TECHNIQUES OF TRAINING
Based on the Training Manuals already produced by the PIP program of the Europe-Africa-Caribbean-Pacific Liaison Committee (COLEACP), Manual 8 was designed and produced by the program’s Training Unit. Christophe Schiffers, a PIP expert, is the author of chapters 1 to 5. Bruno Schiffers, the head of the Training Unit, is the author of chapter 6.

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Chapter 1: Training and Competency

1.1. Continuing In-House Training
1.2. The Competency Profile in Training
1.3. Analysing the Technical Skills Required
1.4. Functional Competency Profiles

Chapter 2: Formalising the Training Profiles

2.1. Validating Technical Competency and Skills
2.2. Identifying the Responsibilities in a Process
2.3. Creating ‘Job Types’
2.4. Defining the Training Profile

Chapter 3: Developing a Training Programme

3.1. Defining the Training Strategy by Identifying Orientations
3.2. Defining the Training Context and Needs Within an Organization
3.3. Which Solution to Implement
3.4. The Choice of Teaching Purposes and Objectives
3.5. Organizing the Training
3.6. Follow-Up and Essential Checklists

Chapter 4: Memorizing the Message and Training Styles

4.1. How Do the Trainees Memorize a Message?
4.2. Three Training Styles

Chapter 5: Evaluating the Training

5.1. Why and How to Evaluate Training
5.2. The Levels of Evaluation
Chapter 6: PIP Training Aids and Tools

6.1. Training Aids
6.2. Teaching Tools

Most used abbreviations and acronyms

Bibliographical references
Chapter 1

Training and Competency

1.1. Continuing In-House Training ................................................................. 6
1.2. The Competency Profile in Training ....................................................... 10
1.3. Analysing the Technical Skills Required ............................................... 12
1.4. Functional Competency Profiles ............................................................. 17
1.1. Continuing In-House Training

Training within organizations, far from a routine activity, is still generally perceived as an 'extra', as an activity the managers could well do without, as 'non-productive' time. Even though it is rarely presented as an investment, training is becoming increasingly important and even essential in both the private and public sectors.

Training activities, in fact, are often organised to cope with external constraints.

Certain obstacles can inhibit the development of a real training policy within organizations. These are exacerbated in smaller entities, particularly in small and medium enterprises (SME’s).

These obstacles may include:
- Insufficient training budget;
- Absence of a training manager or a person who has been clearly assigned this role;
- Staff insufficiently informed about training resources;
- Little or no management interest in training.

Add to this the classic caricatures of training. If we stretch the point a little (but barely), we find the following images:
- Training = punishment
- Training = reward
- Training = vacations
- Training = social services
- Training = a gadget
- Training = a drain on the budget
- Training = a time waster

These assessments illustrate two obstacles:
1. The absence in certain organizations of human resource management procedures, and the neglected training is just a symptom of this shortcoming;
2. The lack of strategic vision among the managers of the company or government agency.
1.1.1. The Challenges of Training

The traditional concept of training follows a certain administrative logic. It consists of managing training as well as possible by giving priority to the satisfaction of individual short-term needs and linking them more or less effectively to the company’s objectives.

This concept – administering training – must give way today to a managerial logic.

From this perspective, it is a question of:
- Analyzing situations;
- Taking note of needs;
- Involving the various actors concerned in decisions made on the actions to be taken;
- Putting these decisions into effect;
- Monitoring in order to assess the results;
- Along the way, fine tuning the actions taken to contribute to the company’s effectiveness, efficiency and quality.

Promoting this managerial concept means effectively synchronizing competency development with the company’s policies, action plans and objectives. It is then possible to truly integrate training into the company’s decision-making processes and management actions.

This assumes an ability to think in terms of aims and not tasks, or in terms of process guidance and systems control rather than administrative management.

This managerial concept of training is a dynamic concept that is part of a continuing process of improvement.

It is not enough to use an array of tools and methods. There must also be a policy, a strategic vision. In addition, a long-term activity is developed through a network of relevant actors who make the tools acquired in training useful and who know how to develop a long-term approach. Finally, it is necessary to have adequate means to assure follow-up and monitoring.

Training is thus not an end in itself. The training policy enhances the organization’s effectiveness and must be integrated into the process of managing and developing human resources, as well as into the company’s strategy.

This trend, which seems to be on everyone’s lips, is not often observed in practice. This discrepancy can be noted when the objective becomes sidetracked, when the training responds to the aims of the system and tends to be self-justifying: for example, there are teams of trainers, classrooms that have to be filled up and equipment that has to yield a return.
1.1.2. Competency Development and Training

In order to acquire, retain, develop and improve the competency needed to reach their strategic goals, companies must optimize the resources available to them.

Training is merely one solution, one way of getting there. Competency can also be developed through internal mobility or recruitment. Training must therefore be seen as an action plan that contributes to the achievement of strategic objectives and can be integrated within the overall personnel policy that is being pursued.

The training plan is a strategic tool for change. It is part of the organization’s overall vision:

Training is organised in the aim to get the individual to develop his or her skills. If there is no corresponding vision, however, the training will very quickly cease to be effective and will lose its meaning for the members of the organization.

A correspondence between the objectives of the training and the company’s vision is thus a major key for the success of the training activity and more broadly for the development of the company.

Thus, when we speak of competency development within an organization, we are dealing with designing both a capability and a work situation that makes it possible to exercise that capability.

Performance lies in the connection between the skill(s) acquired and organizing the work in such a way that the employee is competent to exercise that skill. For example, all of the technicians in a company are capable of signing their names, but only certain persons are ‘competent’ to sign on behalf of the company.

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1 References to the diagram: Kessels.
2 In the sense of “have the legal right to …”, “be responsible for…”. 
1.1.3. The Features of the Training System

Following Alain Meignant, we can distinguish the five 'pillars' of the training system:

1. The appropriateness of the training services provided in relation to the needs of the company;
2. The decision-making process with regard to policies and development of the training plan;
3. The production and/or purchase of training programmes related to the technical quality of the methods and means employed in the training function;
4. Follow-up and monitoring of training;
5. Visibility of the results.

Each of these pillars reflects a whole series of key points that need to be analyzed once we set out to manage the training within an organization.

The interaction between these elements contributes to the soundness and quality of the training system as a whole. Four quality criteria can be distinguished:

- **Clear identification** of the need and the target audience, i.e. a response to the needs of the right persons;
- **Synchronization**, i.e. the right timing;
- **Quality of the teaching**, i.e. professionalism, adaptation to real work situations, material conditions, pace of the training etc.;
- **Importance of the results sought and achieved**, i.e. development and application of the competencies gained, the sharing of points of view.

From the viewpoint of the end user, a high-quality training activity is one that is pursued 'at the right moment by a person who is truly concerned, which at the same time corresponds to his needs and working methods that permit him to effectively learn useful things'.

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4 For a fuller discussion, see Meignant, 1997, pp. 125-145.
1.2. The Competency Profile in Training

Local and international commercial requirements, as well as the regulations of importer countries and the implementation of good practices give rise to new needs related to the management of competency and skills within companies.

Hence, companies must review how they manage competency.

Their challenge is to **redeploy competency**, in order, on the one hand, to look for the skills that are necessary for their needs and, on the other hand, to respond to dysfunctions in supplying the local or export market.

The management of competency is inseparable from the company’s business and its context (such as clientele and environment).

Competency is directly connected to specific activities that have to be carried out by the personnel during the production process.

Competency is also contextual: the personnel find that they must adjust their skills as a function of the customers’ requirements, the company’s strategy, and the cyclical elements related to the characteristics of the environment in which the company operates.

From this perspective, managing competency also consists in assuring the development of the company on the basis of the skills that are present in it and that it must master. The challenge is thus innovation which goes beyond adaptation to needs.

In this and the following chapters, we will concentrate on how the company must go about:
- Obtaining the skills that will enable it to respond to its needs;
- Reducing the problems encountered in carrying out the production process.

**Here competency is defined essentially as the ability to act or to resolve problems effectively within a particular context.**

The method for developing skills and competency focuses here on setting up training activities. We will not address the management of competency in connection with the recruitment or evaluation of individuals.

In short, the challenge is to provide a frame of reference for the company supervisors who participate directly in the production process.

In this context, it should be noted that the **management of competency through training may be defined via the process described below.**
The heads of production and the packing station chiefs, for example, must define an expected **competency profile** for the types of jobs in their company: what should each personnel category be capable of doing in order to achieve what results, and with what responsibilities.

It is then necessary to determine the **training profile** in cooperation with the supervisory staff: what are the needs of the individuals holding each type of job with respect to the established competency profile; what is each one capable of doing 100%, partially or not at all.

On this basis, a training specification\(^7\) should be drawn up and given to the trainers (internal and external) in order to specify the constraints to be included in the **training programme** that they are to develop.

Through the preceding steps, the supervisory staff will create an **evaluation profile** (a frame of reference) that will make it possible to evaluate the results obtained through the training:

- **The competency profile gives** the expected level of performance for a given category of personnel. It constitutes the frame of reference for the competencies to be evaluated before, during and after the training;
- **The training profile indicates** what results are to be achieved through the training in order to see that each person meets the requirements of the competency profile. It provides the objectives each person is to achieve at the end of the training;
- **The training programme stipulates** the means to be used to achieve the expected results (for example, the number of days, the type of methods and the duration of the training period). It then makes it possible to evaluate the suitability and adequacy of the means employed in the training.

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\(^7\) Specification: a report that is issued to analyse the needs by defining the specific objectives and conditions of the training. It constitutes the point of reference and the baseline of a contract.
1.3. Analysing the Technical Skills Required

1.3.1. The Elements to be Included in the Competency Profile

We will focus on technical skills, i.e. the technical actions and concrete behaviours expected from a staff member in order to do a given job. Functional skills are also to be taken into account.

*Example:* The production of fresh fruits and vegetables requires organizing the work of various categories of personnel. This organization is characterized by a *succession of steps* necessary to produce and export the product. Thus, one step in the primary vegetable production process is 'carrying out plant protection treatments.' All of the steps correspond to the *primary vegetable production process*, i.e. to a set of correlated or interactive activities that transform input elements into output elements (ISO 9000).

It is essential for each company to define its *production process.* There is no *standardized production process* that can be imported as such into an organization. Each one organizes its work as a function of the fluctuating elements: the company’s background, available or accessible human, material and financial resources, size of the company and use of subcontractors etc.

The following example gives the steps of a hypothetical process: 'primary vegetable production and export':

<table>
<thead>
<tr>
<th>Steps in the process</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Prepare the crops</td>
<td>(select the land, work the soil, sow and plant)</td>
</tr>
<tr>
<td>2 Cultivate</td>
<td>(weed, fertilize, irrigate, prune etc.)</td>
</tr>
<tr>
<td>3 Carry out plant protection treatments</td>
<td>(observe, dose, treat etc.)</td>
</tr>
<tr>
<td>4 Harvest</td>
<td>(observe, harvest, place in the shade, weigh)</td>
</tr>
<tr>
<td>5 Transport</td>
<td>(transfer to the packing station)</td>
</tr>
<tr>
<td>6 Wash, clean the produce</td>
<td>(remove debris, mud etc.)</td>
</tr>
<tr>
<td>7 Sort, size, disinfect</td>
<td>(sort, eliminate culls, treat etc.)</td>
</tr>
<tr>
<td>8 Package, label</td>
<td>(box, label, weigh etc.)</td>
</tr>
<tr>
<td>9 Palletize</td>
<td>(arrange the boxes, label, weigh etc.)</td>
</tr>
<tr>
<td>10 Store</td>
<td>(maintain, monitor etc.)</td>
</tr>
<tr>
<td>11 Ship</td>
<td>(transport etc.)</td>
</tr>
</tbody>
</table>
In determining specifically what is actually being done in each of these steps, **three levels of description must be distinguished**:

1. The aims
2. The activities
3. The tasks

Each of these levels makes it possible to describe what each step contains, from the general elements (aims) to the intermediate level (activities) and finally to the more detailed elements.

These levels of description are distinguished as follows:

- **Level 1: Aim.** This corresponds to the various objectives and thus indicate the general result expected within each step.

  *Example*: In the 'carry out plant protection treatments' step, the aims are described as shown below:
  - Aim 1: Identify the various pests
  - Aim 2: Observe the pests and evaluate the damage they do
  - Aim 3: Choose the various methods for protecting the crops
  - Aim 4: Apply good phytosanitary practices

  Each of these aims corresponds to an expected result axis for the given step in the production process.

- **Level 2: Activities**

  Each aim entails the performance of a certain number of activities, i.e. the work that must specifically be carried out for each aim. The definition of the activities indicates to us what each person has to specifically accomplish.

  Example: For the 'carry out plant protection treatments' step, the aim and the activities can be:

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8 In this regard, it is important to stress the importance of being operational. A description that is too detailed may diminish the efficiency of the work. "Too much information kills information", "too much description kills description."
- **Aim:** Identify the various pests
  - Activity 1: Diagnose the presence of crop pests
  - Activity 2: Diagnose the crop diseases
  - Activity 3: Record the presence of pests and diseases

- **Level 3: Tasks**

  Definition of the tasks corresponds to identification of an operating mode, a specific operational specification of the work to be carried out in order to perform an activity. Thus, the tasks describe a more detailed level of the work to be carried out by each person.

  Identifying the tasks makes it possible to specify in greater detail the expected performance level when an employee performs a specific job.

  Following the previous example, for the 'carry out plant protection treatments' step and the 'identify the various pests' aim, the tasks identified fall under the following headings:

  - Activity: Diagnose the presence of the crop pests
    - Task 1: Survey the symptoms of attacks by a pest
    - Task 2: Survey the various stages of the pests' development: (caterpillars, larvae, adult forms)

1.3.2. **How Are Aims/Activities/Tasks Translated into Technical Skills and Competency?**

The aims/activities/tasks to be performed at each step of a company's production process determine technical competency.

**Technical competency is demonstrated by the effective performance of the aim, activities and tasks that must be and are carried out.** Specifically, this means that once the aims/activities/tasks have been determined we can draw up the technical competency profile specifically expected at the different steps of the process.

Preparation of a technical competency profile consists in classifying these elements according to the steps in the process. Going back to our example of the 'carry out plant protection treatments step', the competency profile would be as follows:

- **Technical competency axis** (aim): Identify the various pests
  - Technical competency: Diagnose the presence of pests in the crops:
    - Specific technical skill 1.1: Identify the symptoms of attacks by a 'pest'
    - Specific technical skill 1.2: Identify the various stages of development of the pests (caterpillars, larvae, adult forms)
1.3.3. What Other Elements Influence the Determination of Technical Competency and Skills?

Contextual elements will also play a role in specifying the technical skills to be mastered by the company’s employees.

Regarding the export of fresh fruits and vegetables, three types of standards influence the activities connected with the production process and hence the competency that the company must master.

- **First type of standard: Regulatory constraints**
  
  The European countries are tightening their legal provisions as to the quality, food safety and phytosanitary safety of the products sold on their markets.
  
  Thus, European regulations oblige the producers and exporters of the ACP countries (and European countries as well) to show that their production of fresh produce comply with regulatory requirements regarding the safety of the food chain.
  
  As a result the export sectors face various difficulties, particularly with regard to the skills that must be mastered by the employees involved in the activities of the production process, which concerns both the supervisors and the workers:
  
  - **Regarding food and phytosanitary safety**, this relates particularly to mastering quality management systems, including traceability;
  - **Regarding agricultural practices**, this relates to adopting good practices regarding, for example, both plant protection and hygiene.

