk is of a lot less value.***
- *When meeting people during the walk, it is important to maintain a relaxed, informal atmosphere. Avoid an uncomfortable 'interrogation situation', where people merely answer questions rather than talking freely about their lives and things they consider important.*

**Example Transect**



## Example: Resource Map in an Aldeia or Suco

Description

A resource map is a map showing a village with its natural resources with special regard to different aspects like:

- natural resources (e.g. land, fields, forests, rivers )
- infrastructure (e.g. streets, paths, wells, water tanks)
- social facilities (e.g. houses, schools, health centre)

One key feature of the resource map is that it should be constructed with the local materials available (e.g., seeds, stones, leaves) by the villagers themselves.

Objectives

- to gain an overview of the situation with special regard to the resources available in the village as perceived by the villagers
- to learn about access and control over resources
- to find out and discuss the different perceptions of various groups on problems within the village
- to discuss potentials, problems, needs, arising from the information gathered through the process of drawing the map

Activities

- Ask the participants to draw a map on the ground showing the whole village with all the important items, according to their own perception.
- Suggest using symbols or natural resources for visualizing the different items.
- Throughout the process pay attention that the others agree when somebody has arranged or rearranged something in the map. If they disagree, ask for reasons and try to facilitate the process to reach a general agreement.
- Ask one of the villagers to draw a copy of the resource map on paper. Make sure that the copy really represents the original and that the legend is complete.

Actors/Res-

ponsibilities

- PNA team
- the whole village community

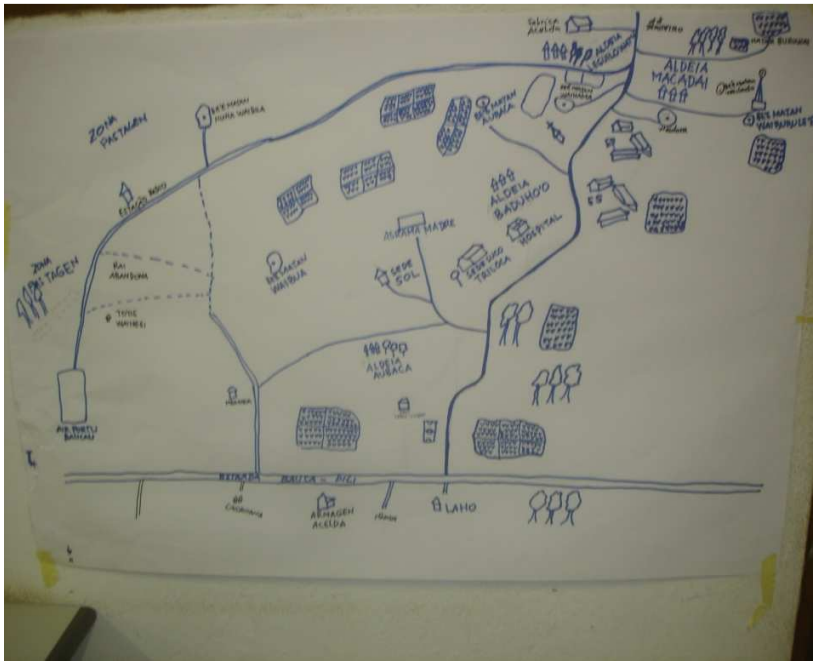
Time

- depends on the number of participants and the size of the village
- roughly two hours

Suggestions/ Comments

- *Prepare in advance all the necessary items for the construction of the map and choose a suitable place.*
- *Ensure that everybody in the village community participates during the construction. Encourage non-participants to get involved!*
- *Try to draw conclusions already about various groups and their respective problems in the village. Listen closely to people's talk during the whole process.*
- *Indicate community projects identified during PNA on the map.*

**Example Resource Map**




## Example: Problem Analysis in an Aldeia or Suco

Description

Problem analysis at community level is a prerequisite for the identification of community projects. The PNA team discusses with the whole village community about general village problems and facilitates a prioritization (ranking) of the

most important problems. For the core problems, an analysis of the underlying causes facilitates the discussion about possible solutions and relevant projects.

It is essential that the PNA team points out the fundamental role and responsibility of the villagers themselves, for starting problem-solving activities. This means, for example, that IFSP expects a clear local commitment, including financial and labour contributions from the villagers for the implementation of community projects.

Objectives

- To learn about major problems of the village community.
- To identify the core problems of the community.
- To trace the cause-effect relationship of the core problem.
- To facilitate the identification of solutions to the problem.

Activities

(1) First identify all problems through semi-structured interviews, guided dialogues and direct observation and make a list of all the problems on cards so that each participant can follow everything easily. At first make a note of any problem that comes up without commenting on it. At the end, reconfirm whether all problems have been listed or not.

(2) In a second step, discuss with villagers and analyze the different problems:

- Which problems are interconnected and can be summarized in one group?
- Which problems can be solved by the villagers themselves?
- Which problems are related to food security?

(3) Facilitate the ranking of the remaining problems which could not be solved and which are related to food and nutritional security, so as to identify the major core problems:

- Prepare a matrix, listing below each other all the remaining problems and draw two columns, one for men and one for women. (You might also want to add one for youth or old people)
- Hand out the same amount of tokens (e.g. stones, seeds) to each person and ask them to allot the tokens in a way that illustrates their most pressing problems. People are allowed to allot more than one item to one problem.
- Ask men and women to place the tokens separately. Ask women and poor, shy villagers to vote first. Village leaders should vote last so as not to influence the others.

❖ *By handing over tokens for ranking to different individuals a more balanced participation can be achieved, and in group discussions especially the more reserved persons (e.g., younger people, women) will be able to express themselves directly.*

Activities

- As a basic rule, it is best to distribute approximately half the number of seeds compared to the number of problems identified, e.g. for ranking of 10 problems, you might give 5 seeds to each person (for 5 problems, take 3 seeds and so on).
- Count the tokens and write down the number allotted to each of the problems, on a sheet.
- *Gender:* When the preferences of men and women are significantly different, discuss this issue and then raise the question: whose priorities actually count? Ensure that women receive adequate room for expressing their views, if necessary encourage them to speak.

**Example of a Ranking Matrix:**

| | Rice | Maize | Sago | Taro | Banana |
|---|---|---|---|---|---|
| **Low price** | *** | ** | * | * | * |
| **Taste** | *** | ** | ** | * | *** |
| **Availability/location** | *** | ** | * | * | ** |
| **Digestibility** | *** | ** | ** | *** | *** |
| **Easy to cook** | *** | ** | * | ** | * |
| **Total** | **15** | **10** | **7** | **8** | **10** |
| **Remarks : Low 1, Medium 2, High 3** | | | | | |

(4) Start a *problem analysis-problem solving* discussion about the core problems, i.e. the problem which was ranked highest:

- Write this problem on a card and place it in the centre. Ask about the causes of the problem and note these down and place them around the core problem.
- Ask about the effects of the problem. Note them down and place them on the other side of the problem so that you get a flow chart (see below)
- Ask about possible solutions for each of the causes and make a note of the identified solutions and place them around the causes of the problem.
- Discuss the necessary steps and activities required to reach the solutions mentioned.
- Discuss the various advantages, disadvantages, risks and costs associated with specific proposals. What are the local resources available and what are the constraints?

Activities

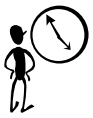
- Discuss and define the contribution and activities of the villagers for solving the problem and their role and responsibility during implementation
- Sustainability: Discuss the future operation and maintenance of infrastructure assets. Who will be responsible? How can local contributions be made available?
- Keep expectations about the scope of financial and technical support from

the IFSP realistic, considering the budget of the IFSP (see below). Screen projects according to their suitability and feasibility and discuss this issue with the villagers.

Actors/Responsibilities

- PNA team
- village community

Time



About two hours (depending on the number of people and proposals).

Suggestions/ Comments

***Problem ranking:***

➢ This tool requires some cross-checking and probing, especially if the ranking is done consecutively by a series of people, and a powerful or influential person was the first to start. It is therefore important to ask women and poor and neglected villagers to vote first! There is a risk that the rest of the group would simply repeat parrot- fashion a previously made choice. When you come across this type of problem, you might consider a secret vote so as to give everybody the possibility of expressing his or her opinion without being put under pressure. But be cautious and try to avoid conflicts.

