



---

# Slaughterhouse inspection (Egypt)

Training manual: Guidelines for the planning and organisation of training activities

Ir MA Monika Sopov MBA  
Dr Ghaouti Chawky Allal

Ir Rachid Benlafquih  
Dr Frits van Vugt

Dr Ashraf Mahamoud Abdel Latief



**WAGENINGEN UR**  
*For quality of life*

Centre for  
Development  
Innovation 

---

---

# Slaughterhouse Inspection (Egypt)

Training Manual: Guidelines for the Planning and Organisation of Training Activities

Ir. MA Monika Sopov MBA, Project Manager, The Netherlands  
Dr Ghaouti Chawky Allal, Meat inspector, France  
Ir. Rachid Benlafquih, Food Safety Specialist, France  
Dr Frits van Vugt, Veterinary Policy Advisor, The Netherlands  
Dr Ashraf Mahamoud Abdel Latief, Training Specialist, GOVS, Egypt

This research was NUFFIC funded by the Dutch Ministry of Foreign Affairs

Centre for Development Innovation  
Wageningen, January 2014



---

CDI report CDI-14-004

---

Sopov, M., Ghouti, C.A., Benlafquih, R., Vugt, van F., Latief, A.M.A. 2014. *Slaughterhouse Inspection (Egypt); Training Manual: Guidelines for the Planning and Organisation of Training Activities*. Centre for Development Innovation, Wageningen UR (University & Research centre). CDI report CDI-14-004. Wageningen.

Abstract:

The training manual was prepared for the inspectors of slaughterhouses in Egypt to support the training activities of the General Organization for Veterinary Services (GOVS).

The manual has two main parts:

1. Overview on how to design, organize, implement and evaluate training programs in general
2. Recommendation on how to design and facilitate training programs for the inspectors of slaughterhouses.

Keywords: Slaughterhouse, inspection

This report can be downloaded free of charge from [www.wageningenUR.nl/cdi](http://www.wageningenUR.nl/cdi) ("publications").



© 2014 Centre for Development Innovation, P.O. Box 88, 6700 AB Wageningen, The Netherlands.  
T + 31 (0)317 48 68 00, E [info.cdi@wur.nl](mailto:info.cdi@wur.nl), [www.wageningenUR.nl/cdi](http://www.wageningenUR.nl/cdi).



The Centre for Development Innovation uses a Creative Commons Attribution 3.0 (Netherlands) licence for its reports.

© Centre for Development Innovation, part of the Dienst Landbouwkundig Onderzoek foundation, 2014.

The user may copy, distribute and transmit the work and create derivative works. Third-party material that has been used in the work and to which intellectual property rights apply may not be used without prior permission of the third party concerned. The user must specify the name as stated by the author or licence holder of the work, but not in such a way as to give the impression that the work of the user or the way in which the work has been used are being endorsed. The user may not use this work for commercial purposes.

The Centre for Development Innovation accepts no liability for any damage arising from the use of the results of this research or the application of the recommendations.

CDI report CDI-14-004

Photo cover: Basateen Slaughterhouse

---

# Contents

Preface	4
Acknowledgements	5
1 Introduction	6
1.1 Why a guideline for training activities?	6
1.2 How to use this guide	6
1.3 What do we mean with training?	7
1.4 Providing a framework for planning	7
2 Who will be the trainees?	8
2.1 What are the learning needs of the trainees?	8
2.1.1 How to define a training need?	8
2.1.2 What and how to assess?	9
2.2 What will be the aim and learning objectives?	10
2.2.1 Why objectives?	10
2.2.2 Writing performance objectives	10
3 What is learning?	13
3.1 How do adults learn?	13
3.2 Knowledge transfer and innovation	13
3.3 Experiential learning cycle	14
4 What will be the subject content?	16
5 What training methods and media are to be used?	17
6 How are we going to organise and manage the training?	19
7 How are we going to monitor and evaluate the training?	20
7.1 What do we evaluate?	20
7.2 When do we evaluate?	20
7.3 Who will evaluate?	21
7.4 How do we evaluate?	21
7.5 Evaluation techniques	22
8 Guidelines and tips for training of trainers	23
9 Summarising the training plan	25
10 Sample training programme outline	27
11 Introduction to course	30
12 Context	32
13 Inspection before slaughter	37
14 Slaughterhouse requirements	41
15 After slaughter	47
16 Competencies of the meat inspector	49
17 References and resources	53