- **Second source of standards: Commercial requirements**
  
  For companies in the ACP countries, the additional requirements of European importers and distributors regarding the quality and safety of fresh fruits and vegetables are intensifying the need to implement good practices throughout the production process. Here too, these requirements result in the need for the mastery of certain skills by the personnel involved in the production process (cultivation/ transport/ processing/ export).

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9 ACP : African-Caribbean-Pacific
Third type of standard: Competency determined by the experts

Whether it is a matter of compliance with regulations or meeting commercial requirements, the challenge is to implement suitable behaviours in the activities carried out by the company’s personnel.

Universities, laboratories and experts concerned with food safety are working to define the scientific bases of good agriculture practices, as well as that of quality management systems.

Their knowledge and expertise are also formalized and constitute a frame of reference as to the skills that must be mastered by the various categories of personnel.

In other words, because neither the regulations nor the commercial requirements specify all of the specific tasks to be performed, experts are being called on to determine suitable modes of operation. By determining the activities and tasks to be performed, they determine the skills to be mastered in the production of fresh fruits and vegetables.
1.4. Functional Competency Profiles

For information purposes, we believe it is necessary to provide these parenthetical remarks concerning functional competency. The programme, however, has not yet analysed this type of competency in terms of training needs.

1.4.1. Structure, Procedure, Culture and Functional Competency

Depending on its development strategy, particularly export of its products to the European market, a company defines and organizes its production process not only by specifying the activities that have to be carried out, but also by organizing three principal elements: structure, procedures and culture.

These elements will influence the performance of the aims, activities and tasks of the production process.

They also correspond to various specific actions and can thus be described in operational terms.

As a result, these elements lead us to identify new skills leading to functional competency.
Functional competency is distinguished from technical skills by the fact that they do not contribute directly to the performance of the technical actions connected with the aims/activities/tasks of a step in the process.

These forms of competency are considered to be 'functional' since they derive from a position in the organization chart (supervisor/operator, for example), from participation in a procedure (implementation/support, for example) or from behaviours valued by the company (quality/quantity, for example). Functional competency is added to the technical skills, thus providing us with the specific competency profile of a job type.

1.4.2. Structure

A company will define the specific ways the work is divided up and coordinated.

The structure of a company is made apparent in its organization chart, i.e. the way the functional, organizational and hierarchical links between the members and components of an organization are represented graphically (often in a chart).

The structure will determine, for example, who decides and who supervises the performance of a job, who holds a supervisory or team leader position, who exercises a direct production function and who exercises a production support function, etc.

The choices made regarding structure will also determine what competency and skills are necessary for the various personnel categories in the company.

On the basis of the production process, the various forms of technical competency will be described (both for the supervisors and for the workers).

On the basis of the structure, a company determines not only who exercises what technical competency, but also what other types of skills and competency should be mastered by the personnel. Depending on the position in the organization chart, the activities performed may not be exclusively technical, but can also be managerial, economic or relational.

1.4.3. Procedures

In order to organize its operation, a company draws up a set of rules that will define the operational modes of its activities.

Quality standards, for example, are sometimes very precise as to the procedures to be followed with regard to health, traceability and transport of the harvested produce.

The challenge for a company is to specifically define the way the requirements of a standard will be observed, the way that the objectives set forth will be pursued in the everyday tasks.

The procedures also describe the way the activities are carried out in the company regarding, for example, hygiene (when and how to wash your hands, for example) or traceability (what does the colour of crates mean and how should each one be handled, for example).
The procedures will thus determine a certain number of tasks that each person must perform within the production process and, as a result, just as in the production activities, determine the functional skills to be mastered.

1.4.4. The Culture

The competency of the people working in a company also results from the behaviours, habits and customs that are promoted there: the way of greeting and addressing each other, the clothing, the use of space, etc. This is true not only for the standards and values that guide behaviour, but also for the beliefs regarding relations with the customers and suppliers, for instance, or employee motivation.

A company’s culture is evidenced by the way in which:
- It sets its criteria for success (level of profit, quality of the product, level of technological development, market share);
- It conceives of the role of management (management of human relations, development and mastery of technologies, financial management);
- It promotes personal qualities (innovation, adaptability, stability, discretion etc.).

A company’s culture will thus induce a mode of operation that will influence the division of technical skills within the company, but which will also, and perhaps primarily, determine the way these skills are exercised.

Thus, the culture will define the specific behaviours that should be adopted by the company’s personnel and, as a result, will determine a certain number of skills to be mastered.

In conclusion, functional competency represents the set of activities and behaviours defined by a company’s structure, procedures and culture.
Chapter 2

Formalising the Training Profiles

2.1. Validating Technical Competency and Skills ........................................ 22
2.2. Identifying the Responsibilities in a Process ........................................ 28
2.3. Creating ‘Job Types’ ........................................................................ 32
2.4. Defining the Training Profile .............................................................. 36
2.1. Validating Technical Competency and Skills

With regard to the management of competency within a company, one challenge is to determine the technical competency profile of each of the personnel categories, the objective being to determine an employee’s specific skills: who should master what skills?

According to the proposed method, we should therefore indicate Who has to do what?, starting with a description of the activities, or tasks, at each step of the process.

How to proceed?

a. Describe the specific processes and activities that are being carried out (see chapter 1)

b. Identify who specifically carries out the aims and activities (or tasks) at each step of the process. At this stage, the manager should list the names of the jobs in the company: Risk Assessment Quality Team (RAQT), worker, supervisor, driver, stock clerk, etc.

c. List only the job names actually used by the company and indicate the number of persons that fill each kind of job (see the following table)

<table>
<thead>
<tr>
<th>Jobs within the company:</th>
<th>Number of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name 1</td>
<td></td>
</tr>
<tr>
<td>Name 2</td>
<td></td>
</tr>
<tr>
<td>Name 3</td>
<td></td>
</tr>
<tr>
<td>Name 4</td>
<td></td>
</tr>
<tr>
<td>Name 5</td>
<td></td>
</tr>
<tr>
<td>Name 6</td>
<td></td>
</tr>
</tbody>
</table>
For each step, allocate the jobs in that step of the process:

<table>
<thead>
<tr>
<th>Steps in the process</th>
<th>Jobs involved in that step</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of job 1</td>
</tr>
<tr>
<td></td>
<td>Name of job 2</td>
</tr>
<tr>
<td></td>
<td>Name of job 6</td>
</tr>
<tr>
<td></td>
<td>etc.</td>
</tr>
<tr>
<td>2</td>
<td>Name of job 4</td>
</tr>
<tr>
<td></td>
<td>Name of job 5</td>
</tr>
<tr>
<td></td>
<td>Name of job 6</td>
</tr>
<tr>
<td></td>
<td>etc.</td>
</tr>
<tr>
<td>3</td>
<td>Name of job 2</td>
</tr>
<tr>
<td></td>
<td>Name of job 3</td>
</tr>
<tr>
<td></td>
<td>Name of job 5</td>
</tr>
<tr>
<td></td>
<td>etc.</td>
</tr>
<tr>
<td>4</td>
<td>...</td>
</tr>
<tr>
<td>5</td>
<td>...</td>
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<tr>
<td>6</td>
<td>...</td>
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<td>...</td>
<td>...</td>
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<tr>
<td>n</td>
<td>...</td>
</tr>
</tbody>
</table>

This description may be made in **two ways**:

1. **Describe what exists.** The manager indicates the current situation, the actually current practices in the company at the time the description is made;
2. **Describe what is desired.** The manager describes what he would like to have, what each person should ideally do in the future.

It is important to make this choice clear. You can work in two steps: describe what exists and then describe what is desired.

This clarification is necessary when determining what responsibility is exercised by each employee for the activity to be carried out.
For example, **the jobs in the steps of the process** could be identified as follows:

<table>
<thead>
<tr>
<th>Steps</th>
<th>Jobs</th>
</tr>
</thead>
</table>
| 1 Prepare the crops (select the plots, work the soil, sow and plant) | Head of production  
Crop manager  
RAQT  
Foreman  
Driver  
Mechanic  
Pump attendant  
Day labourer/worker  
Supervisor  
Irrigator  
Stock clerk |
| 2 Cultivate (weed, fertilize, irrigate, prune etc.) | Head of production  
Crop manager  
RAQT  
Foreman  
Driver  
Irrigator  
Day labourer/worker  
Supervisor  
Stock clerk |
| 3 Carry out plant protection treatments (observe, dose, treat etc.) | Head of production  
Crop manager  
RAQT  
Applier  
Observer  
Foreman  
Driver  
Irrigator  
Worker  
Supervisor  
Stock clerk |
<table>
<thead>
<tr>
<th>Steps</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Harvest  (observe, harvest, place in the shade, weigh)</td>
</tr>
<tr>
<td></td>
<td>Head of production  Head of crops  Foreman  Packing station chief  RAQT  Pickers  Worker  Supervisor  Observer  Weigher  Head of harvesting  Collector  Checker</td>
</tr>
<tr>
<td>5</td>
<td>Transport  (transfer to the station)</td>
</tr>
<tr>
<td></td>
<td>Head of production  Head of crops  RAQT  Driver  Transporter  Mechanic  Pump attendant  Supervisor</td>
</tr>
<tr>
<td>6</td>
<td>Wash, clean the produce  (remove debris, mud etc.)</td>
</tr>
<tr>
<td></td>
<td>Head of production  Packing station chief  RAQT  Sorters  Supervisor  Head of maintenance  Health and safety director</td>
</tr>
<tr>
<td>7</td>
<td>Sort, size, disinfect  (sort, eliminate culls, treat etc.)</td>
</tr>
<tr>
<td></td>
<td>Head of production  Packing station chief  RAQT  Sorters  Supervisor  Head of maintenance  Health and safety director</td>
</tr>
<tr>
<td>Steps</td>
<td>Jobs</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>8</td>
<td>Package, label (box, label, weigh etc.)</td>
</tr>
<tr>
<td></td>
<td>Head of production</td>
</tr>
<tr>
<td></td>
<td>Packing station chief</td>
</tr>
<tr>
<td></td>
<td>RAQT</td>
</tr>
<tr>
<td></td>
<td>Folder</td>
</tr>
<tr>
<td></td>
<td>Day labourer</td>
</tr>
<tr>
<td></td>
<td>Checker</td>
</tr>
<tr>
<td></td>
<td>Weigher</td>
</tr>
<tr>
<td></td>
<td>Head of maintenance</td>
</tr>
<tr>
<td></td>
<td>Health and safety director</td>
</tr>
<tr>
<td>9</td>
<td>Palletize (arrange the boxes, label, weigh etc.)</td>
</tr>
<tr>
<td></td>
<td>Head of production</td>
</tr>
<tr>
<td></td>
<td>Packing station chief</td>
</tr>
<tr>
<td></td>
<td>RAQT</td>
</tr>
<tr>
<td></td>
<td>Palletiser</td>
</tr>
<tr>
<td></td>
<td>Day labourer</td>
</tr>
<tr>
<td></td>
<td>Weigher</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
</tr>
<tr>
<td></td>
<td>Head of maintenance</td>
</tr>
<tr>
<td></td>
<td>Health and safety director</td>
</tr>
<tr>
<td>10</td>
<td>Store (maintain, monitor etc.)</td>
</tr>
<tr>
<td></td>
<td>Head of production</td>
</tr>
<tr>
<td></td>
<td>Packing station chief</td>
</tr>
<tr>
<td></td>
<td>RAQT</td>
</tr>
<tr>
<td></td>
<td>Health director</td>
</tr>
<tr>
<td></td>
<td>Freezer</td>
</tr>
<tr>
<td></td>
<td>Checker</td>
</tr>
<tr>
<td></td>
<td>Preserver</td>
</tr>
<tr>
<td></td>
<td>Guard</td>
</tr>
<tr>
<td>11</td>
<td>Ship (transport etc.)</td>
</tr>
<tr>
<td></td>
<td>Head of production</td>
</tr>
<tr>
<td></td>
<td>Packing station chief</td>
</tr>
<tr>
<td></td>
<td>RAQT</td>
</tr>
<tr>
<td></td>
<td>Health and safety director</td>
</tr>
<tr>
<td></td>
<td>Freezer</td>
</tr>
<tr>
<td></td>
<td>Checker</td>
</tr>
<tr>
<td></td>
<td>Day labourer</td>
</tr>
<tr>
<td></td>
<td>Driver</td>
</tr>
<tr>
<td></td>
<td>Transporter</td>
</tr>
<tr>
<td></td>
<td>Mechanic</td>
</tr>
<tr>
<td></td>
<td>Pump attendant</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
</tr>
</tbody>
</table>
In this example, **several elements** should be emphasized:

- Some of the jobs identified are **not directly involved in production**, but are production support jobs that contribute logistical type assistance to the performance of the activities. This is true particularly of the jobs of mechanic, pump attendant and guard. Although it is useful to list these jobs, they will not be taken into account in identifying technical skills since their involvement does not directly relate to the product (fruits or vegetables), and also because they do not directly impact health safety.

- **The same job is involved in various steps of the process** (head of crops, for example). As a result, the extent of the activities will be broader and hence the scope of the technical skills to be mastered will be greater.
2.2. Identifying the Responsibilities in a Process

An individual stage in the process may involve several types of jobs. It is therefore necessary to specify, for each activity, the interactions between the people who hold the various jobs, in particular who exercises what responsibility.

In order to determine the nature of the interactions between the jobs in the course of a single step in the process (between the head of crops and the foreman, for example), it is necessary to determine the responsibilities of each one by identifying the possible need to set up direct oversight. The purpose is to identify the activities that can be carried out by a staff member, who will thus be delegated responsibility, versus the activities that conversely require heavy responsibility and direct control of their performance by a hierarchical superior.

2.2.1. Distinguishing Between Supervisors and Operators

Using the same example, we can distinguish two categories of jobs:

- On the one hand, we have the 'supervisors', who perform certain activities themselves and exercise oversight over the second category of job. The supervisors assign the work to the other personnel, along with the resources necessary to carry out the work. In addition, they make decisions as the activities proceed. In our example, the supervisors correspond to the following jobs:
  - Head of production
  - Head of crops
  - Packing station chief
  - Foreman
  - Head of quality and traceability

- On the other hand, there are the 'operators' who do the actual work, i.e. who perform the technical actions that make it possible for the expected results to be achieved. In our example, the operators correspond to the following jobs:
  - Applicator
  - Stock clerk (seeds, fertilizer, plant material)
  - Observer
  - Harvester
  - Planter
  - Driver
  - Sorter
  - Palletiser
  - Health and safety operator
2.2.2. Defining Responsibility With Regard to Risks

In order to determine the nature of the oversight that a manager must have over an operator during the performance of an activity, it is necessary to first define the concept of responsibility.

Responsibility with respect to an activity is defined by four sources of risk: correct performance, quality, effectiveness and personal safety.

These four sources of risk may be classified according to the following typology:

- **Correct performance**: This covers mainly observance of procedures. It deals with observance of the rules that each person has to follow, such as the rules established by quality guidelines or regulatory issues. Here the challenge is prevention: the object of the oversight is to identify any failure to meet obligations.

- **Quality**: In this area, oversight aims to respond to the explicit and implicit needs of the customer’s specifications. The control exercised covers technical aspects that correspond to good work practices and technical directives of all kinds that apply to the activity in question.