***Budget range determined by the IFSP Management:***

- ➢ *the IFSP supplies guidelines for the overall budget for community projects, set at a fixed rate per family living in the village. The overall budget is then the number of families in the whole village multiplied by the figure stipulated in the budget.*
- ➢ *The clearer the PNA team screens and prioritizes the project proposals for community projects, the easier it is for the IFSP Management to proceed with the implementation. Thus it is the villagers who screen the projects, and not the IFSP or the government staff.*
- ➢ *Avoid shopping lists!*
- ➢ *Detailed planning and elaborate cost estimates will be carried out during planning of implementation through the field officers of the service provider in charge.*

# Annex 5: Planning, Monitoring and Reporting Formats

**REPÚBLICA DEMOCRÁTICA DE TIMOR-LESTE**
**MINISTERIO DA AGRICULTURA E PESCAS**

**RELATÓRIU TRIMESTRÁL**

Ajénsia Implementadora : _____

| Nu. | Programa no Atividade | Meta | Ezekusaun Fízika | Deskrisaun Rezultadu | Fatin Ezekusaun | Benefisiáriu | Observasaun |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

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# Formatu Monitoria Atividade ba Nível Nasionál no Distritu

**DiresaunNasionál/Distritu: _____ Trimestre: _____**

| Objetivu Espesífiku | Fatin Implementasaun | Estadu Programanian | Orsamentu Planeadu | Orsamentu Realizadu | Lisaunne'ebeAprende no PrátikaDi'ak |
|---|---|---|---|---|---|
| | | □ SeidaukHala'o<br>□La'ohela (.....%)<br>□Remataona<br>□ Kanseladu | | | |

| Atividade | Indikadór Anuál | Indikadór / Tárjetu Trimestrál | Rezultadu ne'ebé Alkansaona | Fatin Implementasaun | Numeru Benefisiáriu | | | Orsamentu (US $) | | Obstaklu no Dezviahusiplanu | Razaunba Dezvia | Rekomendasaun Hodi halo Asaun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | M | F | Grupu | Planeadu | Realizadu | | | |
| 1. | | | | | | | | | | | | |
| 2. | | | | | | | | | | | | |
| 3. | | | | | | | | | | | | |

| Infraes-trutura / Mákina | Fatin (Sub-Distritu No Suku) | Data Entrega | Kondisaun no Utilizasaun | | Benefi-siáriu | | BenefísiubaBenefisiáriu<br>(1) Aihán<br>(2) Ektare (ha)<br>(3) Produsaun<br>(4) Osan<br>(5) Benefísiuseluk | | Problema (Ezemplu :Estragu, Menutensaun, nst.) | Razaun / Kauza Utilizasaun Menus | Rekomendasaun Ba Asaun |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Kondisaun<br>1) Ekselente<br>2) Di'ak<br>3) LaduunDi'ak<br>4) La Utiliza | Funsiona<br>1) Kompletu<br>2) Dala Barak<br>3) Metade<br>4) La Funsiona | M | F | Antes | Depois | | | |
| 1. | | | | | | | | | | | |
| | | | | | | | Esplika : | | | | |
| 2. | | | | | | | | | | | |
| | | | | | | | Esplika : | | | | |

**PLANU ASAUN ANUÁL 2012**

**DIRESAUN NASIONÁL / DISTRITU :**_____

| Objetivu Espesífiku | Atividade | Resultadu Esperadu | Indikadór Dezempeñu | Kustu Estimadu (US $) | Fatin Implementasaun | RezultaduEsperadukadaTrimestre | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | To'o 31 Marsu | To'o 30 Juñu | To'o 30 Setembru | To'o 31 Dezembru |
| **OBJETIVU JERÁL** | :_____ | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| **1.** | **1.1** | | | | | | | | |
| | **1.2** | | | | | | | | |
| | **1.3** | | | | | | | | |
| **2.** | **2.1** | | | | | | | | |
| | **2.2** | | | | | | | | |
| | **2.3** | | | | | | | | |
| **3.** | **3.1** | | | | | | | | |
| | **3.2** | | | | | | | | |
| | **3.3** | | | | | | | | |
| **TOTÁL KUSTU** | | | | | | | | | |

_____, _____

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# Annex 6: Complete Package for Maize

Annex 4 presents a complete package for maize as an example for package development (see Chapter 4). A complete package consists of

a. **Recommended 'Good Practices'** for maize cultivation

b. **Input Supply Policy and Availability**

c. A set of **Training Plans** for the different staff training sessions in maize cultivation, during which the AEs and SDAECs are trained in how to deliver the package to the farmers' groups. The training plans have to be designed by the trainer(s)

d. A set of **Extension Session Outlines** for the different extensions sessions in maize cultivation with farmers' groups either in the Aldeias or in the field. These session outlines will guide the AEs and SDAECs in delivering the messages to the farmers, discuss with them and demonstrate improved practices

e. A set of **Training/Extension Materials/Aids** which are used for maize during staff training sessions as well as during farmer extension sessions,

f. The recommended **Design of Demonstration Plots** for maize cultivation and

g. Additional information on **economic superiority** of a recommended package, on possibilities of **processing and marketing** of surplus production and the **nutritional value** of crop and livestock produce (in cooperation with the Ministry of Health[12]).

## a) Recommended 'Good Practice' for Maize cultivation[13]

| **Production Step** | **Good practice/ Standard** |
|---|---|
| **Pre-Planting** | |
| **Varieties** recommended<br>Names, Properties | Local varieties:<br>• Local white: Higher production, nice to eat, sweet, short cooking time.<br>• Local (short): 60 maturity days, lower production, small cob, store longer, short, wind and (fuhuk) resistant.<br>Improved varieties<br>• Sele: 120 maturity days, short and 40% higher production than local varieties; wind, draught and pests resistant, sweet, can be used for seeds, big cob, red colour, and longer cooking time.<br>• Nain + Swan 5: big cob, short, not so sweet, longer cooking time, wind and pest resistant, not so much draught resistant. |
| **Seed** production standards<br>Production, grading, cleaning, packing, selection criteria | Seed preparation: isolate time (3 weeks), isolate distance minimum 400 m, select big plant, leaves and cob, well covered by skin and get the seed from middle. |
| Seed storage | Big seeds and uniform, store in container, drums, silo or in an aerobe condition, keep in shade and dry place (not humid) |

[12] Possibly, nutrition training could be organized in cooperation with the Ministry of Health

[13] Example from RDPII ‚Good Practices'

| **Production Step** | **Good practice/ Standard** |
|---|---|
| Traditional, improved | |
| Seed selection<br>Germination test | Test germination: select seeds randomly from 50 – 100, use wool(kabas), (hena karon goni), put soil in a basket or tray. Trial time is one week before planting. 80 % grow means good germination. |
| **Land** selection criteria | Altitude 0-1700 above the sea level, land slope below 30º inclination preferred, life contour (pineapple, vetiver grass, lemon grass, elephant grass etc) can be grown in sticky soil with PH: 5 - 8 |
| **Land preparation**<br>Standards, criteria for assessment of good preparation | Mechanical<br>Animal traction |
| **Sowing** method:<br>Time, sowing rate, spacing, planting, thinning | Planting: distance in 1 $m^2$ minimum 5-7 plant, sowing 2-3 seeds/hill, distance(75 X 30 -50 cm). Can be replanted when not growing.<br>• 3 seeds so can be tight<br>• 2 seeds for store/sell<br>• Plant in line, depth 4 cm and plant when the soil is wet<br>Question: Is there any different way for upland and lowland?<br>Answer: No differences |
| **Fertilization**<br>Frequency, quantity | Organic:<br>Use green fertilizer, rotation with legumes (aso koas, lehe, forai fuik)<br>Compose (animal manure)<br>**Rotation:** Rotate at least one year, Maize – mungbean,<br>Peanuts – Maize - Mungbean<br>Mineral:<br>N, 15 kg/ha<br>P, 15 kg/ha<br>Question: How to apply fertilizer?<br>Answer:<br>P – 4 days before planting<br>N – 10 days after planting or after first weeding<br>Question: how to apply fertilizer in upland area?<br>Answer: Same method but the use contour is recommended. Not effective without contour. |
| **Weeding**<br>Frequency, method, mechanical, hand-weeding | **Mechanical or Hand-weeding**<br>Weeding twice is preferred, plant lehe once is also good, pumpkin minimize weeds, start weeding in 2-3 weeks time after planting.<br>• Plant (Lehe) 30 days after maize<br>• Apply inter-croping with soyabean<br>Chemical:<br>Note: Weeding is not only to kill weeds but also to improved soil quality |
| Crop **Pests**<br>Main insect pests<br>Main diseases | (Fura kain, fura fulen, fuhuk wanhira rai, rats, Gafanhotu, , asakauk)?<br>Stemborer, cob borer, whell in storage, etc.....) |
| **Crop Protection Measures**<br>Organic measures/chemical measure criteria for application | Pesticide (nib tree, aitasi, tabaco leaves, small chilli, (1:10 litter)<br>Green guards to prevent locust migrant<br>Chemical: Furadaun – 36 ? |
| **Maintenance** measures<br>Rows, ridges, assess. criteria | Minimum maintenance , usually maintenance is done by weeding 2 time during the season |
| **Harvest**<br>Period, method | • Young for BBQ/boil: latches is still green, top cob turns soft<br>• Baby corn for Vegetables<br>• Ripe ones for storing or selling : husk/liches are all dry, tassels turn black, cut cob with liches/husk, thresh and dry with 30% humidity. |

| Production Step | Good practice/ Standard |
|---|---|
| **Drying**<br>Method, standards | • Hang in the tree with husk/litches, dry with husk/litches on, thresh and dry with humidity 14%.<br>• Dry on plastic or drying floor for about 4 hours within one day and flip every one hour. |
| **Processing**<br>Threshing,<br>Methods | Threshing: Manual threshing, handmade threshing machine<br>For consuming, process by machines (fai, tuku). Yellow maize has good market price (Sele, Na'in, Swan 5) higher nutrition and can be feed to chicken and pigs |
| **Storage**<br>Traditional<br>Improved | It is important to store in an anaerob to prevent disease and pests.<br>Store in container, drums, silo etc, fill until full and keep organic pesticide around them such as nim tree leaves or grained dry seeds, (ahikdesan), (ainitas tahan), 500 kg silo for household.<br>To store for longer period (more than 3 months), keep in a proper place, clean and dry. For consuming can be less than 3 months and does not have to keep in Silo. |