---

# Preface

The training manual has been developed during 2013-14 in a collaborative project on 'Improve access to safe food of animal origin for Egyptian people' between the General Organization of Veterinary Services and the Centre for Development Innovation, Wageningen University and Research Centre, with the support of NUFFIC, the implementing agency of the Ministry of Foreign Affairs in the Netherlands.

The project was motivated by the twinning project that took place from 2009-2012 between the Egypt and The Food and Consumer Product Safety Authority (VWA) of the Ministry of Agriculture, Nature and Food Quality, The Netherlands, and France Vétérinaire International, Ministry of Agriculture and Fishery, France, as junior partner. The twinning project focused on raising the capacity of the General Organisation for Veterinary Services (GOVS) and strengthen its position in the Egyptian government to enable it to develop, direct and manage effective national strategies for surveillance of serious animal and zoonotic diseases, in accordance with international best practice and the *acquis communautaire*, with a view to-wards their eventual control and/or eradication.

One of the major achievements of the NUFFIC project was the development of the Hygiene Code for Meat inspection and Slaughterhouse Inspection. This Training Manual partly builds on the experiences gained during the development of the hygiene code, and serve as a nucleus for further knowledge spread.

The Training Manual on slaughterhouse and meat inspection has been prepared as a manual for training of trainers at the General Organization of Veterinary Services, of trainers of educational institutes engaged in the trainings of official veterinarians.

The training material introduces concepts and principles related to development, implementation and evaluation of training programmes with emphasis on slaughterhouse and meat inspection. The manual contains 16 chapters on specific issues with some background information, a few highlights, some illustrations and sample exercises that can be used in a training programme. It has been developed based on the experience gained during the project and should provide the reader with inspiration to developing and organizing efficient training programmes and sessions.

The manual is seen as a living document and as such we would welcome any comments or feedback from trainers in the field.

The authors,

Monika Sopov  
Rachid Benlafquih  
Dr Ghaouti Chawky Allal  
Dr Frits van Vugt  
Dr Ashraf Mahamoud Abdel Latief

Cairo, Arab Republic of Egypt  
Wageningen, The Netherlands  
September 2013 – January 2014

---

# Acknowledgements

The project 'Improve access to safe food of animal origin for Egyptian people" in 2012 was enabled by the support and involvement of a large number of people.

We would like to thank for the following people for their contribution to the development of the training manual and corresponding manuals for meat and slaughterhouse hygiene and inspection:

Dr Osama Mahmoud Selim, Chairman, GOVS  
Dr Hassan Shafik, General Director of Center of Public Health and Slaughterhouses, GOVS  
Dr Alsayed Barakat, General Manager of Slaughterhouses, GOVS  
Dr Souad El Khouly, Head of Directorate of Cairo Veterinary Governorate, GOVS  
Dr Ashraf Mahamoud Abdel Latief, Training Specialist, GOVS  
Dr Ahmed Abdel El Moniem Ayad, Sers El Layan, Expert in Slaughterhouse and Meat Inspection, GOVS  
Dr Adel Amin Amer, Slaughterhouse Trainer Specialist, Sers El Layan, Training Center, GOVS  
Dr Emad El Hagar, Meat Inspector, El Basateen Slaughethouse  
Dr Ahmed Abd El hafiz Abd ELkhalek, Specialist in Public Health and Zoonotic Diseases, GOVS  
Dr Mostafa Ismail Abdel Wahed, Sers El Layan, Slaughterhouse Training Specialist, GOVS  
Dr Abobakr Mostafa Edris, Benha University Food Control Department, Professor of Meat Hygiene  
Dr Fahim Shaltout, Benha University, Food Control Department, Professor of Meat Hygiene  
Dr Mohamed Ahmed Hassan, Benha University, Food Control Department, Professor of Meat Hygiene  
Prof. Genevieve Benard (ENVL, Toulouse, France)

We are very thankful for having worked with all of you.