- **Effectiveness**: The oversight must verify the attainment of objectives assigned to a personnel category, focusing particularly on the more procedural aspect of the work performance.

- **Personal safety**: This deals with observance of the safety rules that the company must follow. Placing others in danger is among the risks to be identified and controlled.

For each source of risk, it is then necessary to determine a level of risk based on whether the consequences are more or less serious. Thus, we may distinguish:

1. **Level of risk associated with correct performance**: all of the consequences associated with failure to adhere to instructions and standards (both private and regulatory).

2. **Level of risk associated with quality**: the consequences of quality in performing the activities, in terms of deadlines, customer satisfaction, excessive human and financial costs (over-quality) or failure to conform to a customer’s specifications.

3. **Level of risk associated with effectiveness**: the direct or indirect financial consequences associated with failure to comply with or observe the objectives that have been established (efficiency of the activity).

4. **Level of risk associated with personal safety**: these are the human risks that may vary from the very worst (the risk of a personnel accident) to insidious effects (lack of motivation on the part of the operators, for example).
2.2.3. Prioritizing Risks In Order to Choose the Method of Oversight

The objective is to assign a degree of importance to each of these sources of risk as a function of the level and frequency of the risk. This level will determine the type of control that will have to be exercised over the activities.

Once the levels of risk are identified, they will be classified as a function of the local context. It will thus be necessary to define the priorities and arrange the levels of risk in a hierarchy.

In order to do this, the manager sets up a matrix listing the activities to be controlled, the sources of risk envisaged, a level of evaluated risk and the frequency associated with that risk. A manager may emphasize a particular risk not only by giving it a higher rating, but also by specifying its nature. The manager then makes an evaluation of the total risks (in the following table, for example).

**Defining responsibility: example of a risk matrix**

<table>
<thead>
<tr>
<th>Elements to be controlled</th>
<th>Risk</th>
<th>Degree of importance</th>
<th>Total risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim</td>
<td>Name of activity</td>
<td>Source</td>
<td>Level$^1$</td>
</tr>
<tr>
<td>Identify the various pests</td>
<td>Diagnose the presence of pests in the crops</td>
<td>Quality + effectiveness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diagnose crop diseases</td>
<td>Quality + effectiveness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Record the presence of pests and diseases</td>
<td>Quality + effectiveness</td>
<td></td>
</tr>
</tbody>
</table>

$^1$ **The level** characterizes the potential importance of the consequences of a dysfunction. The following ratings may be used: 0 = negligible; 1 = low; 2 = moderate; 3 = hard to manage; 4 = serious; 5 = very serious.

$^2$ **The frequency** characterizes the risk of repetition or recurrence. The following ratings may be used: 0 = negligible; 1 = very rare; 2 = rare; 3 = occasional; 4 = quite frequent; 5 = very frequent.

$^3$ **The total risk** may be established by giving an overall rating that integrates the level and the frequency. The following rating may be used: 0 = negligible; 1 = low; 2 = moderate; 3 = high; 4 = very high; 5 = critical.
On the basis of this matrix the manager will organize the oversight, giving priority to the aims and activities where the total risk is higher.

The delegation of responsibility will be weaker where the risk is higher. The oversight should be proportional to the evaluated risks.

However, even when the risk is low, delegation of the responsibility does not exonerate the manager from his or her own responsibility.

Consequently, for the person responsible for exercising oversight, there is always responsibility for an activity.

On the other hand, the nature of the oversight can vary, from direct performance of an activity, to supervision of the persons carrying out the activity, to reporting of the results.

In order to identify the responsibilities to be exercised with regard to an activity, we can refer to the following three levels.

1. Performance of an activity under direct oversight (operator);
2. Performance of an activity without direct oversight (operator – delegation of responsibility – and supervisor);
3. Supervision of an activity and approval of the results (supervisor).
2.3. Creating 'Job Types'

A job type details the aims, activities and tasks common to a group of positions. The job type is a common denominator of the various work positions. It specifies the list of technical skills to be mastered.

The job type should ideally be envisaged independently of the persons who are present in the company. It should express what the manager wants each personnel category to do in an absolute sense, in the form of a strategic description of its technical competency.

The concept of a 'level of responsibility' is fundamental to the description. In assigning an activity to a job, it is necessary to determine if the holder of that position will have to assume the entire responsibility for the work, or will be primarily the performer of work organized and supervised by others.

For example, for the 'supervisor' level, a job type is the head of production or the packing station chief. For the 'operator' level, a job type is the applicator or sorter.

To determine the content of a job type, we take the steps of the process and the aims and activities associated with them and assign these elements to a certain job.

Bear in mind that a competency cannot be understood independently from a behaviour. Competency is directly linked to the specific actions that have to be performed by the employee within the production process.

To determine the technical competency of a job type, we must:

1. **Validate the aims**: what are the results achieved at the end of a step?
2. **List the activities** associated with the performance of these aims: exactly how must they be undertaken in order to accomplish each of the aims?
3. **If necessary, specify the tasks**: it may sometimes be necessary to specify in greater depth the operations that make up an activity. The question then is what concrete operations should be performed to carry out an activity.

In concrete terms, this means that defining the aims/activities/tasks provides us with the technical competency profile expected at the various steps of the process.

Preparation of a technical competency profile for a job type consists in classifying these elements as a function of the steps in the process.

The **first exercise** for each activity/task is to identify the job type within the company that must concretely carry out this activity/task. It is important to stress that several job types may be involved in the same activity or task, particularly since they must be performed under a single direct oversight.
Example: Step 3 of the process – Carry out plant protection treatments
This example is not automatically transferable to all companies. The jobs and activities performed by each person in the company must be determined for each particular company.

<table>
<thead>
<tr>
<th>Aim: Find the useful information on a pesticide label</th>
<th>Job 1 Foreman</th>
<th>Job 2 Applicator</th>
<th>Job 3 Stock clerk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who specifically carries out the following activities/tasks within your company?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 1. Read the instructions before using</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task 1.1. Find the information on the label</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Task 1.2. Learn the toxicity (danger) of a pesticide</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Task 1.3. Interpret the safety symbols</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Task 1.4. Relate the colour strips to the toxicity</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Task 1.5. Determine the precautions to be taken</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Activity 2. Keep the labels on the packaging</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

In this example, three jobs are concerned with this aim: the foreman, the applicator and the warehouseman (who has to know the nature of the product, its formulation, the danger of flammability etc.)

All three must be able to interpret the safety symbols (but of course not all the same ones): common training can thus be envisaged! On the other hand, the requirement level can be adapted as a function of the responsibility that is exercised.

On the basis of the different types of competency listed (aim/activities/tasks) for each step of the process, it is now necessary to produce a 'job type sheet' that illustrates all of the skills expected for a single job.

Here is an example of a 'job type sheet'. This example comes from industrial production.
## Job type: Head of production

### Step 1: Plan the manufacturing

1-1 | Aim | Determine the Manufacturing Plan and the needs for raw materials
1-2 | Aim | Assure technical transfer from lab to production

### Step 2: Create the GMP files

2-1 | Aim | Create/update the manufacturing programme
2-2 | Aim | Create/update the BMF and SOPs

### Carry out under supervision

Request QA approval for the modifications (preliminary discussion)

Modify the BMF if necessary

### Carry out independently

Create and/or modify the BMF bloc diagrams (synthesis) or production processing organization charts (PURIF)

Make sure that the BMF/SOP is reread

Update the revision follow-up file

### Step 3: Carry out the manufacturing

3-1 | Aim | Plan/organize the operations

### Supervise/approve

Reserve the raw materials (warehouse orders)

Transfer the goods from warehouse K to the production area

Verify/monitor the stocks of raw materials in the production area

Verify follow-up of the deliveries in the work area

Make requests for necessary supplies (EPI, minor equipment)

Verify the status of the equipment

3-2 | Aim | Carry out the operations in the SY production hall

### Carry out independently

Consolidate the daily planning (number of operations, type of operations, what facilities and what priorities). Monitor the production planning.

Declare beginning of operations (via MES)

### Supervise/approve

Prepare the material necessary for manufacture (iron to be welded, Colsons, Tyvex glove etc.)

Carry out the operations to inert the reactors

### Step 4: Close operations and provide for follow-up

4-1 | Aim | Verify the integrity of the GMP file (see review sheet)

### Carry out independently

Draft and finalise the assessment file (non-GMP document)

Number the folders (as a function of the listing prepared by QA)

Fill in the log book if the file is not immediately accepted.

Check the presence of copies of the analysis results.

### Supervise/approve

Check the CIP files. Transmit the material use card to QC. Sign the memo releasing the facility to QA.
Comment: The aims not described in detail (in gray) do not require the participation of the production chief.
The following sheet can be used to prepare a description of the job type.

Job type: ............................. (name)

<table>
<thead>
<tr>
<th>Process step No.</th>
<th>: ................................. (name)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim I :</td>
<td>.......................................... (name)</td>
</tr>
<tr>
<td>Activity 1.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 1.1.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 1.2.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 1.3.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 1.4.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 1.5.</td>
<td>..................................................</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Process step No.</th>
<th>: ................................. (name)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim II :</td>
<td>.......................................... (name)</td>
</tr>
<tr>
<td>Activity 1.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 1.1.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 1.2.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Activity 2.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 2.1.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Task 2.2.</td>
<td>..................................................</td>
</tr>
<tr>
<td>Activity 3.</td>
<td>..................................................</td>
</tr>
</tbody>
</table>
2.4. Defining the Training Profile

The training profile is used to identify the technical skills needed by an individual or a group of persons identifiable by name. It is based on an analysis of the current situation (i.e. on the basis of what the persons actually do) with respect to a reference document containing the job type and its description (see the 'job type' sheet above).

The training profile should help determine what each holder of a job is capable of doing at the 100% level (complete mastery of an activity), partially, or not at all.

In order to obtain the training profile, it is thus necessary to prepare individual analyses based on the work position.

The work position corresponds to an individualized local work situation. The work position is defined through the use of a specific position sheet that describes the aims, activities and tasks that must be performed by an employee identified by name within a given company.

Thus, it is on the basis of work position that the training profile is established. It is necessary to identify what the person occupying the position in question has actually mastered.

Two steps are necessary to establish the training profile.

- Step 1: Define the work position in question
- Step 2: Define the training profile of the person holding the position, i.e. identify the aims and activities that are mastered totally, partially or insufficiently.
Step 1: Define the work position in question

As an example, the work position card sheet be designed as follows:

<table>
<thead>
<tr>
<th>Name: I. Z. NOGOUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job post: Sector A</td>
</tr>
<tr>
<td>Job: Applicator</td>
</tr>
</tbody>
</table>

### Aim 1:
Find the useful information on a pesticide label

- **A 1.** Read the instructions before using
- **T 1.1.** Find the information on the label
- **T 1.2.** Learn the toxicity (danger) of a pesticide
- **T 1.3.** Interpret the safety symbols
- **T 1.4.** Relate the colour strips to the toxicity
- **T 1.5.** Determine the precautions to be taken

### Aim 2:
Identify the various pests

- **A 1.** Diagnose the presence of pests (insects, nematodes, rodents etc.) in the crops
- **T 1.1.** Spot the symptoms of a pest attack
- **T 1.2.** Spot the various stages of pest development (caterpillars/larvae and adult forms)
- **A 2.** Diagnose crop diseases (fungi, bacteria, viral pathogens)
- **T 2.1.** Spot the symptoms of attacks by a disease
- **T 2.2.** Spot the various stages of development of the diseases
- **A 3.** Record the presence of the pests and diseases

* : Indicates that steps 1 and 4 are not involved in the actions of this work position.

In this example, the steps involved in the aims carried out by this work position are:
- making cultures (step 2)
- carrying out phytosanitary treatments (step 3).
Step 2: Define the training profile of the person holding the position

Name: I. Z. NOGOUD/Training profile
Job post: Sector A
Job: Applicator

<table>
<thead>
<tr>
<th>Production process</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
</table>

**Aim 1:** Find the useful information on a pesticide label

A 1. Read the instructions before using

T 1.1. Find the information on the label

T 1.2. Learn the toxicity (danger) of a pesticide

T 1.3. Interpret the safety symbols

T 1.4. Relate the colour strips to the toxicity

T 1.5. Determine the precautions to be taken

**Aim 2:** Identify the various pests

A 1. Diagnose the presence of pests (insects, nematodes, rodents etc.) in the crops

T 1.1. Spot the symptoms of attacks by a pest

T 1.2. Spot the various stages of pest development (caterpillars/larvae and adult forms)

A 2. Diagnose crop diseases (fungi, bacteria, viral pathogens)

T 2.1. Spot the symptoms of attacks by a disease

T 2.2. Spot the various stages of development of the diseases

A 3. Spot the presence of pests and diseases

<table>
<thead>
<tr>
<th>Skill mastered</th>
<th>Skills to be acquired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skill partially mastered</td>
<td></td>
</tr>
</tbody>
</table>
It should be recalled that technical competency corresponds to the aims, activities and tasks to be performed.

An evaluation is performed to establish the training profile of each work position so as to identify:

- On the one hand, what skills are already covered (mastered);
- On the other hand, what skills are to be developed, distinguishing between those that should be mastered better (partial mastery) and those that have not been mastered (are to be acquired).

The skills that have not been mastered (wholly or in part) are thus identified in order to determine what the person’s training profile will be: what skills should be the object of capacity building?

The skills that have been mastered can be identified in particular on the basis of:

- **Analysis of incidents**

  This method is followed to collect data on the degree of effectiveness of occupational behaviours in order to then determine the essential requirements of the job. Thus, it concerns identifying the skills to be mastered in order to define the level of performance.

  Two steps:
  - Collect from a great number of actors within the company (representing different groups that take into account ages and possible specializations) a maximum number of observations of the relevance of the behaviours: what are the behaviours that can be defined as high-performance, indicating that an activity (or task) is being carried out satisfactorily and thus that the skill is mastered;
  - On the basis of this data collection, establish an empirical classification of the occupational requirements, which will then be grouped into the aim categories.

  This overall detailed view will then serve to determine the objects of the needed training, as well as the evaluation criteria and methods.

- **Analysis of the activities and tasks**

  This practice is directed toward a detailed analysis of the activities and tasks that the various categories of personnel actually perform. The competency necessary for the ideal accomplishment of their work assignment is deduced from the analysis.

  Two steps:
  - Careful and systematic observation of the activities of a representative group within the various sectors of the company;
  - A study of the daily data, describing in fine detail the daily use of time during a given period.
Other simpler, quicker and less costly methods can be used to perform these observations, or supplement them:

- **An interview** with the person holding the position, with consideration given to the risk that he may overestimate (or underestimate) his skills. This interview can be combined with an interview with the foreman or other superior. It may also be useful to coordinate it with an interview with the people responsible for a further step in the process. The problems they detect in the deliverables provided by the personnel in the previous step help spot any competency problems.

- **A questionnaire.** On the basis of closed\(^1\) or open\(^2\) questions.

- **Self-analysis of the position.** Through questionnaires, individual interviews or work in groups, the personnel can give their own point of view on the skills that they employ, as well as their needs for improvement and training.

- **A journal.** It is kept by the person holding the position, describing each occupational activity, the results, method, needs etc.

- **Tests.** This is an oral or written test to evaluate a person’s capacities in relation to a reference guide that describes the activities of the work position. It is tantamount to an examination in that it can produce a list or lead to the establishment of an average of what is acceptable or unacceptable.