## b) Staff (AE/SDC) Training Outline for maize cultivation (3 days)

| Title of training: Maize Cultivation | | | |
|---|---|---|---|
| Amount and type of trainees: 25 persons AEs | | Training location: extension center | |
| General objective: Improve the knowledge and skills of AEs on better maize cultivation | | | |
| **Session** | **Day 1** | **Day 2** | **Day 3** |
| Session 1 | Registration and introduction | ReviAE topics from the first day | ReviAE topics from the second day |
| Session 2 | Seed selection and Land preparation :<br>Criteria for good seeds (variety)<br>Seed selection Method<br>Criteria for land preparation | Planting and maintenance :<br>Technique of planting: (time of planting, distance, amount of seeds per hole)<br>Maintenance : Weeding, fertilization, pest and diseases control) | Harvest and post harvest :<br>(Time of harvest, technique of harvest, Harvest method )<br>Post harvest : Storage method (for seed and consumption) |
| Session 3 | Question and answer<br>AE give the opportunity to the participant to clarify some unclear explanation | Question and answer<br>AE give the opportunity to the participant to clarify some unclear explanation | Question and answer<br>AE give the opportunity to the participant to clarify some unclear explanation |
| Session 4 | Field practices<br>AE divide participant to 2-3 each group 5 – 6 persons | Practice<br>AE divide participant to 2-3 each group 5 – 6 persons | Practice<br>AE divide participant to 2-3 each group 5 – 6 persons |
| Evening | Group discussing | Group discussing | Summary and closing |

## Detailed training schedule per day

### Day 1: Land preparation and seed selection

**Objective** : After the training participants are understood and able to do land preparation and seed selection according the technical recommendation

| Time | Activity | Methodology | Materials | Responsible |
|---|---|---|---|---|
| 8.00 – 9.00 | Registration | | List of participants, pens | Irene Pereira |
| 9.00 – 9.15 | Introduction | Brainstorming | | Gil Quintao |
| 9.15 – 9.45 | Problem in land preparation | Group discussing, | Flip chart, marker, tape | Benjamin Guterres |
| 9.45 – 10.00 | Plenary | Discussing, Q&A | | Vasco |
| 10.00 – 10.15 | Break | | | Irene Pereira |
| 10.15 – 11.00 | Good Land preparation | Lecture, Q&A | Projector, flip chart, marker, hand out, manual, leaflet, poster | J. Barros |
| 11.00 – 12.00 | Practice of Land preparation | Field Practice, working group | Hoe, chopper | Benjamin |
| 12.00 – 12.15 | Q & A | Lecture | | J. Barros |
| 12.15 – 13.15 | Lunch | | | Irene Pereira |
| 13.15 -14.30 | Seeds selection (how and why ) | FGD (focus group discussion) | Flipchart, marker | Sr. Alex Nunes |
| 14.30 – 16.00 | Plenary | Presentation | Flipchart, marker, projector | Sr. Alex Nunes |
| 16.00-17.30 | Action plan, summary and closed | Presentation | Flipchart, marker, projector | J. Barros |

### Day 2: Planting and maintenance

**Objective** : After the training participants are understood and able to do planting and maintenance according the technical recommendation

| Time | Activity | Methodology | Materials | Responsible |
|---|---|---|---|---|
| 0.80 – 9.00 | Registration | | List of participants, pens | Irene Pereira |
| 9.00 – 9.15 | Introduction | Brainstorming | | Gil Quintao |
| 9.15 – 9.45 | Problem in maize planting | Group discussing, | Flip chart, marker .tape | Benjamin Guterres |
| 9.45 – 10.00 | Plenary | Discussing, Q&A | | Vasco |
| 10.00 – 10.15 | Break | | | Irene Pereira |
| 10.15 – 11.00 | Technique of maize planting | Lecture, Q&A | Projector, flip chart, marker, hand out, leaflet manual, poster | J. Barros |
| 11.00 – 12.00 | Practice in technical maize planting | Field Practice, working group | Stick, seeds, bucket, ropes | Benjamin |
| 12.00 – 12.15 | Q & A | Lecture | | J. Barros |
| 12.15 – 13.15 | Lunch | | | Irene Pereira |
| 13.15 -14.30 | Maize maintenance (replanting and weeding) | Lecture and practices | Flipchart, marker, seeds, hoe, showper | Sr. Alex |
| 14.30 – 16.00 | Fertilization (type of fertilizer, when and | Lecture and FGD | Flipchart, marker, calculator projector | Sr .Alex Nunes |

| | | | | |
|---|---|---|---|---|
| | how to use) | | | |
| 16.00-17.30 | Action plan, summary and closed | Presentation | Flipchart, marker, projector | J. Barros |

**Day 3: Harvest and post harvest**

**Objective** : After the training participants are understood and able to do harvest and post harvest according the technical recommendation

| **Time** | **Activity** | **Methodology** | **Materials** | **Responsible** |
|---|---|---|---|---|
| 0.80 – 9.00 | Registration | | List of participants, pens | Irene Pereira |
| 9.00 – 9.15 | Introduction | Brainstorming | | Gil Quintao |
| 9.15 – 9.45 | Problem in maize harvest | Group discussing, | Flip chart, marker .tape | Benjamin Guterres |
| 9.45 – 10.00 | Plenary | Discussing, Q&A | | Vasco |
| 10.00 – 10.15 | Break | | | Irene Pereira |
| 10.15 – 11.00 | Technique of maize harvest | Lecture, Q&A | Projector, flip chart, marker, hand out, leaflet, manual, poster | J. Barros |
| 11.00 – 12.00 | Practice of maize harvest | Field Practice, working group | knife, sack, | Benjamin |
| 12.00 – 12.15 | Q & A | Lecture | | J. Barros |
| 12.15 – 13.15 | Lunch | | | Irene Pereira |
| 13.15 -14.30 | Post harvest (when and how ) | FGD (focus group discussion) | Silos, plastic stories, maize seeds, dry neem leaf flipchart, marker | Sr. Alex |
| 14.30 – 16.00 | Plenary | Presentation | Flipchart, marker, projector | Sr.Alex |
| 16.00-17.30 | Action plan, summary and closed | Presentation | Flipchart, marker, projector | J. Barros |

**c) Farmer Extension Session Outline for Maize**

**Extension Session 1: Land preparation for maize cultivation**

**Objective** : After the training participants are understood and able to do land preparation according the technical recommendation

Prepare by : …… A E Suco……..

Date :.....20.....

| Time | Activity | Methodology | Materials | Observat. |
|---|---|---|---|---|
| 0.8.30 – 8.45 | Registration | | List of participants, pens, paper | |
| 8.45 – 9.00 | Introduction | Presentation | Flip Chart, pens, Marker | |
| 9.00 – 9.45 | Problem in land preparation | brainstorming | Flip chart, marker | |
| 9.45 – 10.15 | Good Land preparation | Lecture, Q&A | Flip chart, marker, hand out, leaflet manual, poster | |
| 10.15 – 10.30 | Break | - | - | |
| 10.30 – 12.00 | Practice of Land preparation | Field Practice, working group | Hoe, chopper, hand tractor | |
| 12.00 - 12.30 | Action plan, summary and closed | Discussing & plenary | Flip chart, marker | |
| 12.30 - 13.00 | Lunch | | | |

**Extension Session 2: Seeds selection for maize cultivation**

**Objective**: After the training participants are understood and able to do maize seeds selection according to the technical recommendation

Prepare by : …… AE Suco……..

Date :.....20.....

| Time | Activity | Methodology | Materials | Observat. |
|---|---|---|---|---|
| 0.8.30 – 8.45 | Registration | | List of participants, pens, paper | |
| 8.45 – 9.00 | Introduction | Presentation | Flip Chart, pens, Marker | |
| 9.00 – 9.45 | Problem in maize seeds selection | brainstorming | Flip chart, marker Sample of seeds | |
| 9.45 – 10.15 | Seeds selection (how and why ) | Lecture, Q & A | Sample of seeds Flip chart, marker, hand out, leaflet brochure, manual, poster | |
| 10.15 – 10.30 | Break | - | - | |
| 10.30 – 12.00 | Practice of seeds selection | Practice, simulation, working group | Maize seeds, bucket, plastic silo , | If those materials available |
| 12.00 - 12.30 | Action plan, summary and closed | Discussing & plenary | Flip chart, marker | |
| 12.30 - 13.00 | Lunch | | | |

**Extension Session 3: Maize Planting**

**Objective** : After the training participants are understood and able to do maize planting according to the technical recommendation

Prepare by : …… AE Suco……..

Date :.....20.....

| Time | Activity | Methodology | Materials | Observat. |
|---|---|---|---|---|
| 0.8.30 – 8.45 | Registration | | List of participants, pens, paper | |
| 8.45 – 9.00 | Introduction | Presentation | Flip Chart, pens, Marker | |
| 9.00 – 9.45 | Problem in maize planting | Group discussing, | Flip chart, marker .tape | |
| 9.45 – 10.15 | Technique of maize planting | Lecture, Q&A | Flip chart, marker. tape, poster, leaflet, brochure | |
| 10.15 – 10.30 | break | | | |
| 10.30 – 12.00 | Practice of maize planting | Practice, working group | Maize seeds, bucket, plastic , stick | Field for practice |
| 12.00 - 12.30 | Action plan, summary and closed | Discussing & plenary | Flip chart, marker | |
| 12.30 - 13.00 | Lunch | | | |

**Extension Session 4: Maintenance of maize cultivation**

**Objective :** After the training participants are understood and able to do maize seeds selection according to the technical recommendation

Prepare by : …… AE Suco……..