---

# 1 Introduction

## 1.1 Why a guideline for training activities?

The general objectives of this project were to introduce a develop and implement hygiene regulations in the slaughterhouses in Egypt. The core component has been the transfer of knowledge, know-how and information in order to upgrade the technical and managerial performance of inspectors working in slaughterhouses.

This paper provides a standard framework for planning, organising and documenting training activities. It is prepared with a view on providing a practical guideline for the trainers and reminding the trainers on some key aspects related to training planning and organisation thereby enhancing the general quality and impact of the various training activities.

## 1.2 How to use this guide

This guide and can be used in a variety of ways. Our main objective was to provide you with a process for developing and conducting an effective training programmes.

The guide contains two main parts. The first part of the manual, chapters 1-9, gives guidelines on how to set up any kind of training programme and centres around seven questions:

- Who will be the learners?
- What are the aims of the training and the learning objectives?
- What will be the content of the subject?
- What training methods and media will be used?
- How will be sequence the content?
- What resources do we need to organise?
- How are we going to monitor and evaluate the training?

The second part of the manual, chapters 10-16, focuses on giving training programmes in specific areas of operations of slaughterhouses. The knowledge we provide is based upon the experiences acquired during the implementation of the project in Egypt, and on experiences slaughterhouses in The Netherlands and in France. The following subjects are dealt with:

- General introduction to hygiene regulations
- Slaughterhouse requirements
- Inspection before and after slaughter
- Competences of the meat inspector

If you are experienced in giving trainings already, you might want to focus on the chapters that you are most interested in. However, if you are new to training, we strongly suggest that you read the entire training manual so that you get an overview on how trainings should be organized. Then you can revisit the chapters as you go along with organizing your training activities.

---

## 1.3 What do we mean with training?

In the context of this Twinning Project we will define training as follows: Training is the acquisition of skills, concepts and/or attitudes that result in improved performance in an on-the-job situation.

In practice training can take many forms ranging from more formal classroom based activities such as lectures and workshops to very practical and more informal activities such as study tours, work placements and role plays. Whatever form you opt for in your training, it is important that you use this guideline during the preparation and implementation process.

## 1.4 Providing a framework for planning

Trainers seem to differ in how they like to approach the planning of their courses and lessons<sup>1</sup>. To a large extent their approach depends on whether they think mainly of their subject matter or of their trainees. Text box 1 below summarises these two sets of approaches. For effective planning, you will have to combine some approaches from both lists!

### Text box 1 - Two Sets of Approaches to Training Planning

#### **Subject oriented**

Review your knowledge on the subject  
Discuss it with other experts  
Analyse similar training programmes  
Select books around which you will organize the teaching

#### **Learner oriented**

Think of which competences the learners should attain  
Study the current work of the learners  
Analyse the background and motivation of the learners

There are at least **seven major questions** that we must ask ourselves in planning a training course or lesson:

- Who will be the learners?
- What are the aims of the training and the learning objectives?
- What will be the subject content?
- What training methods and media will be used?
- How will we sequence the content?
- What resources do we need to organise?
- How are we going to monitor and evaluate the training?

Individual questions cannot be addressed without reference to all the questions. When you determine the aims and objectives of your training, you will find it impossible not to consider the group you will be training. Similarly, the choice of training methods and media will be determined to a considerable extent by the type of trainee, the available resources and your training objectives. So, while you are working your way through this sequence of questions, you may have to refer back and forth and make adjustments in what you wrote down previously.

In the coming section the general guideline for the planning and organisation of training activities is outlined on the basis of these seven questions.