In the self-analysis procedures and in general in the participative activities, it is important to determine if the process will be undertaken to:

- Enable the expression of real needs that will actually be taken into consideration for the purpose of making a unit or the company function better;
- Respond to a strategic imperative of the company (receiving a new certification, for example).

In the case where the strategic imperative takes precedence, the questionnaires and the information collected must be used with prudence. They risk uselessly awakening expectations that will not be satisfied and thus becoming the source of frustrations. If people or information are manipulated this can generate conflicts. To the extent that the management clearly identifies the purposes it wishes to achieve, it is preferable to publish these tasks clearly and to indicate to the staff that it will be able to express itself within a restricted framework defined by the strategic intentions of the executives.

Although the training profile should ideally be established for each person, it may happen that it is also designed by work crew or by category of position (in this case, the point of reference for the training profile is the job type). The choice is thus determined by the amount of time available and the number of persons concerned.

Although proceeding by job type can be justified by a lack of time and/or a large number of persons, the risk is then that staff members who do not need training will be sent anyway. We fall again into the classic unplanned results of training presented in chapter 1. When the number of persons concerned is too large, it is preferable to use the opinions of the foremen (interviews and observations, for example).

\(^1\) I.e. questions that lead to responses such as ‘yes/no’ or ‘always/often/sometimes/rarely/never’.

\(^2\) I.e. questions that lead to more descriptive responses such as ‘How do you detect the presence of an insect pest in the crop?’ or ‘What are the symptoms of a weevil attack?’.
After collecting the needs, management will have available a data set provided by the supervisors, the foremen, the technicians etc. The next phase consists of assembling, organizing and synthesizing this information.

**Some questions can be of help in anticipating the design of a training programme**

- Will the possible training that is envisaged respond to the actual needs of the company and its stakeholders? Will it lead to an actual improvement?
- Is the training actually directed towards a better solution of the problems detected which we want to solve and a better means of achieving the competency objectives?
- Will the training activities be suited to the needs of the participants and enable them to be more effective and more satisfied in their work?
- Will the proposed training activities be carried out in a context favourable to the expressed needs and the expected results?

It is necessary to always be **concrete, realistic, coherent and relevant** in business and training choices.

*The following table shows how to rank the training needs hierarchically.*

<table>
<thead>
<tr>
<th>Needs identified by management</th>
<th>Needs expressed by a group (at the job type level)</th>
<th>Needs expressed by an individual (work position)</th>
<th>Current skills</th>
<th>Gaps, incidents</th>
<th>Desired skills</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</table>
Chapter 2
Formalising the training profiles
## Chapter 3

### Developing a Training Programme

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1. Defining the Training Strategy by Identifying Orientations</td>
<td>44</td>
</tr>
<tr>
<td>3.2. Defining the Training Context and Needs Within an Organization</td>
<td>46</td>
</tr>
<tr>
<td>3.3. Which Solution to Implement</td>
<td>49</td>
</tr>
<tr>
<td>3.4. The Choice of Teaching Purposes and Objectives</td>
<td>56</td>
</tr>
<tr>
<td>3.5. Organizing the Training</td>
<td>57</td>
</tr>
<tr>
<td>3.6. Follow-Up and Essential Checklists</td>
<td>61</td>
</tr>
</tbody>
</table>
3.1. Defining the Training Strategy by Identifying Orientations

The first part of this manual discusses how to determine the role of training in the company strategy so that we can then identify the way to define the target competency and skills for a person or a category of personnel. This second part identifies the way to formalize these elements when designing a training programme.

The goal is first to specify the general objectives of the training strategy to be implemented so that we can then define the training programme to be carried out. For this purpose, we will see how to develop a training specification and what are the essential categories that will serve to support the request for training.

The training strategy expresses the company’s wishes regarding the essential lines that will orient the training decisions and actions to manage the training, and by extension the skills to be acquired.

When a company is confronted with an unusual situation, either because it is something completely new (development of new products requiring new techniques, for example) or because it requires a partial adaptation (a change in technology, a change in the quality of the results to be produced etc.), the manager can consider this situation as a ‘problem’ to be solved. This initial state is called a ‘problem situation’ or an ‘unsatisfactory initial situation.’

In the face of this ‘problem situation’, the company will seek to formulate an ideal vision to be attained: what would the ideal solution be if the problem were 100% solved? On the basis of this vision, the manager will determine the concrete results he wants to bring about in the operation of his company.

The challenge will then be to define how to orientate the training activities and in what way these activities will be integrated into the company’s general strategy.

Six aspects converge to identify the orientation:

1. Why?
   What are the goals – the general objectives?
   The specific link between the training and the company’s general objectives: what concrete results is the training intended to address?

2. What?
   What are the priorities (short, middle and long term)?
   The priorities are defined in terms of objectives (what results are sought?). They are defined in relation to what it is possible to achieve and in relation to the identified needs and/or the expressed requirements.

---

1 The occurrence of events that disturb the usual operation of the system or company.
The priorities specify what skills to stress during the period being considered.

3. **Who?**

Who are the clients of the training activities?

It is necessary to specify what audience will participate in the training activities, and also who the beneficiaries of these activities are: the departments or units of the company (production, packaging, transport etc.), the step in the process and the activities concerned (such as preparation of the crops, harvesting, processing etc.) or the personnel, such as supervisory personnel (foreman, supervisor, head of production etc.).

We must also specify:

- How to promote the establishment of links (a chain) between those who participate in the training and those who will have to manage the results, in order to assure the success of the training;
- How to organize coordination with the participants (associations, personnel representatives, subcontractors, organizations supporting small producers etc.).

4. **How?**

What are the procedures needed to implement training activities with regard to the company’s general objectives?

How is the system for managing skills controlled, in particular by identifying relevant quality standards (ISO 9001, for example).

5. **Where?**

What distribution of tasks (definition of the training profile, choice of training, purchase of the presentation etc.) is planned in terms of centralization or decentralization?

We must specify responsibilities for the organization of the training and the division between the HR function and the managers, between the headquarters (general manager, administrative and financial managers, director of production etc.) and the operating sites (divisions, decentralized processing station etc.).

6. **How much?**

What is the budget?

It is necessary to identify the fixed budget levels (for example, the percentage of total salary or the part of a predefined budget) and determine the instructions given to the managers as to the amount of internal and/or external services and whether there are ceilings or minima.

These elements provide the orientation for the training activities that will be laid out in the programme. This identification exercise falls within the responsibility of the company’s managers (often it can be delegated to the HR director or even the head of training).
3.2. Defining the Training Context and Needs Within an Organization

3.2.1. Defining the Goals of the Training

In order to determine the goals of the training, i.e. to formalize the ideal situation to be attained, it is necessary to define the context and needs that the training is intended to meet.

- What is the context for the training?
- What need or needs does the training project respond to?

The answers to these questions form a basis to define the orientations of the training programme.

A crucial step in the development of a training strategy is to identify the essential lines along which all of the training activities will be oriented.

The training strategy is not limited to listing the training products that are available. It also specifies what links are to be established between the training and the company’s objectives and strategy.

In order to define the context and needs, the first question is therefore ‘Why? We must determine the goals of the training actions to be envisaged.

The goals are the guide to planning the process to evaluate the results obtained: how will we see that competency has progressed?

The goals can be differentiated depending on the target audience.

Two principal orientations can be distinguished for the training:

- **Improvement** of the company’s performance on the basis of the routines (or procedures) put in place, both regarding results and the way they are performed (procedures, processes etc.);
- **Success of investments** or projects: particular training needs that arise from the purchase of new equipment or implementation of a project to design a new product;
- Resolution of problem situations;
- As an accompaniment to change.
3.2.2. Improving Performance

Training directed toward the improvement of competency in a job (applying good practices, reducing the number of nonconforming products, observing deadlines, for example).

- **Individual performance**

From the individual point of view, performance is determined through an evaluation carried out with the worker (see chapter 2, point 2.4, The Training Profile).

The training objectives relate principally to:
- Adaptation to a new technique (improvement or development of a new skill, for example);
- Improvement of a shortcoming.

The essence of the training programme will then consist of short courses (a few days) centred on precise training related to a specific job.

- **Collective performance**

From the collective point of view, training aimed at improving process reliability and reducing below-level results.

We determine what progress is expected by analysing a previous situation that indicates:
- That shortcomings in the staff's skills is a factor to explain the insufficient results;
- That the training will work as a lever for improvement in the future.

Raising the level of competency is an exercise that concerns a group of workers. The training aims to achieve a precise result (increasing sales, speeding up the response times for a customer, reducing production costs etc.).

3.2.3. The Success of a Project and/or Investment

- **Fitting skills to the job**

The task here is to determine how results can be facilitated by training of staff involved in a project (developing an organic product, working towards certification under a new standard, for example) or participating in the intended results of investments (implementing a new traceability system, buying a new packaging equipment, for example). The head of the project must integrate development of the skills into his work programme (neither too soon nor too late).

From this perspective, the training should:
- Lead to a good level of mastery of the new equipment and the best possible output;
- Avoid risks (shutdown, malfunctioning, cost overruns etc.) when the project actions are implemented.
Ensuring the Development of Qualifications

The challenge here is to offer possibilities for retraining to a category of personnel who have been collectively impacted by technological and organizational changes following investments or implementation of a project (automation of a procedure, for example, or the introduction of new production or harvesting technology).

3.2.4. Making an Organizational Change Work

In a reorganization, for example, it is necessary to identify how training will facilitate integration of employees into their new job (from an engineering manager to a quality chief, for instance).

Teamwork development, structuring by project, self-management, networking, and assignment of responsibility require capacity building that is both technical (related to job versatility) and organizational (‘autonomy’, relational capabilities, different means of communication etc.).

Hence, the task is to:

- Improve the capabilities of the staff to react to changes in the environment. This frequently relates to technical and functional training that deals in a general way with the increase in responsibilities;
- Ensuring development of the competency of the managers who must back up the teams, facilitate their autonomy and support the development of competency by their co-workers.

Moreover, the training objectives and content cannot always be entirely predetermined on the basis of the organization of work positions: when a new development (project or investment) is implemented a clearly defined view of the content of each position is often not yet forthcoming.

When the new project is installed and becomes ‘routine’, specific aims/activities/tasks can often be identified and assigned to a job type. Nevertheless, the determination of ‘who does what’ often arises during the implementation of the action and the activities and their distribution cannot always be identified in advance.

For these reasons, the company often needs the assistance of a specialized outside consultant starting from the design of the project.
3.3. Which Solution to Implement

Once the training context and the needs are identified, it is necessary to determine the objectives of the training and the teaching system to be developed, i.e. the training technique that will be adopted to meet the defined objectives.

Thus, in this section we will see:
- How to define the training objectives? ²
- How to develop the teaching objectives? ³
- What types of methods should be chosen as a function of the defined objectives?

3.3.1. Defining the Training Objectives: Characterizing a Final Situation

Adult training addresses the following questions:

1. **Beginning with a certain initial situation**: What is the context? What are the needs? How is the lack of competency manifested?
2. **Reaching a final situation**: What are the expected results, the competency objectives to be achieved?
3. **Using a set of means, a teaching system**: What are the teaching objectives? The methods? (Lectures? Exercises? Case studies?) What is the content?

Teaching system means:

- **The objectives of the training**
  The specific results to be achieved by the training: What is it that the participants should be able to do at the end of the training? It is the responsibility of the person ordering the training to determine the expected results, which in turn help define the final situation, the goal.

- **The teaching objectives**
  The teaching objectives specify what the employees are going to learn during the training at the training site. These teaching objectives are defined by the trainers,

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² Training objective: Defined by the head of training, this objective determines the occupational behaviours that are sought at the end of the training.
³ Teaching objective: Defined by the trainer, this objective determines the required steps in the learning process.
who use them to design, conduct and evaluate their training. These objectives require knowledge of the content to be acquired and of the teaching methods to be implemented.

- **The content to be transmitted: in other words the 'subject matter'**
  Cacao growing or dosage of a product, for example. The content is identified by the person ordering the training on the basis of the activities that are carried out in his company, but they are also expressed by the trainer as a function of his teaching objectives: the person ordering the training decides 'what' and the trainer decides 'how'.

- **The training methods to be used**
  The methods to be used are chosen based on the teaching objectives. Among these methods, we can cite the lecture or the case study, for example (see Manual 6). The methods are chosen by the trainer.

While the person ordering the training can define the initial situation by identifying the context and needs, a further task is to define the final situation which the participants must reach at the end of the training.

To define this final situation, it is necessary to indicate what the employees should be capable of doing in their work context after they have taken the training. What occupational behaviours are expected at the end of the training and are implemented in the work situation?

The training objectives can relate to three particular areas of competency:

1. **Knowledge**
   This relates to the area of knowing theories, methods and general occupational techniques. Thus, it concerns the whole set of theoretical and practical knowledge.

2. **Know-how**
   This relates to the area of actions, movements and putting the knowledge into practice. Thus, it concerns putting knowledge and ability into action to carry out a specific task.

3. **Knowing how to be**
   This relates to the area of the behaviours and attitudes expected in a given situation.

In most cases, the transmission of a skill relates to several areas of competency.

The skills to be mastered are provided by the description of the activities in the process. On the basis of a knowledge of the activities to be carried out in the company, it may be useful to indicate whether the performance of a skill is based on ability to know, apply or master knowledge, on know-how or on occupational behaviour (knowing how to be).

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4 Or behavioural know-how.
It is necessary to specify the level that the training objectives are aiming for:

- **Awareness**: Having knowledge of the ideas behind specific concepts.
- **Familiarization**: Applying the basics of the chosen concepts to known situations.
- **Mastery**: Having in-depth knowledge and applying it to more complex known situations.
- **Expertise**: Applying the knowledge set in new situations and being capable of analyzing and evaluating these situations.

Depending on the training objectives, a suitable method must be chosen. While knowledge can be transmitted by a lecture or an information session, a change of behaviour will have a better chance of being achieved by using a method based on practice, case studies or training at the site where this behaviour will be performed.

### 3.3.2. Formulating the Teaching Objectives

The teaching system should be structured so as to lead the participants from the initial situation to the final situation.

- **The first step is to define the teaching objectives.**

Avoid formulating the objectives as themes or subject matter to be learned.

This way of proceeding does not tell us:

- The real occupational problems that the participants are being trained to solve or that the management would like to see them solve;
- The role expected from the trainer;
- The evaluation criteria that can be applied to the trainer’s work.

The training should be sufficiently clear and explicit for everyone to know ‘Where we are going with this training’ and ‘Why we need to go there’.

This formulation is what we call a teaching objective.

When defining the teaching objectives the trainer must forget about his intentions, his ‘fantasies’, and **put himself in the place of the people to be train**.

Usually, when we ask a trainer about the objectives of the training he is conducting, the response is often of this type: ‘I am familiarizing them with…’; ‘I am explaining to them that…’; ‘I am making them understand that…’

‘I’: The trainer is answering from his own point of view. But learning is not the trainer’s problem, but that of the trainee, the person who is learning. It is therefore necessary to see things from the trainees’ point of view.

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5. The safe use of pesticides, agronomy, organic farming, for example.
6. Calibrating the sprayer, picking beans, for example.
To define the teaching objectives, we will use Bloom’s taxonomy\(^7\), which leads us to stipulate the level of learning to be achieved.

We owe to two American researchers (B. Bloom and J.P. Guilford) a hierarchized classification of the teaching objectives, based on six levels of learning of increasing complexity.