Date :.....20.....

| Time | Activity | Methodology | Materials | Observat. |
|---|---|---|---|---|
| 0.8.30 – 8.45 | Registration | | List of participants, pens, paper | |
| 8.45 – 9.00 | Introduction | Presentation | Flip Chart, pens, Marker | |
| 9.00 – 9.45 | Problem in maintenance of maize cultivation | Brainstorming Q &A | Flip chart, marker. tape | |
| 9.45 – 10.15 | Technique in maintenance of maize cultivation | Lecture, Q&A | Flip chart, marker. tape, poster, leaflet, brochure | |
| 10.15 – 10.30 | break | | | |
| 10.30 – 12.00 | Practice maintenance (weeding fertilization etc.) | Practice, working group | Bucket, plastic , stick, hoe, fertilizers etc. | Field that ready to use for practice |
| 12.00 - 12.30 | Action plan, summary and closed | Discussing & plenary | Flip chart, marker | |
| 12.30 - 13.00 | Lunch | | | |

**Extension Session 5: Harvest**

**Objective :** After the extension event participants are understood and able to do harvesting of maize according to the technical recommendation

Prepare by : ……. AE Suco……..

Date :.....20.....

| Time | Activity | Methodology | Materials | Observat. |
|---|---|---|---|---|
| 0.8.30 – 8.45 | Registration | | List of participants, pens, paper | |
| 8.45 – 9.00 | Introduction | Presentation | Flip Chart, pens, Marker | |
| 9.00 – 9.45 | Problem in maize harvest | Brainstorming Q &A | Flip chart, marker. tape | |
| 9.45 – 10.15 | Technique of maize harvesting | Lecture, Q&A | Flip chart, marker. tape, poster, leaflet, brochure | |
| 10.15 – 10.30 | break | | | |
| 10.30 – 12.00 | Practice in maize harvesting | Practice, working group | Bucket, plastic , stick, knife, terpal, tenda, hadak, , etc. | field that ready for harvest |
| 12.00 - 12.30 | Action plan, summary and closed | Discussing & plenary | Flip chart, marker | |
| 12.30 - 13.00 | Lunch | | | |

**Extension Session 6: Post Harvest**

**Objective :** After the extension event participants are understood and able to do post harvest of maize according to the technical recommendation

Prepare by : ……. AE Suco……..

Date :.....20.....

| Time | Activity | Methodology | Materials | Observat. |
|---|---|---|---|---|
| 0.8.30 – 8.45 | Registration | | List of participants, pens, paper | |
| 8.45 – 9.00 | Introduction | Presentation | Flip Chart, pens, Marker | |
| 9.00 – 9.45 | Problem in maize post harvest | Brainstorming Q &A | Flip chart, marker. tape | |
| 9.45 – 10.15 | Technique of post harvest | Lecture, Q&A | Flip chart, marker. tape, poster, leaflet, brochure ,silo | |
| 10.15 – 10.30 | break | | | |
| 10.30 – 12.00 | Practice in post harvest | Practice, simulation, working group | Bucket, plastic , knife, terpal, silo, hadak, seeds, other materials relevant for post harvest, etc. | Pilot farmer, |
| 12.00 - 12.30 | Action plan, summary and closed | Discussing & plenary | Flip chart, marker | |
| 12.30 - 13.00 | Lunch | | | |

**d) Training/Extension Materials/Aids for Maize**

GAP
Leaflets
Posters
Newspaper
Radio Spots
Television Spots

**References**

BMZ/GTZ, 2009, Vol II, E13, F03

**e) Design of On-Farm Demonstrations for Maize**

**Selection of Demonstration Farmer and Demonstration Field**

- See Annexes 5 and 6

**Design of Demonstration**

- Plots size: 2 plots (traditional vs. recommended practice), each 0,1 ha (20x50 Meter)
- (2 plots)

**Materials and Inputs**

- Demonstration Plot and labour (responsible: farmer)
- Farm inputs (improved seeds, fertilizers, pesticides according to recommendation) and Signboard (responsible: AE, Extension Department, district level)

**Activities at the Demonstration Plot**

- Weekly monitoring of Progress (responsible: AE, demo farmer)
- Field day 1: Planting and basic fertilization
- Field day 2: 45 days after planting
- Field day 3: Harvest time, evaluation of yields
- Participants during field days: Group members, other farmers, local leaders, AE, Technical Officers (district level), representatives from the national level

**Responsibilities for field days**

- Invitation of farmers: AE
- Preparing the field day: AE, group members

- Facilitation of discussion: AE/SDC
- Snacks, lunch, drinks: MAF (Extension Department, district level)

**Agenda for a typical field day**

- Introduction by AE/SDC
- Overview of applied practices and questions/answers
- Field observation and discussions
- In case of harvesting: crop cut and weighing the grain
- Summary and closing

**Criteria** Set up for demonstration plot (roles of MAF & farmers, who contribute what….? How to select farmer)

1. Meeting with farmers group in the village to explain criteria (objective, roles of MAF & farmers, who contribute what….? How to select farmer)
2. Identification of interest farmer
3. Sign agreement AE & farmer and local leader (Suco chief and group leader)
4. Farmer Field day (discusses on the progress of activity) 45 days after planted
5. Harvest
6. Participatory Evaluation (FFD to compare the result)

**Site selection**

- Close to main road so bypassed can see
- Close to the community/farmers house
- Easy to access by the AE or other technical staff
- Appropriate land to selected commodity
- Water source available

**Innovative farmer selection** : see criteria

**Funding source** : MAF or donor

**Materials** : Manual, brochure, leaflet (AE & farmer), Inputs (Maize seeds, hand tractor/tractor string, stick, fertilizer, pesticide, etc.)

**Methodology** :

- Theory and practice (group discussing) at 45 days after planting and at the harvest time
- Invite all the members to participate during FFD
- Conduct gross margin analysis

**Monitoring & Evaluation:**

- Prepare format for monitoring
- Conduct participatory monitoring (farmer & AE)
- Analyze and document the result

**f) Additional Information**

Prices over time, gross margin calculation, processing and marketing possibilities, nutritional value of crops or livestock products

**References**

BMZ/GTZ, 2009, Vol I, Chapter 4 and Vol II, E13, F03, G04

## Annex 7: Recommended Priority Packages

The following priorities have been identified for package development by the participants of the stakeholder workshop on 28th/29th June 2011 at ETDA:

1st priority: Rice and Irrigation

2nd priority: Maize

3rd priority: Beans (Mung Beans, Soy Beans)

4th priority: Seed and Produce Storage

5th priority: Vegetables

6th priority: Fruit Tree Crops

7th priority: Chicken Raising

8th priority: Cattle Fattening

9th priority: Agro forestry

10th priority: Aquaculture

11th priority: Integrated Pest Management

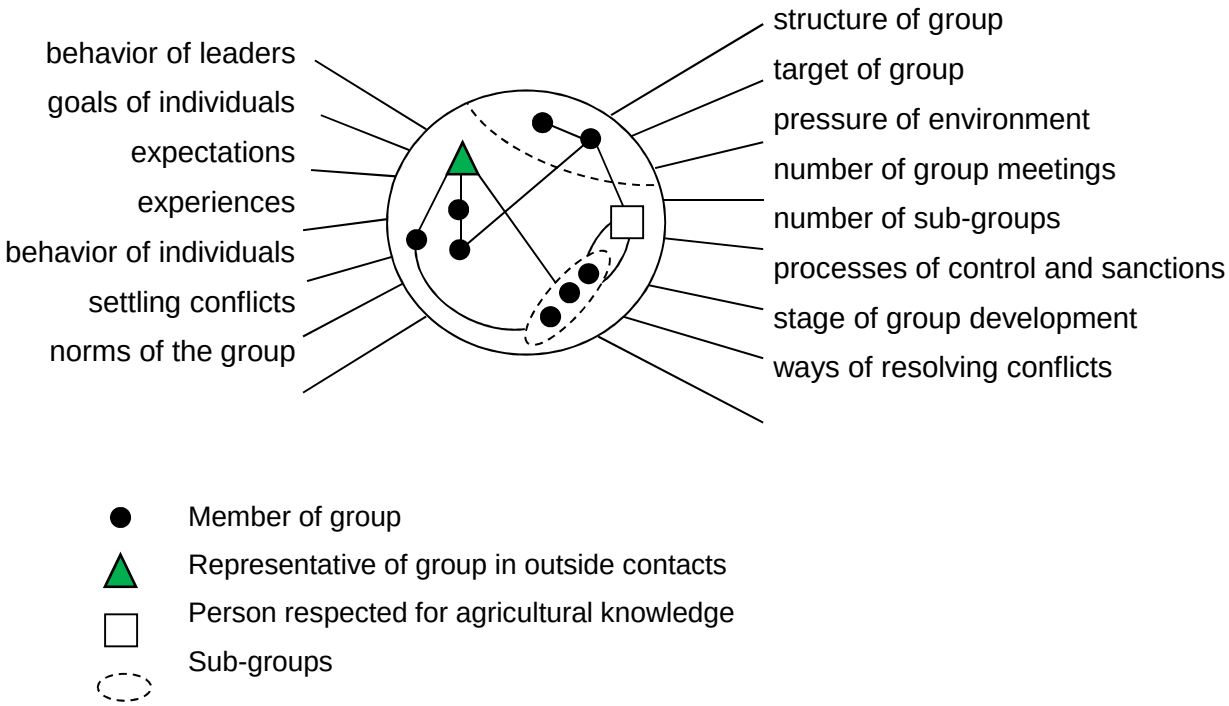
12th priority: Integrated Soil Management (including compost, green manure, crop rotation)

# Annex 8: Basics on Groups and Group Processes[14]

Agricultural Extension for individual farmers is time consuming and laborious. **Working with groups,** when done properly, means that **the message reaches far more people and produces longer lasting results** from the conversion to AE ideas. We therefore describe here some aspects of **group dynamics** that are important for advisory work.