---

<sup>1</sup> The comments and suggestions made in this paper are equally relevant whether you are planning a whole course that will occupy the trainee for several days or weeks, or as little as one 'lesson', which is seen as a 'self-contained and coherent chunk of learning'.

---

## 2 Who will be the trainees?

The planning process of a training programme starts with **the identification of the trainees**.

There are **four types of information** that you might need about your prospective trainees:

- Professional information
  - What is the current (and future) designation of the people you will have to train?
  - How does the training fit in with their (future) roles and tasks?
- Subject background
  - What knowledge, skills and attitudes do they already have regarding the subject of the training?
  - Have they had prior experience with (parts of) the subject of training?
  - Do they have professional experience and/or interests that are relevant for the training?
- Learning needs
- Other factors important for organisational issues
  - How many trainees?
  - What is their age range?
  - Both genders?

### 2.1 What are the learning needs of the trainees?

Analysis of organizational and individual learning needs and the characteristics of the potential participants provide the basis for the development of the training programme. We implement such an assessment in order:

- To focus learning on *what is really important* for the job *and* the individuals involved (and not yet known by the participants) and to avoid that we try to solve problems with training that are not solvable by training alone. That is to say: in order to be able to formulate relevant and realistic learning *objectives*.
- To be able to develop an effective training *strategy*, select appropriate training *methods* and to arrive at appropriate *arrangements* for training (timing, duration, food, place, setting, group composition, etcetera) well adapted to the needs and circumstances of the participants.
- To assess the need for *required support and follow-up* after training.

#### 2.1.1 How to define a training need?

A training need is well defined when we can describe clearly:

- What (type of) *persons*
- Have what kind of *problems*
- In performing which *tasks*
- Implemented to achieve which *aims*
- Whether those problems are *amenable to training*, that is to say (at least partly) solvable by inducing certain changes in Knowledge, Awareness, Skills, Aspiration

---

## 2.1.2 What and how to assess?

- Job analysis
  - What are the tasks to be performed in this job
  - Determine which tasks are most important for good job performance

Result: critical tasks to be performed

- Task analysis (esp. critical tasks)
  - What steps/components are involved in each of the tasks
  - What are the most important ones?
  - What are the facts, skills and attitudes related to each task
  - Define minimum standards

Result: required KAS (knowledge, attitude, skills) for good job performance

- Performance / gap analysis
  - Assess the actual performance of potential participants
  - Define gaps in KAS of the potential participants

Result: "objective" training needs

- Need analysis
  - Assess the training needs as perceived by the potential participants

Result: "felt" needs

- Analysis of trainability
  - Which performance problems are amenable for training?
  - In which aspects is the training likely to have good impact under the conditions given?

Result: priority areas for training

### **Some assessment techniques:**

- Meetings with senior officers
- Analysis of policy and programme documents
- Field visits
- Structured observation of job performers who are seen as exemplary "role-model"
- Brainstorming with individuals who are "in the best position to know best"
- Analysis of critical incidents
- Appraisal reports
- Group meetings to discuss job-related problems
- Analysis of critical incidents (gathered from reports/records and/or from persons)
- Client group interviews
- Appraisal by supervisor
- Observation of potential trainees / tests
- Written self-assessment
- Individual and group discussion with potential participants
- Diagnosis of the causes of the performance problems with the "role set"; problem trees
- Review of impacts of earlier training experiences in this field

### **Learning needs can be defined properly, if**

- The type of persons by whom the job has to be done is clearly indicated
- The type of problems the training refers to is described
- The performance elements of the particular job can be distinguished, *and*
- The aims the job is meant for can be identified

---

## 2.2 What will be the aim and learning objectives?

It is useful to start thinking about the aims and objectives at the same time as when you define the participants of your training programme or lesson. The difference between aims and objectives is as follows:

- **Aims** – a general statement of what you hope to training will achieve; the aim usually provides information on the rationale behind the training programme.
- **Objectives** – a statement of what learners should be able to do or do better as a result of having partaken during the training programme (or lesson).