The six levels are the following:
1. Recalling data
2. Understanding
3. Applying
4. Analyzing
5. Synthesizing
6. Evaluating

In theory, it is necessary to pass through each level in order to reach the one above. The taxonomy has been created to help the trainer specify each step and gradually raise the level of his training. It is important to emphasize that the trainer’s task is to make sure the trainee knows in advance the level that he has reached.

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\(^7\) B. Bloom et al. (New York, 1956). *Taxonomy of educational objectives: the classification of educational goals; Handbook I: Cognitive Domain*, Longmans, Green.
The content of these six levels of learning can be defined as follows:

1. **Recalling**
   - Particular data (names, facts, dates, symbols);
   - How to deal with particular data **without applying it** (conventions, classifications, criteria, method);
   - Universally known data (principles, laws, theories).

   Here, the learner must be capable of recognizing simple elements: to be able to answer the question, 'What is this made of?'

2. **Understanding**
   This is understanding at a deeper level. Using his own words, the trainee shows that the message has meaning for him. However, it is not yet a question of application, but of perceiving the relationships of the given content to other materials and situations. Two levels of understanding can be distinguished:
   - **Expressing, transposing**: In what the trainee communicates, the content is retained without the order being modified. Only the form changes. For example, saying that 'A > B means that A is greater than B'.
   - **Interpreting**, i.e. explaining or summarizing a communication. For example, explaining the data that is presented in the form of tables or graphs and drawing conclusions that take into account the relationships between the data. Here, the trainee should be able to state the connections between the elements. He should be able to answer the question, 'What do these elements do together?'

3. **Applying**
   The trainee applies what he has learned. This level assumes that the learner can distinguish the traits common to two situations or two problems. The trainee is able to apply, and use concretely, the principles or generalizations in new problems. For example, to use experimental procedures to solve problems in stockroom management.

4. **Analyzing**
   The trainee is able to:
   - Find the elements. For example, to distinguish the facts of the hypotheses in a communication.
   - Find relationships. For example, are the hypotheses logical with respect to the information that is available?
   - Find the organizational principles. For example, to identify the publicity techniques used in pamphlets.

5. **Synthesizing**
   The trainee is able to conceive and transpose. For example, personally write out an action plan responding to certain requirements, thus inferring a rule.

6. **Evaluating**
   The trainee is able to assess coherence, to place his product in its relationship to a guideline. He must be able to judge the limits of an action or a behaviour.
Thus, defining a learning level consists of specifying what goal the trainer wants to reach as to observable behaviour, in other words, what the trainee should concretely do rather than what he should have learned.

To achieve this level of learning, it is necessary to use action verbs when writing down the teaching objectives. In addition to defining the training objectives that are set by the person ordering the training, the trainer should also define the teaching objectives, also called the operational objectives.

It is necessary to specify the concrete steps through which the trainees should pass in order to complete their learning and achieve the purposes of the training.

**What is the purpose of teaching objectives?**

- To know where we are going;
- To facilitate understanding of the activity;
- To choose suitable training methods;
- In conducting the training, to be able to control the coherence between the methods, the means and the objectives;
- To evaluate the results, measure the effectiveness and/or the effect and consequently to readjust the initial objectives.

**How should the teaching objectives be formulated?**

In order to formulate a teaching objective, the trainer has to ask himself, ‘What will the trained employee be able to do at the end of the training cycle?'

**Consequently, the teaching objective must:**

- Describe very precisely the knowledge acquired by the conclusion of the training session. For example, knowing the functionalities of traceability software, identifying crop pests, knowing the significance of the colour codes on a label.
- Describe an activity that can be identified by observable behaviour. For example, dosing a product, storing liquid products, cutting up a fruit.
- Specify the conditions under which the trained employee can demonstrate the desired behaviour. For example, conducting project management meetings in an ESR quality project, or structuring the work time of planting teams in the GOMA sector.

The objectives should be **positively formulated** and use **action verbs**, such as identify, determine, strengthen, reduce etc. (see *Formulating an Objective* below).

The objectives should be formulated in a way that indicates the **results sought** in explicit terms.

A teaching objective should have certain characteristics.
The objective should be **SMART**, i.e.:

**Specific:**
It should be expressed in terms of the action to be taken in a certain context, and specify the objective clearly and explicitly.

**Measurable:**
It should be something that can be measured, with regard to both quantitative and qualitative aspects, and that can refer to specific criteria that should be defined for purposes of making an evaluation.

**Appropriate:**
It should allow the defined objective to be actually achieved.

**Realizable:**
It should able to be pursued without involving major undesired effects and should be realistic within the specific identified context.

**Temporally defined:**
It should be specific as to time and should relate to clear deadlines.

Here is a non-exhaustive list of action verbs to be used to express objectives:

<table>
<thead>
<tr>
<th>Administer</th>
<th>Complete</th>
<th>Enumerate</th>
<th>Keep</th>
<th>Produce</th>
<th>Stress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyzer</td>
<td>Conduct</td>
<td>Establish</td>
<td>Lead</td>
<td>Programme</td>
<td>Summarize</td>
</tr>
<tr>
<td>Apply</td>
<td>Construct</td>
<td>Evaluate</td>
<td>Locate</td>
<td>Promote</td>
<td>Teach</td>
</tr>
<tr>
<td>Arbitrate</td>
<td>Contribute</td>
<td>Examine</td>
<td>Look for</td>
<td>Propose</td>
<td>Trace</td>
</tr>
<tr>
<td>Argue</td>
<td>Correct</td>
<td>Exchange</td>
<td>Maintain</td>
<td>Protect</td>
<td>Transform</td>
</tr>
<tr>
<td>Articulate</td>
<td>Count</td>
<td>Execute</td>
<td>Measure</td>
<td>Provide</td>
<td>Use</td>
</tr>
<tr>
<td>Assess</td>
<td>Create</td>
<td>Explain</td>
<td>Mobilize</td>
<td>Recall</td>
<td>Verify</td>
</tr>
<tr>
<td>Assist</td>
<td>Define</td>
<td>Express</td>
<td>Modify</td>
<td>Receive</td>
<td>Write out</td>
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<tr>
<td>Be able to</td>
<td>Delimit</td>
<td>Facilitate</td>
<td>Move</td>
<td>Recognize</td>
<td>etc.</td>
</tr>
<tr>
<td>Briefly explain</td>
<td>Demonstrate</td>
<td>Find</td>
<td>Name</td>
<td>Recommend</td>
<td></td>
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<tr>
<td>Bring</td>
<td>Describe</td>
<td>Formulate</td>
<td>Negotiate</td>
<td>Record</td>
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<tr>
<td>Build</td>
<td>Design</td>
<td>Give</td>
<td>Notify</td>
<td>Reformulate</td>
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<td>Calculate</td>
<td>Determine</td>
<td>Guide</td>
<td>Number</td>
<td>Reproduce</td>
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<tr>
<td>Change</td>
<td>Develop</td>
<td>Have</td>
<td>Obtain</td>
<td>Retain</td>
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<tr>
<td>Check</td>
<td>Direct</td>
<td>Identify</td>
<td>Organize</td>
<td>Select</td>
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<tr>
<td>Choose</td>
<td>Distinguish</td>
<td>Illustrate</td>
<td>Participate</td>
<td>Share</td>
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<tr>
<td>Cite</td>
<td>Divide</td>
<td>Inform</td>
<td>Plan</td>
<td>Show</td>
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<tr>
<td>Classify</td>
<td>Draw up</td>
<td>Interpret</td>
<td>Practice</td>
<td>Solve</td>
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<tr>
<td>Codify</td>
<td>Drive</td>
<td>Introduce</td>
<td>Prepare</td>
<td>Specify</td>
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<tr>
<td>Collect</td>
<td>Effect</td>
<td>Investigate</td>
<td>Preserve</td>
<td>State</td>
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<tr>
<td>Collect</td>
<td>Employ</td>
<td>Join in</td>
<td>Prevent</td>
<td>State</td>
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<tr>
<td>Compare</td>
<td>Enter</td>
<td>Justify</td>
<td>Process</td>
<td>Store</td>
<td></td>
</tr>
</tbody>
</table>
3.4. The Choice of Teaching Purposes and Objectives

Various questions should be asked regarding the nature of the objectives. We must determine what exactly the trainees must be led to do, to make them capable of mastering their future situation, the final situation.

The questions are:
- **Will they be able to make do with repeating from memory?**

or will they have to
- **Redo** what we have shown them?
- **Make a connection** between this new knowledge and previous knowledge?
- **Converse, negotiate** with specialists from other disciplines and therefore be able to speak the language of those specialists?
- **Use** a specific technique, a tool?

or will they have to
- **Enhance their skill, improve the process?**

or will they have to
- **Evolve** in their deeply held attitudes in the face of complex situations that are more or less easy to get through?

In summary, what should they do?

Let's imagine that today the executives of a company ask you to transmit a certain amount of knowledge to other employees.

In order to clearly define the purposes and objectives of this training, you can proceed as follows:
- What are the capabilities to be acquired?
- By whom?
- What is it? Primarily the area of knowledge, know-how, or knowing how to be? Or all three?
- What are the performance criteria? At what level?
- Under what conditions? Where? When?
- Who is requesting this training? A supervisor? The person to be trained? Yourself?
3.5. Organizing the Training

3.5.1. Preparing Training Specifications

With the training specification the company can lay out the elements that are necessary in the submission of a training proposal by an internal or external supplier.

The specification is used to take into account the context and objectives of the company when organizing the training activities. It is aimed at presenting the objectives of the training from the company's viewpoint.

It is at the same time a tool for communicating, structuring and describing what is expected from a training activity. It constitutes a point of reference during and after the training, both for the trainer, who thus has a guideline, and for the company at the time it verifies that the objectives have been achieved.

The specification should be neither too detailed nor too succinct. The quality of the description of the company's expectations will clearly influence the relevance of the proposals that are being made.

The specification also constitutes a decision making tool: by formalizing its request, the company has a point of reference to evaluate the quality of the responses received and choose the supplier of the training who best responds to the stated requirements.

3.5.2. Defining the Context of the Training

The task here is to specify why the company wants to conduct a training activity and the problems that the training is intended to solve. On what problem(s) does the company want to act?

It may concern the need to integrate the requirements of new legislation; a strategic choice by the company (certification, for example); the development of new production activities; changes in the work organization; technological changes in the sector in question; the need to compensate for hiring difficulties; the strengthening of skills or reorientation of the professional career path of a category of personnel weakened by the specified changes.

While it is a question of specifying what need the training project responds to, it is also necessary to specify how these needs have been identified.

The elements of context are defined during the WWWWHW\(^8\) analysis, particularly What (what is the competency to be developed?); Where (in what context does the lack of skills appear?); When (at what point in the process is the lack of competencies visible?); How (in what way does the lack of competencies manifest itself?)

---

\(^8\) What, when, who, where, how, why?
It may be wise to specify what previous training has been pursued on the same subject or similar subjects. The trainer then has the possibility of being made aware of the training programme and the results obtained.

3.5.3. Important Elements of the Specification

† The purposes of the training

It is necessary to distinguish:

- The general objectives expected by the company, the aims being pursued through this training activity.
- The skills that the staff members are supposed to master at the end of the training.

These elements are identifiable through the competency profiles of the job types.

It is necessary to indicate what the personnel should be capable of doing in their job context after taking the training: what occupational behaviours are expected at the end of the training that will be implemented in the work situation.

The training objectives are formulated in terms of occupational activities and serve to make the training plan specific, but they are not so precise as to be able to define the training choices.

We are concerned, then, not with what the participant should have learned, but rather what he should be capable of doing in the real work situation once the training is completed.

† The skills to be mastered

The skills to be mastered are provided by the description of the process activities. Based on knowledge of the activities to be carried out in the company, it may be useful to indicate if achieving competency is based on the ability to be familiar with, apply or master certain knowledge, know-how or occupational behaviour.

Thus, while the technical skills to be mastered correspond to activities described in the process, it is necessary to specify the level that the training objectives are aimed at:

- Awareness: Being familiar with the ideas regarding specific concepts;
- Familiarization: Applying the basics of the chosen concepts in known situations;
- Mastery: Having in-depth knowledge and applying it in situations that are known but complex;
- Expertise: Applying the set of knowledge in new situations and being able to analyze and evaluate these situations.
The teaching approach chosen

Depending on the objectives, it is necessary to indicate the type of training expected, the teaching methods envisaged for the training activity: theoretical or practical; participative methods, use of the company’s own context; follow-up in the company.

Determining the target audience

This phase specifies the personnel categories to be trained, as well as the number of persons and possible number of groups to be trained.

Identifying the job types involved at the various steps of the process provides an indication as to the personnel categories that will be involved in the training.

Also, the job/work position (staffing) sheet gives the number of persons, or the number of groups, that are to take the training.

In addition, the population to be trained must be described: qualifications, seniority, responsibilities, job experience. These elements reveal any possible difference in level or heterogeneity among the participants.

It may be useful to attach the position sheet or job type description when all the staff belonging to personnel category are being trained.

Length of training

It is necessary to specify the number of days and the schedule (three times two days each, or three days per group, for example).

It is important to note that the more the training is aimed at adopting new behaviours, and hence at the use of methods based on experimentation and case studies, the more training time will be required.

If the number of days per person cannot be increased, it will be essential to work on the size of the groups and to favour groups with a maximum of 15 participants.

It is useful to stipulate the maximum budget (see below) allocated for the training in order to avoid responses that go too far beyond the limits of the training project.

The completion deadline

It is necessary to specify the desired training period, as a function of the harvest, for example.

It is also useful to specify the deadlines for completing the entire training.

This phase sets a schedule for the training activity and lists the main phases and steps.

The training venue

It is necessary to indicate the site where the training will take place or stipulate any specific logistical requirements.
Handling the training budget

When specifying the amount of money allotted to the training, it is necessary to specify whether or not travel costs and/or per diem are covered, as well as documentation and logistical costs (the hiring of specific equipment or training space and meals).

Internal resources available for the training

This phase concerns the possible availability of training rooms, equipment or internal trainers.

Constraints to be considered

The purpose here is to state any recommendations on the content of the training.

For example, it is necessary to indicate to the trainers whether a quality system has already been established or to state a client’s specific requirements.

This heading also covers precise information on the steps that are to be carried out prior to the training (designation of a person or completion of a project, for example).
3.6. Follow-Up and Essential Checklists

3.6.1. Recommendations for Follow-Up

The logistical organization of a training activity is also a factor critical to success.

The demands of the audience in this regard are sometimes extravagant, but they often correspond to the fact that the adults we are addressing see training as an investment (if only because of the time devoted to it). For this reason, the specific conditions under which the training is given constitutes a key element in evaluating the quality of the activity.

From the trainer’s point of view, there is a double challenge:

1. On the one hand, the quality of the logistics will be directly linked to the image he will give of the training, of himself and of the trainees. The environment in which the participants are received generally gives an impression of the consideration that is being given to them;

2. On the other hand, the physical conditions under which a seminar or group training is being given will have a concrete effect on the trainees’ understanding and retention of the information transmitted.

This is why all trainers should pay careful attention to the optimal organization of the logistics.

Here we present a checklist showing the essential elements to be taken into account at the various points in the training:

1. Before the training (preparation of the programme);
2. During the training (in the course of the programme);
3. After the training (following the programme).

The tasks are also arranged as a function of the actors who are in charge of each of them.

The training unit organizes the general logistics of group training. Nevertheless, the trainer should verify whether all of the arrangements made are actually carried out.