Social relations are a vital part of life. They are components of people‘s upbringing; they convey a feeling of security and affection. Through them we experience recognition and self-affirmation, but also power and influence over others. The **group** is the central link between the individual and organized structures of society. On the one hand, it has a **formative effect**, imparts attitudes, values and orientation; on the other hand, it also **satisfies basic needs,** gives people belonging to the group a feeling of usefulness, security and a better chance of self-fulfilment. The following figure gives an overview AE of elements and influencing factors within groups.

**Groups and factors affecting them**




We speak of a group when a **distinct number** of people **associate** regularly and seek to achieve **common goals**. While belonging to groups imposes certain constraints on the individual and puts him under special pressures, it also gives him the chance to share in the tangible benefits that accrue to the group and to have the opportunity to achieve personal satisfaction through social activities.

Basic **group pressures** are directed towards **conformity**, the development of a **corporate feeling** and **creating a viAE of the world outside** the group. All members of a group must conform. If someone persists in extreme individualism, he must withdraw from the group. In this way groups have a tendency to impose certain uniformity on their members. Leaders within the group are even more subject to this pressure because they especially embody the group ideals and the **group norms**. This means, conversely, that behavior that is too deviant is more risky for them than for the other group members, because it can mean they lose their position as leaders.

[14] Adapted from BMZ/GTZ, 2009, Volume I, Chapter 3

Anybody who adapts sufficiently, however, will identify strongly with his group; through mutual affirmation among the group members, standards are evolved by which people measure themselves and others. The way in which the members of a group perceive themselves expresses itself in **common values**, **pride in common achievements** and a common **group language**.

Through the **corporate feeling** of a group, the members move **closer together** and **distance themselves from the world outside**. They then have to make clear to the world outside what the particular targets and achievements of the group are. The group tries to gain social recognition, but as well as recognition it experiences competition, criticism and hostility. Both elements are necessary to maintain the corporate feeling and the pressure on the group members to conform.

What has already been introduced as a principle of perception, namely that the whole is more than the sum of its parts, can be transposed to the capabilities of the group, which under favourable conditions can be greater than the sum of the individual achievements of its members. Such **tangible benefits from synergy** can result from the principles of **joining forces, compensating for individual error and capacity, stimulating rivalry**, the common obligatory **plan of action**, easier **adaptation** and **group identification**. These principles are briefly explained below.

**Joining forces** creates a clear advantage when a task exceeds the capacity of an individual and can only be accomplished by common effort. This may range from simply lifting a heavy weight to effectively representing interests.

**Compensating for individual error and capacity** means that the weaknesses and strengths of the members positively supplement each other and that the errors of individuals can be alleviated or corrected by the other members of the group.

Under favourable conditions, **beneficial rivalry** can develop in a working group. The individual is thus spurred on to work harder for the common goal than he would work for himself alone.

To attain their targets, groups develop commonly agreed norms and a **plan of action** to fulfill tasks by which the group members then feel bound. Adherence to the plan of action is checked by the rest of the group, and anyone deviating from the plan faces the threat of sanctions. If the norms are conducive to the common goal, and if the plan of action has been sufficiently thought through and is feasible, the probability of target attainment is on average greater for the group than for the individual.

A group decision to make **changes** succeeds more easily as a rule than an individual decision, and the group provides the necessary back-up to cope with the problems in the **adjustment phase** when implementing a change. Post-decision conflicts usually have less serious consequences, since they are confronted by the group norm. Difficult behavior modifications are therefore less likely to be subject to relapse in groups than in individuals. This also explains why groups can more easily take risks than individuals.

Groups with sufficient maturity, i.e. that have been able to overcome their initial problems of group formation and role allocation, can provide their members with a feeling of security, and belonging to the group is perceived as positive and worth striving for. Existing achievements of the group make an important contribution in this respect. The individual draws additional strength from this **feeling of identification**, which can then flow into further efforts to achieve the group's target.

In Timor-Leste, groups are often **formed or forming themselves from within a clan**. Experiences with group extension in Timor-Leste reveals that **groups beyond clan boundaries often fail**.

In extension initiatives it makes sense to work with groups. The extension worker needs to take into account the peculiarities of groups and group dynamics if he is even to have a

chance of working effectively within groups. He should be aware above all of manipulation and adopting an authoritarian stance.

## Annex 9: Guidelines for Farmers' Training/Group Discussions[15]

**Group discussions** is probably the most widespread group extension methodology. The classic setting is a discussion group in a circle or round table arrangement, be it outside or inside. The success or failure of group discussions depends largely on the level of preparation and depends on the following factors

- **Group size**

  The number of people should ideally **not exceed 15 to 20**. Larger groups tend to be less inclined to hold together, do not give individuals enough chance to speak, and are prone to domination by people with higher status and greater aggression.

- **Place**

  Group discussions should be carried out in **central, quiet venues**. If they continue for any length of time, seats and writing facilities should be provided.

- **Participants**

  The group should be relatively **homogeneous** with regard to resource endowment, the practical obstacles it has to tackle, and its interests. However, some differences among members make an exchange more interesting, provided that a climate of mutual trust can be created.

- **Information**

  The participants should be informed about the points to be dealt with well before the beginning of the discussion. Where groups already exist, this advance warning can be given on notice boards in the middle of the village or by providing specific contacts with the necessary information.

- **Agenda**

  The agenda for group discussions must be carefully prepared so as not to demand too much of the participants. Wherever possible, the advisers should work out the items and discuss them in advance with representatives of the group. In this way, the adviser gets a more realistic idea of the reactions that can be expected from the rest. Advisers, and particularly "experts", tend to overestimate the ability of local client groups to take in information.

- **Preparation of content**

  The adviser must **prepare the group sessions carefully** in order to present the necessary information effectively and to put appropriate and stimulating questions to the group. If it is not possible to prepare leaflets or hand-outs, there should at least be a blackboard or some other item of presentation equipment available. Practical demonstrations should be fully rehearsed beforehand. Questions of detail should be clarified in preparatory discussions with other advisers or by consulting specialists. When their presence is necessary, they should if possible be brought into the group discussions.

[15] Adapted from BMZ/GTZ, 2009, Volume II, Chapter 5

**During the group discussions, the following points are important**

- The discussion should begin as **punctually** as possible. Advisers arriving late offend participants who have made an exhausting trek or have to get on with urgent work in their fields.
- **Leading the discussion** will normally be the job of the adviser. If groups have already reached an adequate level of organization and self-administration, functionaries of the client groups can lead the discussion instead. The adviser limits his or her contributions to an absolute minimum.
- At the beginning of the discussion, the **agenda** should be briefly presented again and any additional items included.
- If the adviser is asked for technical explanations, he should provide them in such a way that all **participants** can follow him and **are motivated to** discuss critically, to **contribute their own experience**, and to **work out nAE solutions**.
- **Objections** should be dealt with unemotionally. Heated discussions frequently occur where difficulties arise in programs which are already operating. In these cases, it may be best to let the discussion run its course so as to reduce the emotional pressure. The chairperson should try to give a summary of the discussion from time to time, to address directly individuals who are expected to make an objective and valuable contribution, to **lighten the tone** of the discussion **through humor** and, if necessary, to introduce a short break or bring forward a less controversial item on the agenda.
- The freer the group members feel to speak, the more the decisions will eventually be based on sound reasoning. It is the job of the discussion leader to **encourage** timid and diffident **individuals to take part**. Equally, he or she should prevent domination of the discussion by pompous and long-winded talkers, **limiting their speeches** and keeping strictly to the agenda. This is particularly necessary when politicians or local dignitaries turn extension discussions into political meetings or try to exploit them for personal ends.
- The discussion leader must avoid using his formal authority to push through decisions. He must certainly bring in his expertise, but must **allow the group itself to make the decisions**.
- Another important function of the discussion leader is to curtail discussion of problems that fall outside the scope of their decision-making power. He must therefore pass on expressions of dissatisfaction, wishes and suggestions to the relevant authority.

## Annex 10: Guidelines for On-Farm-Demonstrations

Agricultural Extension in Timor-Leste is focusing on improving agricultural production, especially that of the rural poor. **On-Farm-Demonstration** is one of the main group extension methods (see Chapter 5) to reach out to these farmers. They serve as a **transmitter of technologies and know-how to a wide range of farmers in the respective villages**.

On-Farm-Demonstrations are planned and conducted with '**Pilot Farmers'** in the Suco. Preferably, **the demonstration farmer will be one of the farmer group members**.