Apart from this verification, certain other activities are the responsibility of the trainer. It should be kept in mind that in another context all of the tasks identified here can be undertaken by the trainer himself.
3.6.2. Checklist No. 1: Preparing the Training

- **Tasks to carry out with the Training Unit (general points that can be adapted)**
  
  **Organizing the training**
  
  - Accurately identify the participants (CV’s) (unless it is the company that sends employees for training, for example);
  - Choose the dates for the training workshop;
  - Identify the resource persons and the potential invitees;
  - Send the invitations to the participants (include the objectives of the programme);
  - Send the invitations to the resource persons and the invitees;
  - Send a confirmation to the participants with a summary of the programme and information on logistics (include forms with travel information, if necessary);
  - Prepare the documents containing information on the location, the training site and the practical plans for hospitality.

  **Logistics**
  
  - Obtain the quotes from potential suppliers (rentals, meals, lodging, teaching equipment, for example);
  - Reserve the training rooms;
  - Make the preliminary arrangements for any lodging;
  - Schedule and reserve the sites, the transportation and the meals for special events;
  - Reserve the meeting rooms: a large conference room with enough seats and small (break-out) rooms for group work, provide for good ventilation, air conditioning, good lighting;
  - Organize daily cleaning of the rooms;
  - Send the list of necessary equipment to the local manager of the training site;
  - Check the existing technical equipment (power outlets, for example);
  - Provide for the preparation of any drinks and snacks and of meals;
  - Check the planning modalities: schedule of breaks and meals;
  - Organize any transport of the participants;
  - Reserve lodging for the trainers and for the participants.
  - Several days before the training, check all of the points mentioned above.

- **Tasks to be carried out by the trainer (general points that can be adapted)**
  
  **Organization of the training**
  
  - Prepare the files for the workshop;
  - Prepare the teaching aids;
  - Identify the level of the potential participants (analyze the CV’s, for example);
  - Prepare the opening day programme, the schedule and the list of participants;
  - Make sure that the evaluation forms are prepared.
Logistics

Send the training unit the materials needed for the training. For example:

- Projector, screen;
- Flip chart;
- Paper (signs, A4 and A3 paper etc.);
- Markers, ballpoint pens, pencils, felt tip pens;
- TV, video;
- Computer;
- Sticky paper, thumbtacks, stapler, hole punch, scissors;
- Collared cardboard;
- Note books, scratchpads;
- Extension cord;
- Connection wire.

3.6.3. Checklist No. 2: During the training

Tasks to be carried out with the Training Unit (general points that can be adapted)

Organization of the training

- Check the expenses against the budget set.

Logistics

- Finalize the lodging arrangements;
- Organize the travel by air, train or bus for special activities and on-site movement;
- Help the participants to prepare their departure

Tasks to be carried out by the trainer (general points that can be adapted)

- Check that all of the points mentioned above have been covered.

Organization of the training

- Take the roll;
- Prepare the list of participants with their respective addresses;
- Provide the certificates of participation in group training.

Logistics

- Provide for and organize a group photo;
- Check that the materials are on hand in the training room;
- Check that the equipment is properly functioning. For example:
  - The lighting;
  - Ballpoint pens, markers and felt-tip pens
  - The projector bulb;
  - Functioning of the electric outlets.
- Check the timing and arrangements for the drinks, snacks and meals.
And don't forget…

- The choice of clothes, colours and accessories (your appearance is the first message you send);
- Your expression, the first contact between you and the participants;
- Make your voice, your gestures and your words suitable;
- Channel and use your stage fright.

Verification of the materials and spatial organization

First of all, any teaching materials to be used must be checked for their availability and good working order: blackboard, markers, paper refills, projector, screen, television, video, etc.

It is also useful to provide for and prepare the layout of the 'classroom', particularly the chairs, tables and teaching equipment.

The trainer should arrive before the training gets under way in order to check the equipment and organize the physical layout of the room.

The objective is to arrange the sites in such a way that each participant can see the facilitator and the teaching tool (blackboard or screen, for example) and so that the trainer can see everyone (no participants to the right or left of the trainer on the same level)

For the reason, the recommended arrangement is as follows:
Arrangements to be avoided are:

School, type, the participants undergo being informed, they are passive.

The facilitator is not in a distinct position.
(The same when he sits with them at the table.)

This position promotes clanishness and clashes.

3.6.4. Checklist No. 3: After the training

Tasks to be carried out by the Training Unit (general points that can be adapted)

Organization of the training

- Send the evaluation report to PIP;
- Complete the billing, including any expenses of the trainer.
**Logistics**

- Send the participants any additional documents they requested during the training.

**Tasks to be carried out by the trainer (general points that can be adapted)**

**Organization of the training**

- Prepare a table with the evaluation results;
- Prepare, finalize and reproduce the final report and recommendations.

**Logistics**

- Be sure to return the equipment in good condition.
Chapter 3

Developing a Training Programme

Personal Notes

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Chapter 4

Memorizing the Message and Training Styles

4.1. How Do the Trainees Memorize a Message? .................................................... 70

4.2. Three Training Styles ....................................................................................... 73
4.1. How Do the Trainees Memorize a Message?

4.1.1. A logic of interest...

The more the content and the methods used engage the participants' interest, i.e. the more they resonate with them personally, the more favourable it will be for the learning conditions.

It is the responsibility of the trainer to capture this interest by seeing things from the viewpoint of the trainees: 'Beyond the knowledge that I find valuable, what is the participants' interest in learning this?'

This is the first question. If the value is not evident from the trainer’s viewpoint, it will be up to him to make clear why they have an interest in mastering this knowledge (see the SIOM technique).

Moreover, arousing and keeping the trainees’ interest is an essential task both for the trainer and the trainees throughout the various learning sequences.

The trainer should think about: 'What will they do, after the training, with the knowledge, techniques, tools and methods that I have transmitted to them?'

It is important to maintain a balance between the level of the task and the interest. If attention drops as the level of difficulty increases, the training runs the risk of not achieving the objectives set and of being ineffective since it will not produce the planned effect. What’s worse, this could lead to unforeseen negative effects that hinder the desired learning.

4.1.2. ... that impacts the concept of learning sequences ...

A number of training activities contain a practical facet and a theoretical facet.

The trainer must get rid of a preconception that the training must be:
- Theory and Practice

The retention of knowledge, of techniques for example, is based on a constant back and forth between theory and practice, between learning and doing, between analysis and synthesis.

The theory will be easier to memorize if the explanation is linked to its application.

Generally speaking, to sustain the trainees’ interest, the teaching methods should vary and multiply the occasions for behaviours that make communication more effective (questioning, teaching aids and group work, for example).
4.1.3. ... where the trainee is an actor

Someone who attends training without having a clear perception of its purpose has less chance of applying what he has learned on the job.

For this reason, the trainer must never forget that the trainee:
- Is not taking the training, but participating in it;
- Knows where he is going and understands the objective;
- Feels that he is useful and not being manipulated;
- Is being recognized and not being judged;
- Learns better when he can use and apply what he is learning.

<table>
<thead>
<tr>
<th>Restraints on training</th>
<th>Motivations for training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort</td>
<td>Better mastery of one's job</td>
</tr>
<tr>
<td>Risk and fear of failure</td>
<td>Improving current job</td>
</tr>
<tr>
<td>Not believing in his capabilities</td>
<td>Broadening field of competency</td>
</tr>
<tr>
<td>Being ashamed of recognizing his gaps</td>
<td>Intellectual curiosity</td>
</tr>
<tr>
<td>Little interest in the training</td>
<td>Hope of being promoted</td>
</tr>
<tr>
<td>Not understanding the objective of the training</td>
<td>Training that is valued within and by the company</td>
</tr>
<tr>
<td>Being satisfied with his situation</td>
<td>Need to prove himself to himself and others</td>
</tr>
<tr>
<td>Fear of the unknown</td>
<td>Preparing his future</td>
</tr>
<tr>
<td>Fear of being judged</td>
<td>Desire to overcome one's problems</td>
</tr>
<tr>
<td>No hope of development</td>
<td>Competition and emulation with his co-workers</td>
</tr>
<tr>
<td>Resistance to change</td>
<td>Concern about not falling back</td>
</tr>
<tr>
<td>Fear of punishment</td>
<td></td>
</tr>
</tbody>
</table>

The table on the following page summarizes the behaviours that the trainer should adopt as a function of what promotes memorization by the trainees.
### We understand and retain better:

**What is well structured and presented in a clear and intelligible way.**
- Endeavour to be clear, simple and precise;
- Make the structure explicit when making transitions;
- Present and display the training schedule and the plan of action;
- Use terminology that is accessible to everyone.

**What we have in part discovered for ourselves.**
- Permit the trainees to discover certain messages and ideas for themselves by using active methods;
- Ask the trainees the greatest possible number of questions and let them ask questions in turn.

**What we have had occasion to experience and use.**
- Permit the trainees to apply the knowledge that has been presented to them.

**What we have learned and at the same time understood.**
- Use training aids and visual supports (documents, objects, slides and tables, for example).

**What relates to what we already know.**
- Explain by analogy; present the new in comparison with the old, the unknown in relation to the known.

**What has been written or presented several times in different ways.**
- Reformulate;
- Summarize and remind, or ask the trainees to do so.

**What is connected to memorization techniques (numbers and abbreviations, for example).**
- Use memorization techniques as often as possible.
  - The simplest: if you present 7 safety measures or 5 phases in carrying out a procedure, say or write that down and/or provide a teaching aid that facilitates memorizing it.
  - In addition, the mere fact of giving a number (seven or five) facilitates memorization. It is easier to retain the elements that make up a series if we are able to refer to the number.
4.2. Three Training Styles

4.2.1. The Formal Lecture Method

*Principles*

1. Transmission of knowledge in the form of a lecture or presentation.
2. Facilitates time management time and makes it possible to transmit the maximum amount of information in the minimum time.

*What I do:*

- I make a detailed plan.
- I limit the presentation to minutes.
- I use concrete examples.
- I ask questions in order to mobilize the attention of the trainee.

*Formal lecture method*

*What the trainee does:*

- Listens.
- Thinks.
- Reacts to my questions.

*Recommended to enable the trainee to identify the steps in a process*

*Precautions*

- Limit the length of the lecture.
- Use it more in the form of a summary after active participation by the trainees.
- Use visual aids, examples, stories, anecdotes etc.
4.2.2. The Demonstration Method

Principles

1. I show.
2. I have the trainees do.
3. I have the trainees speak

What I do:

I show and the trainee observes.  
I ask the trainee to repeat what he has learned.  
I have the trainee do it. He reproduces it and explains the way it is done.  
I check and correct.  
I ask the trainee to say again what he has done.  
I summarize.

Demonstration method

Recommended when on-the-job or case study training is involved.

What the trainee does:

He observes.  
He listens.  
He repeats.  
He reproduces.  
He acts. He tests. He asks.

Precautions

This is an effective method for learning a precise technique.

The situation gives a sense of security to the trainer and the trainee.
4.2.3. The Discovery Method

**Principles**

1. Have the trainee learn by trial and error.
2. Mobilize the trainee’s personal experience to assess a situation and solve a problem.

**What I do:**

I give instructions and the necessary information for the problem that is to follow. I provide the tools. I am available. I am the ‘resource person’ during the work. I summarize, drawing on the solutions proposed by the trainee.

**Discovery method**

**What the trainee does:**

Recommended when the audience is far from the subject.

Thinks. Discovers on one’s own. Experiences own solutions.

**Precautions**

Give the information and instructions gradually, in small doses.

Avoid giving the trainee the feeling that he is being 'trapped'.

Evaluate the difficulties of the proposed exercise ahead of time.

Devote time to the summary.
Chapter 5

Evaluating the Training

5.1. Why and How to Evaluate Training ............................................................. 78

5.2. The Levels of Evaluation .......................................................................... 80
5.1. Why and How to Evaluate Training

5.1.1. Why Evaluate?

The evaluation should be carried out from different perspectives depending on whether it concerns results or the process.

The trainer wants to evaluate the results:
- Either in terms of effectiveness: To what extent were the objectives achieved?
- Or in terms of the effects produced: Did the training have effects that were not foreseen in the objectives and were these effects positive or negative?

The trainer wants to evaluate the process:
- Either with a view to making an adjustment: Were the means employed suited to the initial objectives?
- Or to verify consistency: Were the various teaching sequences consistent with each other? Was this training consistent with the other training activities?

The evaluation is not a punishment. The evaluation should be performed on the basis of explicit criteria, using methods that are suited to the objectives of the training.

Evaluating means making a value judgment on the results of the training in order to compare them with the objectives that were sought. This judgment is made either during the training or at its conclusion.

Evaluating also means examining how the participants perceived the process set up by the trainer. It is important to have the trainees give a value judgment on, for example, the system constructed by the leader, the various types of exercises, the training aids and the logistical conditions.

5.1.2. How to Evaluate?

The evaluation is a measurement of what actually happened during the training in order to evaluate the extent to which the objectives were achieved, before the trainees find themselves on their own on the job. The evaluation should be designed to determine if a training activity should be continued, changed, or abandoned.

The evaluation is a check on the training as a whole. Various parameters can be established: content, knowledge acquired by the trainees, logistical conditions, relations with the trainer, teaching methods etc.

Specifically, the evaluation is a way of measuring whether the ‘contract’ between the trainer and the trainees, as well as the contract between the trainer and the person ordering the training (see the training specification), have been fulfilled and if the conditions for implementation have been met.
The evaluation possibilities should specify factors that can be expressed numerically (such as the number of persons involved, the time devoted to the activity and the money spent, as well as the rate of success on a multiple choice questionnaire), although a qualitative evaluation is also essential.

Four factors converge to determine the quality of the training system:
1. Clear identification of the needs and the personnel: Does the training respond to the right question? Was the target audience well chosen?
2. Timing: Was the time right in relation to the needs?
3. Quality of the teaching: Relevance of the objectives? Of the program? Of the methods? Of the duration? Of how it was spread over time? Of the trainers? Of the balance between theory and practice?
4. The results expected and achieved: awareness in the persons concerned – participants and managers – and confidence in the results expected and achieved.

5.1.3. What Methods Should Be Used?

The most commonly used methods are:
- Questionnaires (ex: tests, multiple choice questionnaires, and open questions);
- Discussions (ex: individual or group discussions);
- Personal training reports (ex: log books and summaries);
- Evaluation interviews by management.

The quality of these methods will depend on how well suited they are to the situation and their connection to the training methods.

**Important comments**

Evaluation of the trainees can be done *before the training starts*. This concerns measuring the level of knowledge of the subject matter before it is presented in order to adapt the presentation to the level of the audience. It may also relate to evaluating the prerequisites to be met in order to enrol in the training.

The evaluation can also be done several weeks or several months after the training has taken place. This is done, for example, to measure the transfer of knowledge on the job or the behaviours of the trainees, and way the content of the training has been applied.

We will focus on the evaluation carried out during or at the end of the training, and especially on the evaluation of the teaching and of the situation.
5.2. The Levels of Evaluation

5.2.1. The Four Levels of Training Evaluation

- Evaluation of the teaching: i.e. the knowledge acquired in relation to the teaching objectives and the integration of that knowledge;
- Evaluation of the participants’ satisfaction, i.e. their on-the-spot opinion of the performance;
- Evaluation of the transfer of knowledge to the work situation, i.e. application of the knowledge acquired;
- Evaluation of the effects (impact) of the training, i.e. achievement of the individual and group objectives that were established as they relate to the objectives of the person ordering the training and the purpose of the training.