Demonstration farmers are pilot farmers (qualities of pilot farmers see Annex 8) and should, in addition

- have a genuine **interest to try out and demonstrate AE technologies** to other farmers (and to themselves as well)

- be **prepared to allocate part of their land for demonstrations (the demonstration plot** with the recommended farming practices **should not differ in soil quality and other characteristics from the surrounding plots**
- **allow other farmers to visit the demonstration plo**t during demonstrations and field days but also during any other time.

The design of the demonstration (e.g. recommended vs. traditional practices, treatments, etc.) is crop specific and is described as part of the package design (see Chapter 4). Annex 6 presents a concrete example for a demonstration design for the maize package.

**Responsibilities for On-Farm-Demonstrations**

Field demonstrations are be conducted by pilot farmers, who have been identified according to the guidelines for identifying pilot farmers (see Annex 8). The basis for the on-farm-demonstration is a contract between the pilot farmer and the AE. The agreement stipulates the terms and conditions for the demonstration and is has to be countersigned by the Suco-Chief. The agreement describes in detail the responsibilities of the pilot farmer and the AE.

The **responsibilities of the pilot farmer** include

- conducting all agricultural farm activities (land preparation, planting, etc.) according to the **prior identified technical specifications** of the farm technique to be demonstrated
- to host a number of group discussions and field days at different times during the demonstration and
- to provide all necessary technical data in connection with the demonstration.

The **responsibilities of the AE** include

- the **provision of necessary inputs** to conduct the demonstration successfully. Those comprise agricultural inputs like seed, fertilizer, animals, agricultural tools, as well as signboards and extension materials. The inputs are given to the demonstration farmer free of costs as compensation for his efforts
- The provision of **technical advice during the cropping cycle** to the demonstration farmer whenever needed and
- The **organization of extension events (group sessions and field days)** during different stages of the cropping cycle and as specified in the agreement. This includes
    - Making the extension event (date, location, topic) known to farmers
    - developing clear session sheet for the conduct of the demonstration (example see Annex 6 for the maize package)
    - facilitation the extension event along the session sheet and
    - entertain participating farmers with snacks and drinks

**Design of On-Farm-Demonstrations**

Each demonstration must have a **signboard displayed at the site of the demonstration**. The signboard **clearly describes all the demonstrated technologies** of the respective demonstration.

Preferably demonstration plots **are along roads and paths**, where many farmers pass by regularly.

The plot size of a demonstration is specified in the package is different for the different crops and other farm enterprises (see Annex &).

For crop demonstrations, there should be a **comparison plot adjoining**, where the traditional technology is being practiced. If there is no comparison plot, then all the neighboring plots can be used for comparison with the improved (demonstrated) technology of the demonstration plot.

**Extension Events at On-Farm-Demonstration Sites**

The pilot farmer with the support from the AE organizes a number of group demonstrations and field days as specified in the agreement (different according to the farm enterprise). They could be combined with village group extension sessions, but should cover the topic of the demonstration.

**Monitoring & Evaluation of Demonstration Results**

Each farmer meeting and field day at the demonstration plot has to be monitored and reported by the AE along the **standard reporting format** for AEs (see Annex 5) as follows:

- **Demonstrated techniques and discussions** (successes, failures, good practices, recommendations for next time)
- **Number of farmer** participating (gender specific)
- **Follow-up** extension events agreed upon (if any)
- **Results from the demonstration** (different development of root development, tillering, yield comparison based on **crop cuts from the demonstration plot and the traditional plot,** etc.).

**References**: BMZ/GTZ, 2009, Vol I, Section 5.2.2.3 and Vol II, C6, E6

# Annex 11: Guidelines for Cross-Visits[16]

On a **Cross-Visit**, a group travels to another location to observe agricultural practices, projects or demonstrations not available locally. Farmers from one village will see the successes of other farmers in another village. On such trips, farmers can learn through their own experience.

The trip may consist of one or more stops.

The purpose of the field trip is

- to provide first-hand observation of practices that might be of benefit to the farmer or householder and farm worker
- to enable the group to interact with individuals knowledgeable about the practices; and
- to present a fresh and different learning environment for both the extension worker and the clientele.

The following hints are given for the planning and conduct of cross-visits:

- Field trips should be organized with a very specific, limited objective, for instance compost heaping, seed multiplication, and so on
- The group taken on a field trip should be limited to a maximum of 5-10 key persons. These key persons should already have an interest in the topic and be motivated to learn more
- Field trips should be organized not too close to the participants' home area, but conditions in the area to be visited should be as similar to their own area as possible
- The host farmers should do most of the talking and responding to the questions
- After the field trip the adviser should ask for feedback about the field trip from the participants

The ideas on preparing, running and evaluating demonstrations (Annex 10) and group discussions (Annex 11) can essentially be applied to field days, too.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.2.2.4

[16] Adapted from BMZ/GTZ, 2010, Vol II, Chapter 5

# Annex 12: Criteria for Selecting 'Pilot Farmers'[17]

Pilot farmers are farmers who are **willing and able to conduct on-farm-trials, demonstrations and have the potential to advise other farmers** (for the farmer-to-farmer approach). Pilot farmers have a very important function for extension as they can multiply the impact of the AE in extension. In addition, pilot farmers are the main contact partners of advisers, and in this capacity they pass on information and techniques to other farmers. As representatives of the client groups, contact farmers see that the wishes, proposals and criticisms of the farmers are taken into consideration when extension measures and programs are formulated. Pilot farmers should preferably be selected from farmer groups. However, other farmers with the potential being contact farmers should not be excluded. The following criteria should be followed when selection pilot farmers.

**Social-economic criteria**

- Pilot farmers must be **accepted and respected** by the farmer group or the farming population in the Aldeia/Suco. In the ideal case, the pilot farmer is selected/chosen by the group/the people themselves
- Pilot farmers should have **sufficient status in the client group** to counter the sanctions that could be applied when unconventional innovations are tested. It is an advantage if the pilot farmers have sufficient status for the farmers to accept their role in testing innovations
- Pilot farmers **must not be motivated simply by personal advantage**, such as the cost-free provision of inputs, or keeping the innovations on their farm a secret in order to benefit from the innovation gain alone
- Pilot farmers should always **behave in solidarity with the members** of their client group
- Pilot farmers must be **open, communicative and willing to share** AE information and innovative practices with other farmers

**Agriculture and Agricultural Practices**

- Pilot farmers should have a **similar resource endowment** as the other farmers (not too resource rich and not too resource poor)
- Pilot farmers should have the **similar basic agricultural practices** as the farmers in their respective client group. However, pilot farmers must be recognized as somebody interested in **trying out new practices in the past which proved to be successful**
- Pilot farmers' farms should be **suitably located to allow easy access** to the maximum number of client group members

**Know-How and Skills**

- A good formal education is an advantage but not be condition. More important than formal education is the willingness and ability to accept nAE ideas and to integrate nAE information
- Pilot farmers must have the **ability to carry out trials and interview AEs correctly** (time, content, observations)
- Pilot farmers must be **capable of advising farmers** and giving them factually correct information and advice at the right time. They must also be in a position to interpret farmers' reactions correctly
- An important precondition of selecting pilot farmers is the **willingness to undergo further training**, either by means of courses, training by the adviser, or with the aid of printed material or electronic media.

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[17] Adapted from BMZ/GTZ, 2009, Vol II, F07

# Annex 13: Guidelines for Field Days[18]

A field day is an event organized for a larger group of farmers **to show or demonstrate improved production techniques** being used on one or more farms, demonstration plots or research stations. It is a method of extension work in which a **combination of group discussion, demonstration of results and methods, and teaching aids is employed.** Because preparation and implementation of such days are rather intensive and expensive, this method is not suitable for groups but is aimed at addressing a larger audience, from 100 participants upwards.

Field days are usually carried out towards the **end of the vegetation period** so that as many results of production methods can be shown as possible.

The aim of field days is **to interest farmers in adopting innovations** and to give them the chance of convincing themselves of the purpose and practicability of the recommended practices being demonstrated. **Field days have to be supplemented** by targeted demonstrations of individual techniques and information campaigns if innovations are ultimately to be adopted.

Despite being admirably suitable, field days are rarely used because of the **difficulties** in:

- comprehensive organizational preparation
- transport
- demanding too much of poorly trained field advisers
- time-consuming provision of information for client groups and motivating them to take part
- the effects of advice being seen only in the medium or long-term.
- A similar event, easier to organize, is a cross-visit, normally just with a group of participants, to visit some interesting places where issues can be observed and discussed as shown in ⇨ Table 5.3; by contrast, a field day aims at bringing a higher number of people together.

### Selection of participants

- The best policy is to select **farmers** to take part who all find themselves **in a similar situation**. These participants can belong to various client groups unlike the situation in the case of demonstrations. The choice of farms has to be correspondingly varied if the program is to be made equally relevant for all taking part. This also encourages the exchange of ideas among the participants
- **Influential people** in the locality must be asked specifically to attend these field days so that they can be convinced of the usefulness of the programs presented. Where there is a fairly wide social gap, it is worth considering holding special field days just for the influential people first
- As a matter of principle, **women and young people** should take part in field days. In many societies women do go to field days with the men, but in others it is better to arrange them separately for the women
- Since field days do not put so much emphasis on demonstrating and trying out AE techniques, the number of people attending can be up to fifty. In the ‘rolling system’, for example, with 6 groups taken on a guided tour of 6 “stations”, the groups all start

[18] Adapted from: BMZ/GTZ, 2009, Volume I, Chapter 5

simultaneously at different stations, and each group moves on to the next higher number. This allows as many as 100 or more persons to be accommodated per tour without problems.

**Selecting farms**

- A field day should **not be held in the immediate neighborhood** of the participants in order to avoid conflicts arising through envy, competition, etc. But sometimes problems of transport or long distances prevent 'outside' field days being held. If this is the case, the AE should only consider farms that correspond to the farming systems of the participants. This is made easier for him if he involves group representatives in planning
- The only farms that should be considered are those that have clearly achieved the aim of extension. Above-average results that have been achieved with techniques beyond the reach of the majority of farmers will be less credible than a lower **level of improvement which the farmers feel they can reach as well**. Attention must be paid to the personality of the farmer when selecting farms. The ideal people are those who are regarded not only as exemplary farmers but as influential and popular individuals

**Organizational requirements**

- The logistics of organizing field days call for careful preparation, e.g. reliable buses or trucks, pre-arranged routes and, if possible, replacement vehicles
- **Rising transport costs** mean that a contribution by the participants is desirable, but this could, of course, exclude poor farmers from field days. Sometimes transport can be financed through village committees or cooperatives
- If there is a **local radio station** and if the client groups have radios, the time, place and pick-up points for the field day should be announced in advance. Similarly the information should be given on notice boards, but usually the most important source of information remains **oral communication** by the adviser via contact farmers, village heads, party functionaries, etc.
- The visitors should not be overtaxed by too full a program, which should therefore not last for more than three to four hours and should not take place during the hottest part of the day. The ideas on preparing, running and evaluating demonstrations (Annex 10) and group discussions (Annex 11) can essentially be applied to field days, too.

**References**: BMZ/GTZ, 2009, Vol I, Section 5.3.2 and Vol II E8

# Annex 14: Hints for Training Courses[19]

Annex 5 gives some hints for the planning, implementation and evaluation of training courses. This includes 'Basic Principles for Training Courses (a), 'Planning, Organizing and Conducting of Extension Training Workshops' (b), 'Organizing and Conducting Training Workshops' (c), 'Monitoring and Evaluating Learning Outcomes' (d) and 'Creating Conducive Frame Conditions for Training Courses' (e).

## a) Basis Principles for Training Courses

When planning and implementing a training course, the following basic principles should b e kept in mind.

### Emphasis on attitudes and methodological skills

Though advisors need technical knowledge, and it is important that an advisor is fit in the subject matter, training should not be limited to technical and organizational aspects. There is an absolute need to focus – specifically at the beginning of the professional career – on methodological and ethical aspects of advisory work, and to train advisors on participatory approaches.

### Congruency between extension and training philosophy and practice

Training of advisors has to follow even more the adult learning principles. Advisors must experience a participative approach themselves. The challenge of training (future) advisors is to combine adult learning principles (Section 1.2.1) and the principle of participation (Section 1.2.2) with the requirements of the extension definition (Section 1.2.3). It is therefore necessary to determine (training) phases or parts that can best be handled in groups and other phases that logically then have to be realized on an individual basis and to combine them to best suit a person's training needs to be well equipped to fulfill the job he/she is expected to do. Developing advisory skills can best be achieved through face-to-face learning in peer groups considering the requirements and principles mentioned before.

### Positive attitude towards future advisors

When qualifying advisors, and specifically namely recruited staff, our approach of extension training is based on the following assumptions:

- Advisors have an affiliation to work with the farmers of the organization they are employed (farmers, women/persons of a certain social setting, etc.)
- Participants are willing to learn and to improve continuously; this includes openness of the person in general, and specific to any critique. Moreover the person is eager to further develop its ability to self-criticism
- Participants have reached a certain personal maturity and the capacity to act in a professional manner (be able to distinguish between personal and professional issues, and do not allow oneself being overridden by personal issues, following the code of conduct /ethical guidelines of the organization, etc.
- Having the willingness to carry on with the further qualification program until the end
- The person has already passed a vocational training. He/she is fit in the content of general issues in agriculture and rural development
- All training has to be done by well skilled and knowledgeable trainers.

[19] Adapted from BMZ/GTZ, 2009, Vol I, Chapter 8

## b) Planning, Organizing and Conducting of Extension Training Workshops

Good preparation of a training workshop is a precondition for good training. The trainer can fully concentrate on the subjects during the training course and does not have to prepare much in the evening or even during the breaks. This increases the quality of training. It is important to start with the preparations early enough.

### Designing a training program

A training program has to be designed according to the following steps. Even if the program is already fixed, the trainer has to intensively make him/herself familiar with the program and the methods proposed, especially with the parts he/she is responsible for.

### 1st step: Overview AE of the planning phases

There are a series of steps which help in preparing efficiently. A trainer might not be involved in all steps however should know about the 'history' of it. Not all possible trainers or resource persons are full-time trainers and have received sufficient training and/or are involved in other work than training. Therefore, time for preparation may be very short. The following suggestions help to make best use of the little time available.

In a **first phase** (3-6 months before the event) the identification of the topic starts in the frame of a needs assessment. If specialists need to be included, they should be asked about their availability already now.

In **phase two** (2-3 months before the event) a rough draft/outline of the event is being developed. The determination of the date and duration at this time allows the search for an adequate training location as booking sometimes needs to be made quite in advance.

In **phase three** (1-2 months before the event) the invitation/application process starts: the course will be announced latest in this phase, and applications will be screened. Ideally, the application already includes a 'learning career' to find out about the applicant's previous qualification measures. Possible participants need to inform their superiors to get released for the training and to do their own planning accordingly.

The **fourth phase**, the micro planning, is normally considered as the planning of a training event. Here, based on the outline, the detailed sessions are further developed and put into a training plan, material is being developed and responsibilities within the trainer team is agreed upon. A list of necessary material is developed and ordered/organized. This phase can take place either up to a month or immediately before the training event – depending on the availability of the trainers and their familiarity with the content and training experiences. Depending on the duration of the training course, preparation of training units will continue (after the training sessions), as a result of adapting the training to the course and needs of the participants.

There is also a need to think about how to **evaluate** the training – during, immediately after the course and some time after the event to find out about the utility, applicability and application of the training content.

### 2nd step: Training needs assessment

The training needs assessment is a critical activity for the development of the training course.

A training need is a gap between 'what is' (the present) and 'what should be' (the desired future). The process of assessing training needs of extension agents must carefully consider the present tasks that he/she should assume (job description) that he/she is really assuming (factual job completion/performance) as well as where he/she can realistically be expected to fulfill in the medium term based on the job description together with (internationally) recognized criteria or benchmarks/ school of extension that the respective, well-qualified job holder should fulfill– taking into consideration the situation of the national extension service system. The needs for training can then be identified based on the difference between the current capacity and the desired future capacity.

To ensure that the needs assessment fully considers local conditions including the particular strengths and weaknesses of the extension service, a review AE and analysis must be done of the present extension situation and any opportunities or threats facing it prior to the job analysis. Without a clear understanding of current capabilities and gaps in abilities in a given context, activities to strengthen capacity will be less than optimal

In via AE of the future situation, the training strategy starts with determining the objectives, and breaks down either sub-objectives or the various content issues that contribute to achieve the objectives. The outcome – depending on the magnitude – can be a strategy for a longer term intervention or a one-time training only.

**3rd step: Developing learning objectives**

Training objectives are statements of what trainees should know and be able to do as a result of the training. Their origin is related to the training need assessment. Each training consists of a hierarchy of topics and trainee oriented objectives. The overall objective describes the behavioral changes envisaged with the training. Each overall objective is divided into a number of specific objectives which describe actual observable behavior and which can be evaluated. The formulation must be clear and complete:

- What result is the training to achieve? **- knowledge**: understanding and interpretation; **skills**: Doing; working things out, or interactive 'social skills'; **attitudes**: degree of interest in the job, willingness and motivation to use knowledge and skills
- What must the trainees do as a result of the training that they could not do before (behaviour, required performance improvement).

**4th step: From objectives to topics and to a curriculum/training program**

As mentioned above, objectives are the guidance for the further elaboration of a training program. Before writing specific objectives it is often helpful to break the course content down into smaller 'topical' units, e.g. the elements that need to be tackled to achieve the different kinds of objectives. Topics are brought into a logic sequence then, and elaborated into a training outline (see Table a). Such an overview will be given to participants.

The type of objectives does not only decide about the content, but also determines the didactic approach: the logic/sequence, the degree of trainees' involvement, the methods, the duration and the aids and material. However, also frame conditions, such as availability of possible trainees due to certain duties (e.g. extension campaigns), possible length of stay, suboptimal training location influence the design of a training program. The product is a compromise that hopes to cover as many common training needs of the participants with the appropriate methods making the most efficient use of the available time. Annex 4a presents a training outline for a 3-days training course.

**5st step: The training plan**

To bring together the objectives, the content as well as working methods, training material and time aspects, the elaboration of a training plan (table b) has proved very useful to plan training courses. The skeleton can derive from the overview for the whole training course (see Table a above). This detailed structure helps a resource person to decide who will be the lead and who has a supporting role (if the work is done in a trainer team), to prepare the session and the organizing institution to prepare the material required for the lesson. This detailed outline remains with the trainers/facilitators (the proposed outline for a training plan is presented in Annex 4b).