5.2.2. Evaluation of the Teaching: When to Evaluate?

- **During the training**

  Each participant comes to the training with certain ideas, with his own personal ‘knowledge’. It is of interest to measure this, to evaluate this ‘knowledge’ at the beginning. An initial test, followed by retesting during the training (see below) serve to evaluate how this knowledge develops and detect any gap with respect to the initial objectives.

  Over the course of the various training sessions, the trainer should verify what knowledge has been acquired. Thus, it is necessary to avoid questions such as 'Did you understand me?' since this question is relevant only if the trainees answer 'no', which does not often happen.

  After a lecture or presentation, the trainer should formulate an open question, such as 'Are there any questions about things needed clarification or that you did not understand?'

  To evaluate understanding during the training, the trainer can use various methods: get the trainee to state what he has retained, present a precise item of they have seen, or test what has been learned by putting forward practical cases.

- **Evaluation at the end of the training**

  This type of evaluation will be better perceived if it is announced at the very start of the training and if the objectives and criteria of the evaluation have been stated explicitly.

  For the trainer, the challenge is to choose measurable indicators and significant observable results.
The final evaluation should thus be based on:

- The initial objectives, rigorously formulated, i.e. by specifying the expected observable behaviour;
- Performance standards that are developed initially, i.e. concerning precise results that are expected and that will determine whether or not the objectives have been achieved.

The final evaluation can also be a check intended to compare the trainee’s performance with the training objectives that were established in advance.

This comparison is possible only if:

- The objectives have been defined with sufficient precision;
- The conditions under which the observed behaviour is to be performed have been specified;
- The performance standards have been set. Here it is necessary to specify the acceptable minimum along the evaluation continuum used (12 out of 20 or 5 out of 10, for example).

**Evaluation of the teaching in group training activities**

Each group training program must be evaluated in writing by the individual participants. Multiple choice questionnaires with a certainty index can be used.

### 5.2.3. Evaluation of Satisfaction: How to be a facilitator?

During, or more often at the end of the training, various aspects of the training are evaluated while the experience is still fresh. For example, evaluation of the content (the level of difficulty, for instance), relations with the trainer, practical organization (exercises and lectures, as well as the physical conditions), utility of the training as a whole. This evaluation can be done orally or in writing.

The trainer frequently tries to obtain feedback from the trainees regarding 'what they think about the training.' To avoid self-satisfaction and to learn from this exercise, the trainees must be given precise evaluation criteria, in particular:

- They should recall the objectives and place the results in that context;
- They should recall their expectations and place their results in that context;
- They should describe the problems that still remain for them to solve for themselves;
- They should identify the obstacles to application, in relation with their own environment.

It is more effective to organize this type of evaluation in two different steps:

- In small subgroups (or individually) without the leader;
- Then in a large group (a full session) with reading and discussion of the reports made in the subgroups.

An alternative with large groups is to give each participant a sheet to fill out individually (see below). It is useful to specify that what is being sought is their personal evaluation of the various dimensions and to make sure that the questionnaires are anonymous in order to avoid any self-censorship.
Moreover, the training as a whole should be part of a follow-up process. This implies the involvement of management (the persons who hold the authority) in applying the elements presented during the training. For this reason, it is unquestionably of interest to invite the management to attend and participate in the final evaluation.

The following pages present a model evaluation grid that can be used with the participants during the training.

**Overall Evaluation of the Training**

*To what extent are you satisfied with (check the box):*

- **The overall structure of the training?**

<table>
<thead>
<tr>
<th>Very unsatisfied</th>
<th>Very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of the training</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>The schedule</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Logical order of the training sequences</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Alternation between practice and theory</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>The methods used</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Suitability of the content and duration</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Logistics</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
</tbody>
</table>

- **The quality of the teaching material?**

  - Written aids
    | 1 2 3 4 5 6 7 8 9 10 |
  - Presentation aids
    | 1 2 3 4 5 6 7 8 9 10 |
How the trainers ran the course

Achievement of the objectives

Understanding of the objectives

- How would you evaluate your own personal development?
  
  Technically

  With regard to learning

- Your comments, impressions and feelings:

- Your suggestions for improving the system:

- What types of teaching aids would you like to have available to carry out the training?
Chapter 6

PIP Training Aids and Tools

6.1. Training Aids ................................................................. 86
6.2. Teaching Tools ............................................................. 91
6.1. Training Aids

6.1.1. Training Aids

All training activities are based on 'aids' and rely on 'tools' that should be adapted to their use (depending on the type of training to be carried out) and to the target audience.

The same type of tool or teaching aid is not suitable for all training activities. During phase 1 of PIP, the Training Branch created and developed a series of aids and tools adapted to the training objectives and the level of the target audience.

The table below makes it possible to understand the value and purpose of each type of aid:

<table>
<thead>
<tr>
<th>Aids</th>
<th>Intended target audience (in order of priority)</th>
<th>Types of training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Manuals</td>
<td>ACP experts&lt;br&gt;Managers&lt;br&gt;Qualified supervisors&lt;br&gt;Supervisory staff&lt;br&gt;Public service personnel&lt;br&gt;Heads of PO</td>
<td>Training of trainers&lt;br&gt;Group training&lt;br&gt;Distance learning (supplement)</td>
</tr>
<tr>
<td>Self Assessment Guides (SAG)</td>
<td>ACP experts&lt;br&gt;Managers&lt;br&gt;Qualified supervisors</td>
<td>Group training</td>
</tr>
<tr>
<td>Application Guides</td>
<td>Managers&lt;br&gt;Qualified supervisors&lt;br&gt;Mid-level supervisors&lt;br&gt;Small producers</td>
<td>Group training&lt;br&gt;In-house training</td>
</tr>
<tr>
<td>Brochures</td>
<td>Mid-level supervisors&lt;br&gt;Foremen&lt;br&gt;Technicians&lt;br&gt;Workers&lt;br&gt;Small producers</td>
<td>In-house training&lt;br&gt;Awareness activities with small producers</td>
</tr>
<tr>
<td>Videos (sequences)</td>
<td>Mid-level supervisors&lt;br&gt;Foremen&lt;br&gt;Technicians&lt;br&gt;Workers&lt;br&gt;Small producers</td>
<td>Group training&lt;br&gt;Awareness activities with small producers</td>
</tr>
<tr>
<td>Radio messages</td>
<td>Small producers</td>
<td>Awareness activities with small producers</td>
</tr>
</tbody>
</table>
6.1.2. Training Manuals

The PIP training manuals are primarily intended for ACP experts in order to help them in their work:

1. **Consultants to companies**: by improving their technical level and providing to them, in a pre-digested and comprehensible form, technical and scientific information on all aspects related to the production and processing of fruits and vegetables in the context of international trade.

2. **Trainers of the managers and supervisors of these companies**: by structuring this mass of information by subject and then by chapter in order to facilitate their learning of the material to be reproduced.

The PIP training manuals are also intended for managers and some of the more qualified company supervisors (3-4 years post-secondary school education). They are primarily intended for company supervisors who are involved, the directors of quality and/or traceability, the heads of production and the packing station chiefs. These manuals are also of interest for professional organization heads and coordinators, training personnel, personnel of certain government agencies (the Ministries of Agriculture, Health and Trade), personnel responsible for phytosanitary regulations, laboratory directors, program directors and others.

The purpose of the PIP training manuals is to assemble, in an accessible and summary form, all of the technical knowledge necessary to cover all of the subjects dealt with by PIP. They readily go beyond the strict boundaries of plant production as needed so that the experts and company supervisors will have a broad view of the issues (for example, occupational hazards, health risks, quality activities or regulations) and to arouse their interest and curiosity regarding the subject. It is necessary to guide the experts, managers and technical-level supervisors sufficiently so that can then progress by themselves (the manuals include a glossary and list of reference texts or works and web sites to consult for further knowledge).

The manuals are highly structured summaries that greatly condense the concepts that are addressed. The content is at a relatively high level and is sufficiently complete to train experts or executives who are specialists in the matters covered and who will later find material to deepen their knowledge. In general the presentation is illustrated (drawings, diagrams, figures, photos and examples) in order to facilitate understanding and help the experts to choose from among the illustrations the ones that will be presented during the group training activities.

Much care has gone into preparing the PIP manuals because:
- They constitute the basis, the foundation of technical knowledge and summarize all of the key messages of the program. It is on the basis of the manuals that all of the other aids are written and created, particularly the distance learning materials;
- They are available at all times as reference works for all of the beneficiaries;
- They are indispensable aids during group training.
In the case of distance learning, the manuals can be a supplementary aid for the learner, who can consult a detail in the material at any time or make notes in the margin. The manuals are designed to present the subject matter by theme, and learning on electronic media makes it possible to establish connections between the areas of subject matter.

The PIP manuals are produced in several 'layers':
- At the sector or branch level: through the SAS Guides;
- At the company level: through the Application Guides, brochures and videos;
- At the small producer level: through brochures, videos and radio messages.

The Self Assessment Guides (sector SAG)

This is a new aid developed by the PIP for the principal branches of production involved in the program in order to convey concretely the theoretical elements related to health safety (also covered, for example, in the manuals) so they can be adopted in the companies or by a sector. The SA Guides are primarily intended for the POs and the companies active in a certain field (a 'sector'). They are prepared in strict coordination with the sector involved, the representatives of government agencies and all of the potential users (the members of the POs) who have been identified and invited to participate in their preparation. The SA Guides have been prepared, at the request of the sectors, by ACP experts with the coordination of the Training Unit.

A 'Sector Guide' is at the same time a reference document for the producers in a sector and a working document, a guide for the companies:
- As a reference document, it must indicate the area of application of the guide (the type of produce) and summarize all of the legal requirements that are imposed as to health and phytosanitary measures for the sector (regulations and national and international standards). The guide contains the principles for analysis of all the risks recognized as relevant for the sector, as well as the control measures that the sector recognizes as appropriate and economically viable for itself, with the agreement of the local authorities. Finally, the guide covers all of the elements to be monitored (in the form of a checklist) and to be traced, along with the samples to be taken (their nature, frequency and place), the audit conditions, the measures taken in case of noncompliance etc. The user should be made aware and encouraged to take responsibility. It is necessary to explain to him why he should apply the guide and observe the self assessment measures. The importance of self assessment and of assuming the responsibility associated with it should be clearly demonstrated. A user aware of the objectives will be more convinced to put a self assessment system in place and to apply and maintain it.
- As a practical guide, it is a 'user’s guide', explaining who it is intended for and how to use it (for example, drawing attention to certain aspects that promote ease of use and application of the guide). It should induce the producer to apply the guide’s recommendations in his own operations (review risks under his own conditions and organize the traceability, control measures, and self assessment to be put in place). The user has to find it easy to navigate the guide (a clear table of contents with a brief comment indicating what data can be found in the guide). Given that the guide is used to meet legal requirements, it indicates clearly in what way the monitoring provisions suggested in the guide make it possible to respond to the regulatory requirements. It is very important to indicate how the recommendations can be specifically used. Consequently, there is a step-by-step explanation of how the user can use the guide to set up his own self assessment system, adapted to the context of his operation.
The Training Unit has two objectives:

- To develop these aids for different sectors (an SA Guide has been prepared for mangos and dried mangos).
- To train the ACP experts and relevant public employees in preparing this type of document.

**Application Guides**

This new aid is intended to convey in a concrete manner the theoretical elements relating to health safety and the other aspects covered in the manuals (risks associated with the use of dangerous substances, the impact of practices on the environment, essential health conditions etc.). They guide the monitoring measures to be adopted in companies and the good practices to be implemented by all personnel.

The application guides are primarily intended for mid-level supervisors. They are practical illustrated documents that serve as handbooks' and guides for implementing good practices (with photos and diagrams) and verifying compliance with instructions (assessment checklists). They present the activities to be carried out in successive steps and the elements to be mastered in a logical order based on the process (diagram of activities).

The Training Unit, in cooperation with the SMS experts, has developed four Practical Guides:

- An Application Guide on Implementation of a Food Safety Management System (FSMS)
- An Application Guide on Implementation of a Traceability System
- An Application Guide on Implementation of a Zero-Residue Crop protocol

As needed, other practical guides may be envisaged (for example, a guide on changing to organic agriculture).

**Brochures**

The PIP brochures are primarily intended for technicians, workers and small producers in order to remind them of the rules that have to be followed (the ‘good practices’).

They are a simplified summary of all of the 'key messages' and are generally illustrated with a drawing or photo. Ideally, they are translated into the local languages. They may be distributed at the time of the awareness-building activities or during the in-house training.

**Videos**

This new aid illustrates with images good crop growing practices, the safe use of pesticides, the health monitoring practices to be adopted in the companies and, generally, all of the good practices to be observed by the personnel. The video sequences are available primarily for the use of supervisors for in-house training and the training directed to outgrowers (projection and comments). Ideally, they are narrated in
the local languages. They can play the same role as the brochures and do not require knowing how to read.

The video sequences can illustrate certain technical aspects (like photos, but with movement added) or report eye-witness accounts (for example, interviews with executives, laboratory heads, importers, phytosanitary monitors, customers and consumers).

In addition, the video sequences can be podcasts of class sequences. They can also record training given by experts who cannot travel.

They are developed in cooperation with the ACP experts.

- **Radio messages**

  This new aid broadcasts awareness-building messages intended for small producers with a view to inducing them to change their practices and protect their health (personal hygiene and wearing protective equipment, for example) and their environment. The subjects that are addressed touch on the impact of production techniques on their health, on water quality, erosion and soil fertility and on biodiversity.
6.2. Teaching Tools

6.2.1. Teaching Tools

The aids used during collective or group training are supplemented by tools that facilitate self-learning (e-learning or blended learning) or that help the supervisors develop their reflection and critical sense (self-evaluation tools for the practical exercises). To facilitate the work of the trainers, a series of learning tools (training handbooks) are suggested to help:

- The ACP experts train other experts and company managers and supervisors.
- The supervisors train their personnel or the small producers.

The table below makes it possible to understand the area of interest and objective of each type of teaching tool:

<table>
<thead>
<tr>
<th>Tools</th>
<th>Intended target audience (in order of priority)</th>
<th>Types of training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training Handbooks</td>
<td>ACP experts&lt;br&gt;Managers&lt;br&gt;Qualified supervisors</td>
<td>Group training&lt;br&gt;In-house training</td>
</tr>
<tr>
<td>Teaching Videos</td>
<td>ACP experts&lt;br&gt;Managers&lt;br&gt;Qualified supervisors</td>
<td>Training of trainers&lt;br&gt;Group training</td>
</tr>
<tr>
<td>Training Notebooks and Leaflets</td>
<td>ACP experts&lt;br&gt;Managers&lt;br&gt;Qualified supervisors</td>
<td>Group training&lt;br&gt;In-house training</td>
</tr>
<tr>
<td>Field Training Workshops</td>
<td>Foremen&lt;br&gt;Technicians&lt;br&gt;Small producers</td>
<td>In-house training&lt;br&gt;Awareness-building activities for small producers</td>
</tr>
<tr>
<td>Tool Box (blended learning)</td>
<td>ACP experts&lt;br&gt;Qualified supervisors&lt;br&gt;Public service personnel&lt;br&gt;Heads of PO</td>
<td>Group training&lt;br&gt;Individual training</td>
</tr>
<tr>
<td>E-learning platform</td>
<td>ACP experts&lt;br&gt;Qualified supervisors&lt;br&gt;Public service personnel&lt;br&gt;Heads of PO</td>
<td>Individual training</td>
</tr>
<tr>
<td>Self-evaluation tools for practical exercises</td>
<td>Qualified supervisors&lt;br&gt;Foremen&lt;br&gt;Technicians&lt;br&gt;Small producers</td>
<td>Group training&lt;br&gt;In-house training</td>
</tr>
</tbody>
</table>
The Training Handbooks

The Training Handbooks explain how to implement the various types of PIP training: purpose of the training, teaching goals, system(s) to use, recommended methods, principal teaching sequences, available aids, recommended evaluation etc.