**c) Organizing and Conducting Training Workshops**

It is recommendable to work as a team of at least two trainers/facilitators with a group of participants between 12 to 18 persons. Once a trainer has been invited to facilitate an

extension training workshop, gathering of required information for the training and the preparation phase begin. This section explains the pre-requisites for the preparation of the workshop, **in addition to mastering the training content**.

**Pre-workshop activities**

**Training team formation and consultation**. Training workshop uses intensive methods and require active participation by all trainers/facilitators in order to steer groups and continually challenge participants to develop their learning capacities. It will not be possible to work always in a 'dream team'; the need to compromise is evident. The faster the training team members get to know each other's strengths and weaknesses, the faster each trainer can prepare. If personal contact is not possible for the preparation well in advance, make sure to clearly divide the tasks, and clarify methods of addressing problems within the team and with colleagues concerned.

The training team should agree on the agenda in advance and decide who will lead each session. The person leading the session is responsible for ensuring that all materials are prepared for that session and do any necessary background reading. In many cases the other trainer(s) will be involved in a supporting role, particularly in small group work and the various exercises that are suggested, or in visualizing plenary discussions. The training team should meet after each day of the workshop to debrief and plan the following day, and at the end of the event to debrief and give feedback to each other.

**Communication with the mandating body office**. Trainers who do not live in a certain country/area need information about the frame conditions in which the training takes place. This includes also information on participants, the training location, status of local preparation, etc. They should therefore be in close contact with the responsible persons beforehand to make sure that everything that the team needs is either available or alternatives are found, and administrative and logistic matters are settled. This avoids unnecessary disturbances during the workshop as the right information can be given to participants at the beginning of the workshop.

**Selection of participants and background**. The inviting and organizing body suggests the number and types of participants. In many cases, participants are selected by superiors, and the profile does not always match with the training objectives that have been mentioned in the invitation. In some cases, the fact that participants are mandated and have only little or no interest in the event may influence their mood, their motivation to contribute, and in extreme cases may lead to disturbances.

**Preparation and timing required**. Running a training workshop requires considerable hands-on work: preparation of training materials such as flipcharts, cards, and other visual aids, participants' handouts, and reading and familiarization of content. In addition, training materials have to be translated into the Tetum language.

**Venue and training room arrangements**. The venue should be large enough for participants to sit in plenary (either in a semi-circle or U form, or 4-5 tables to accommodate 5- 6 participants per table). Additional tables are also required for facilitators and for organizing materials. The training room should also be sufficiently large to allow simultaneous small group exercises (or alternatively have break-out rooms), and its wall can be used to display flipcharts, working group results, and other type of visual aids. This also means to care of the acoustics of the room.

Coffee/tea break must be arranged not too far from the plenary room, so as not to lose time gathering the participants back to the plenary. Equally important, the choice of the location of the training venue should also consider the time required for participants to get there, alternative power supply in case of power blackouts, good air circulation, hygiene, etc.. It is of an advantage if the training facility is not too close to the participants' offices. If too close, participants tend to go to their offices in between or even during the training sessions.

Visit the training facilities before the workshop early enough to be able to organize missing material or re-arrange things – or adapt methods and visual aids if changes are not possible. In cases where it is not possible to visit the room before the training, be prepared to go several hours earlier to set up everything and – specifically in case training is the topic of the workshop – involve participants in the preparations and take this situation as an example when later appropriate.

**Materials and equipment.** Each training session specifies all the materials - in printed or electronic form- required to an extension training workshop. It also provides PowerPoint presentation slides where indicated and specifies flipcharts for each module/sessions that have to be prepared in advance. In places where the use of laptop and video projector can be unpredictable, ensure that there is alternative or back-up equipment available.

### Activities during the workshop

**Administration and logistics**. During the actual delivery of the training, keep in mind that besides the content of the training, the facilitator has to consider a number of administrative and logistical details, such as:

- contacting with the manager of the location regarding timing for meals, breaks, and the number of participants, room arrangements
- preparing the certificates – the list of participants who should check the spelling of their names is therefore important and should be circulated early enough
- preparing the participants' material as agreed upon
- ensuring documentation of the event: numbering pin boards, flipcharts, taking pictures, store and order them according to the date, re-work them using a photo editing software, write first ideas for the comments for the documentation

- ensuring orderliness of training room (flipcharts and cards that are no longer necessary for other sessions should be disposed of and those that still required for other sessions must be organized).

While you may request support from the local coordinating/organizing body that will help to manage these tasks, you have to be prepared to supervise the helpers as you know best what you need for the training.

**Monitoring & evaluation**. In order to ensure that the training workshop is on the right track and that the participants' needs and suggestions are accounted for, make time in the evenings to check on participants' progress, mood and questions/comments (e.g. with a daily mood barometer, a daily monitoring committee, rules for disturbances, etc.). Based on this reviAE, and whenever possible, make appropriate adjustments to the training situation.

### Post-workshop activities

**Debriefing & reporting**. Due to competing demands, the mandating organization's head might not have time to attend the workshop or it is even not advisable to do so. He/she ,might be available for the opening of the workshop, then leave. It is important to debrief him/her of the process and outcome of the training soon afterwards.

To capture the different and often very voluminous results of the intensive group works, you may also consider asking a participant from each group to give a written report on the group's findings. The time for handing it out to the ordering party of the workshop and possibly to participants should be clarified together with participants and other stakeholders.

### d) Monitoring and Evaluating Learning Outcomes

Course evaluations help to monitor if course goals have been reached. At least at the end of a training course, participants should evaluate the conducted training assessing the content (achievement of objectives, contribution of learning steps to the achievement of objectives), the methods (to what extent were the methods used helpful to handle the content?), the actors in the learning process (fellow participants and trainers, resource persons) and the learning environment (duration of the course, organizational matters, room, food, etc.). This evaluation helps to improve the next training.

It would be desirable if throughout the training course, the participants evaluate the program every evening before they leave the classroom. This gives the trainers the possibility to adjust the program according to the needs of the participants.

### e) Creating Conducive Frame Conditions for Training Courses

Training as part of capacity development takes best effect, if the environment is conducive and allows the application of the learning content. There is need to have an encouraging organizational and workspace environment as well as the physical facilities for the training. This means:

- Participants who need to do office work parallel to a training workshop will not be able to fully concentrate on the training. Therefore, the training location should be a quiet, retreat place which also includes the material and physical equipment that is needed to do interactive, experiential learning
- The planned/organized capacity development measures need to be accepted by the employing agency, specifically by the supervisor
- The work schedule of the respective persons needs to include the training – the face-to-face as well as the individual learning/preparatory activities that are necessary for coaching / backstopping measures. Programming of work needs to be respectively and work load to be reduced
- It would be positive and encouraging if staff members who finished with a learning module could inform their colleagues and summarize their main insights/lessons learned, and present the suggestions that derive thereupon for the common work
- There must be room to apply what staff members learned. This is easier if a group of the same organization is trained and has already elaborated a strategy how to apply the content.
- Though from a participant's point of view it is positive if he/she gets promoted soon after training; however, the namely qualified person (e.g. a development agent) should apply the improved skills in his/her previous working environment – at least for some time as the training needs derived from the analysis of the current job. Applying namely acquired knowledge and skills and receiving (hopefully positive) feedback is an incentive to work better and to learn even more.
- Training measures should not be seen isolated but embedded in an overall career development path of the respective staff member with regular performance appraisals which also includes reheard and recognition schemes.

## Annex 15: Equipment & Financing of Extension

The district level and below is only marginally equipped with transport, extension materials and finances to properly implement extension work: Most of the district offices do not have access to electricity and internet during office hours, all district level officers have to share one car and not all of the Subject Matter Specialists have access to a motorbike and most of the AEs do neither have transport facilities nor a minimum of extension materials to do their job.

In additions, financing of extension is still extremely centralized and even single activities and small expenditure have to be approved on national level. The advances given to the district level from the national level do not allow efficient management and spending.

It cannot be expected that extension work will be efficient under such circumstances.

Therefore, the following minimum equipment and financing procedures will be provided with the next budget planning:

**District level**

- Access to electricity throughout officer hours
- Access to reliable internet connection throughout officer hours
- Sufficient office machinery (computers, printers, copy machine, cell phones, etc.)
- Three vehicles (one for the Director, one for the Extension Section and one for the Technical Section)
- One motorcycle for each Subject Matter Specialist under the Extension and the Technical Departments
- Sufficient operational budget for running above equipment
- Basic library with extension and teaching books in Tetum and or Bahasa Indonesia

**Sub-district and Village level**

- One motorcycle for each AEC and AE
- Cell phone for each AEC and AE and sufficient ‘pulsar’
- Sufficient operational budget for equipment
- All weather equipment (rain boots, rain gears, torch light, etc.) for each AEC and AE
- A certain budget for each AEC and AE for extension activities (e.g. demonstrations, meetings, field visits, field days, etc.)
- Basic sets of extension materials like notebook, pens, flipchart paper, markers, etc.)
- Specific extension materials for the packages to be promoted during the season (e.g. written materials about the recommendations, session sheets, leaflets, brochures, posters, etc.)
- Standard housing for each AE and SDC
- Basic extension library at the 61 sub-district extension centers
- Sub-district extension centers.

Unfortunately, the transfer of authority over the district budget to the district level will only be possible from 2014 onwards, **when municipalities will have been established and function**.