From the practical viewpoint and without being too constraining, it helps the training facilitator allow room for the creativity of the expert, be flexible and adapt to circumstances. These guides show how the training 'unfolds', stressing the key sequences and the logic of how they succeed each other. The connection between the sequence and the teaching aid will help the trainer prepare his material in a timely way. The timing given is illustrative to help in judging the weight to give to the various sequences and the importance of each one.

The Teaching Videos

The video is also a helpful tool in assisting the ACP experts to train other trainers. Thanks to the images, the trainer can easily:

- Illustrate a training method (particularly in the case of group sessions);
- Show how a sequence unfolds;
- Demonstrate an effect on the participants (for example, the positive or negative effect of a nonverbal communication);
- Present an on-site exercise.

In the organized training activities, the video can be used to illustrate how the teaching sessions succeed each other and the kind of effect that is expected. For the supervisors, the image will be more eloquent than the text of the Training Notebooks. Rather than repeating all of the training activities in the presence of the trainees, the trainer can focus on some examples and make the video sequences available for the 22 training activities, along with examples of the warm-up sequences (the theatre forum). These video sequences are available on the training platform.

The Training Notebooks and Leaflets

Each Training Manual has a Training Notebook and leaflets for each chapter. This is a document of no more than two or three pages that covers a summary of the following elements:

- The key messages: These present the important messages (around five to ten) that the trainer should pass on to the trainees for the chapter in question. Thus, this is helps the trainer in sorting out the mass of information covered in the text. The trainer can, for example, prepare a series of Power Point slides and check that the important messages have been covered;
- The teaching objectives. They present what the trainees are supposed to know at the end of the sequence;
- Advice regarding the various sequences to be planned for this material.

The teaching leaflets are mainly used in group training or in some in-house training. They are grouped by manual in a notebook carrying the same title.
Field Training Workshops (FTW)

The PIP Field Training Workshops (22 subjects each presented in a single 'notebook') have been designed to help the target audience understand the 'rules' (the good practices) to be observed throughout the production process so that the produce that is harvested and processed will conform to the regulatory standards and requirements. These activities are organized by subject and are presented in a simple and colourful manner, working with analogies.

The FTWs illustrate in particular the subjects of interest to the workers and small producers, to whom they are first and foremost directed.

They are offered both to build awareness in the outgrowers of fruits and vegetables intended for export who work in cooperation with one or more companies, or to train the company workers. In this case, the training is organized for specific moments in the season, week or day depending on the growing schedule and the availability of the supervisors who serve as facilitators.

The FTWs take place in the company, in a classroom or in the open depending on the audience and the subject being covered. They can be grouped, but they are designed so that they can be shown separately. However, there is a logical order to their presentation within each subject (the numbering order of the FTWs).

The objective of each activity is to have the participant understand his interest in applying the rules and the impact of his behaviour on the health quality of the produce.

By explaining and demonstrating, it is possible to bring about voluntary support for the quality objectives and positive participation in the production process. This teaching method should lead to lasting change in the behaviours (i.e. work habits) of the operators, and observation of good practices.

The FTWs can also serve as training aids for the trainers in illustrating or introducing a subject or making it more attractive. This is why the Training Unit has developed these materials. This type of tool is a good teaching aid in order to launch a question and answer discussion with a group of students (for example, training of agricultural technicians).

Self-training and self-evaluation tools

In order to achieve the objectives of strengthening performance and supporting the company projects, it is necessary to encourage individual learning, both in the way the content is approached (all or part of one or more manuals) and in the pace of learning.

These tools offer training that is available to all of the operators (experts, managers, supervisors, public employees, PO etc.).
Two tools are available:

- A `'competency self-evaluation space' and a 'self-training' tool, via a training portal accessible on the PIP web site using an identification code and entry of the participant's personal information. The training is required to start with an evaluation of the participant's needs (the participant’s own statement). A software program determines the current competency profile (level, function, activities) and the skills that are expected. All of these data form a personalized training programme. It will include: (a) the course recommended to him in the Tool Box (for example, a preferable list of 'training capsules' to be selected); (b) the group training to follow; (c) the desirable individual capacity building.

- An updated version of the Tool Box makes it possible to work 'off-line', using updated content and new themes (drawn from the training manuals). It breaks up all of the material (11 manuals) into 'capsules'. These are actually a 'learning space' consisting of subgroups of texts grouped around a central subject, making it possible (thorough hyperlinks) to move freely among the subjects. There are thus no longer 'topics' as such; it is possible to pass from one subject to another and from one capsule to another depending on the participant’s interest and selections.

Operated by the Training Unit, distance learning (or training in an offline-online mode) also makes it possible to assure mastery of the content, particularly by company supervisors. The great advantage of this tool is that the participants learn at their own personal rate, but are required to go through all of the concepts that are presented in order to pass the questionnaires. When used before the training of trainers or group training, it frees up time that is normally spent in lectures, so that practical exercises can be performed.

Thanks to the new content of the manuals included in this tool, the distance learning offered is considerably enhanced. In addition, the quality of the PIP training is strengthened by following a system to certify the results achieved by the participants at the end of the individual training course.

**Tools for self-evaluating practical exercises**

This is a new tool directed to company supervisors. It is available in two versions: an electronic version (entry of data on the PIP portal) and a print version. This tool, which is presented in the form of question sheets and a scoring scale, is used to test the practical exercises presented within the company and give an assessment$^1$ that measures the gap between the situation that is observed and an ideal situation.

Thanks to presentation of the results in the form of graphs the learners can immediately see their strong points and the points to be improved.

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$^1$ **Assessment:** An evaluation technique through simulation that makes it possible to evaluate the competencies and individual potential of supervisors who have been recruited or promoted from within.
Personal Notes

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Chapter 6
PIP Training
Aids and Tools
Most used abbreviations and acronyms
## Most used abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>ACP</td>
<td>African, Caribbean and Pacific (Group of ACP States that have signed a series of agreements with the EU, called the 'Cotonou Agreements')</td>
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<tr>
<td>ADI</td>
<td>Acceptable daily intake (in mg/kg bw/day)</td>
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<tr>
<td>AOEL</td>
<td>Acceptable operator exposure level: Acceptable level for operator exposure when pesticides are applied</td>
</tr>
<tr>
<td>ARfD</td>
<td>Acute reference dose</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service. Registration number for chemical substances</td>
</tr>
<tr>
<td>CCP</td>
<td>Critical control point (under the HACCP method)</td>
</tr>
<tr>
<td>CLP</td>
<td>The CLP Regulation is the name given to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</td>
</tr>
<tr>
<td>CMR</td>
<td>Carcinogenic, mutagenic and reprotoxic substances</td>
</tr>
<tr>
<td>CSR</td>
<td>Corporate social responsibility</td>
</tr>
<tr>
<td>DT$_{50}$</td>
<td>Half-life of a substance in a given soil (in days)</td>
</tr>
<tr>
<td>EC</td>
<td>Emulsifiable concentrate, liquid formulation of a solvent-based pesticide</td>
</tr>
<tr>
<td>ECR</td>
<td>Emerging chemical risk</td>
</tr>
<tr>
<td>EMS</td>
<td>Environmental management system</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
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<tr>
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</tr>
<tr>
<td>EPA</td>
<td>Environmental Protection Agency (USA)</td>
</tr>
<tr>
<td>EPPO</td>
<td>European and Mediterranean Plant Protection Organisation</td>
</tr>
<tr>
<td>ETI</td>
<td>Ethical trading initiative</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>EVPP</td>
<td>Empty pesticide product containers</td>
</tr>
<tr>
<td>EvRP</td>
<td><em>Evaluation des Risques professionnels</em> (equivalent to HIRA - Hazard identification &amp; risk assessment)</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organisation: UN organisation that addresses food security problems in the world</td>
</tr>
<tr>
<td>FBI</td>
<td>Foodborne illness outbreak</td>
</tr>
<tr>
<td>FLO</td>
<td>Fairtrade Labelling Organizations International (FLO) is an association of various fairtrade labelling initiatives</td>
</tr>
<tr>
<td>FSMS</td>
<td>Food safety management system (see also QMS)</td>
</tr>
<tr>
<td>GAP</td>
<td>Good agricultural practices (set of application conditions that must be defined: dosage, volume, formulation, technique, PHI)</td>
</tr>
<tr>
<td>GHS</td>
<td>General harmonised system (product classification and labelling)</td>
</tr>
<tr>
<td>GLP</td>
<td>Good laboratory practices</td>
</tr>
<tr>
<td>GMO</td>
<td>Genetically modified organism</td>
</tr>
<tr>
<td>GPP</td>
<td>Good phytosanitary practices (set of rules to follow to avoid contaminating the operator or the environment and to avoid residues)</td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard analysis critical control point: system that defines, assesses and prevents food safety problems</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
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<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>ICB</td>
<td>Independent (third-party) certification body (see TPC)</td>
</tr>
<tr>
<td>ICM</td>
<td>Integrated crop management or integrated production</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
</tr>
<tr>
<td>INERIS</td>
<td>Institut National de l'Environnement industriel et des risques, the French national institute for industrial environment and hazards</td>
</tr>
<tr>
<td>INRS</td>
<td>Institut National de Recherche et de Sécurité, the national research and safety institute for the prevention of occupational accidents and diseases in France</td>
</tr>
<tr>
<td>IOBC</td>
<td>International Organization for Biological and Integrated Control of Noxious Animals and Plants</td>
</tr>
<tr>
<td>IPM</td>
<td>Integrated pest management</td>
</tr>
<tr>
<td>IPPC</td>
<td>International Plant Protection Convention</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization. ISO is the international standards body whose members are the national standards institutes of 149 countries</td>
</tr>
<tr>
<td>IUPAC</td>
<td>International Union of Pure and Applied Chemistry</td>
</tr>
<tr>
<td>JECFA</td>
<td>Joint FAO/WHO Expert Committee on Food Additives</td>
</tr>
<tr>
<td>JHA</td>
<td>Job hazard analysis</td>
</tr>
<tr>
<td>Kd</td>
<td>Adsorption coefficient (measures how tightly the pesticide binds or sticks to soil particles)</td>
</tr>
<tr>
<td>LCA</td>
<td>Life cycle assessment (or analysis)</td>
</tr>
<tr>
<td>LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>Lethal dose 50 (mg/kg bw)</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
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<tr>
<td>--------------</td>
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<tr>
<td>LOAEL</td>
<td>Lowest observed adverse effect level. Lowest concentration causing an adverse effect. See also NOAEL - no observable adverse effect level.</td>
</tr>
<tr>
<td>LOD</td>
<td>Detection limit</td>
</tr>
<tr>
<td>LOQ</td>
<td>Limit of quantification (also called limit of determination)</td>
</tr>
<tr>
<td>MRL</td>
<td>Maximum residue level</td>
</tr>
<tr>
<td>MSDS</td>
<td>Material safety data sheet</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental Organisation</td>
</tr>
<tr>
<td>NOAEL</td>
<td>No observable adverse effect level</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OEL</td>
<td>Occupational exposure limits</td>
</tr>
<tr>
<td>OHSAS</td>
<td>Occupational Health and Safety Assessment Series</td>
</tr>
<tr>
<td>OSHA-EU</td>
<td>European Agency for Safety and Health at Work</td>
</tr>
<tr>
<td>PCB</td>
<td>Polychlorinated biphenyls, chlorinated aromatic compounds (209 congeners)</td>
</tr>
<tr>
<td>PCR</td>
<td>Polymerase chain reaction, a technique to amplify gene sequences</td>
</tr>
<tr>
<td>PHI</td>
<td>Pre-harvest interval (number of days to wait before harvesting)</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted no-effect concentration, for aquatic species.</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal protective equipment</td>
</tr>
<tr>
<td>Abbreviations and acronyms</td>
<td></td>
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<tr>
<td>---------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>PPNU</strong></td>
<td>Non-usable pesticide products (outdated or obsolete)</td>
</tr>
<tr>
<td><strong>PS</strong></td>
<td>Private, or voluntary, standard</td>
</tr>
<tr>
<td><strong>PTMI</strong></td>
<td>Provisional tolerable monthly intake</td>
</tr>
<tr>
<td><strong>PTWI</strong></td>
<td>Provisional tolerable weekly intake</td>
</tr>
<tr>
<td><strong>QMS</strong></td>
<td>Quality Management System (see also FSMS)</td>
</tr>
<tr>
<td><strong>REACH</strong></td>
<td>Regulation (EC) No 1907/2006 on chemicals (1 June 2007)</td>
</tr>
<tr>
<td><strong>SA 8000</strong></td>
<td>A standard considered as the first private international reference standard concerning the rights and respect of the individual on the job</td>
</tr>
<tr>
<td><strong>SDS</strong></td>
<td>Safety data sheet: technical note detailing all the dangers of a product, means of prevention and emergency measures, also see MSDS</td>
</tr>
<tr>
<td><strong>TDI</strong></td>
<td>Tolerable daily intake</td>
</tr>
<tr>
<td><strong>TEQ</strong></td>
<td>Toxic equivalent</td>
</tr>
<tr>
<td><strong>TNC</strong></td>
<td>Tesco Nature's Choice: a TESCO private standard</td>
</tr>
<tr>
<td><strong>TPC</strong></td>
<td>Third-party certifier (see ICB)</td>
</tr>
<tr>
<td><strong>TRV</strong></td>
<td>Toxicological reference value</td>
</tr>
<tr>
<td><strong>TWI</strong></td>
<td>Tolerable weekly intake</td>
</tr>
<tr>
<td><strong>UL</strong></td>
<td>Oil-based concentrated solution, liquid pesticide formulation</td>
</tr>
<tr>
<td><strong>UN</strong></td>
<td>United Nations Organisation</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>UNCED</td>
<td>United Nations Conference on Environment and Development</td>
</tr>
<tr>
<td>UNECE</td>
<td>The United Nations Economic Commission for Europe</td>
</tr>
<tr>
<td>WG</td>
<td>Water-dispersible granules, solid pesticide formulation</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
<tr>
<td>WP</td>
<td>Wettable powders, solid pesticide formulation</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organisation</td>
</tr>
</tbody>
</table>
Bibliographical references
Bibliographical references


BAZIN, R. (1994)


BENOIT, A. (1991)

BITTENDIEBEL, F. and SCHULTZ, M.C. (1994)

BROWN, G. (1979)

COURAU, S. (1993)


FAGES, J.B. (1989)

FEUILLETTE, I. (1999)


Savoir Communiquer pour être plus efficace dans son travail (Knowing How to Communicate to Be More Effective in Your Work); Paris : Éd. Dunod, 1989.

MUCCHIELLI, R. (1975)


ROGERS, N. (1991)

SANANES, B. (1995)


WATZLAWICK, P. (1979)
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