Generally, we can distinguish between three major areas of learning, called domains:

- The **cognitive** domain: knowledge, understanding, analysis; facts and images about situations and the capacity to analyse these situations.
- The **affective** domain: awareness, attitudes, aspirations, orientations, feelings, emotions; meaning attached to certain situations.
- The **psycho-motoric** domain: behaviour, performance, acting; the observable (re-) actions to (in) certain situations.

Development of a certain “ability” normally includes all three domains.

### 2.2.1 Why objectives?

The formulation of objectives:

- Facilitates the planning of the training activity, by making it easier to select relevant learning experiences and contents systematically.
- Makes the training more effective and efficient by orienting the implementation: the trainer concentrates more on what is really needed and is prevented to stray off, and participant learning is stimulated by clarifying for each part of the training what they are going to learn and how they can assess progress made (what they should be able to do if they attained the objective).
- Provides a sound basis for evaluation of the training.
- Improve the impact of the training by concentrating attention on the resulting change in behaviour and action in the field rather than increase in knowledge and skills as such.

### 2.2.2 Writing performance objectives

Trainers are tempted to formulate objectives in terms of what they themselves are going to do in the training e.g. “teaching the trainees how to define objectives”. You might call this “teaching objectives”. These types of objectives do not tell much about what the *participant* will be able to do at the end of the training. Hence, it will be better when the objective describes the desired performance of the *participant*.

Objectives should describe *observable* behaviour. Trainers are often using words like “understand” or “know” “be aware” when defining objectives. Such words may indicate perfectly what we expect the student to learn but we cannot observe what happens inside the head. To assess whether the student “understands” or “knows”, we need verbs that describe some *observable activity*. The description “the trainee knows how the content of a cube must be calculated” is less clear than “the trainee will be able to calculate the contents of a cube”.

How to formulate a performance objective?

- Use active verbs
- Specify what has to be performed
- Indicate a standard
- Specify conditions

Apart from characterizing learning methods according to the domains of Knowledge, Skills or Attitude, these methods may be scored against the potential of information transfer, interest raising value, information transformation or stimulation to active participant involvement.

It is customary to start an objective with a phrase like "at the end of the training, the participant should be able to...", or "have improved their ability to..." The second part of an objective is the verb.

The *standard form* of a performance objective consists of three components or characteristics:

- The performance: what the trainee is expected to do upon completion of the training. The performance consists of a verb that denotes the behaviour to be demonstrated (e.g. "type") and the result of that action that will be assessed (e.g. "a document of x words").
- The conditions: under what conditions the participant is expected to demonstrate the performance (e.g. "given an electric typewriter").
- The standards: describes how well the participant is expected to perform: how often, how fast, how many (e.g. "within y minutes and with no more than z mistakes"). The complete example reads now: "Given an electric typewriter, the participant should be able to type a document of x words within y minutes with less than z mistakes".

Text box 2 - Verbs to be used for formulating performance objectives

<b>Subject oriented</b>	<b>Skill building</b>	<b>Attitude change and utilization</b>
To identify	To demonstrate	To challenge
To list	To produce	To defend
To compare and contrast	To calculate	To judge
To describe	To adjust	To question
To state	To install	To accept
To differentiate	To assemble	To adopt
To prepare	To operate	To advocate
To recall	To detect	To bargain
To classify	To locate	To cooperate
To categorize	To isolate	To endorse
To chart	To arrange	To justify
To rank	To build	To persuade
To distinguish	To conduct	To resolve
To explain	To detect	To select
To outline	To execute	To dispute
To analyze	To fix	
To evaluate	To lay out	
To formulate	To perform	
To investigate	To sort	
To modify		
To report		

Verbs to avoid:

- To know
- To understand
- To be aware of

The remaining part of a well-formulated objective provides a qualification and/or a quantification of the skill, attitude or knowledge that you intend to pass on. In this way you make the objective measurable and verifiable.

---

By formulating clear and verifiable objectives you make your intentions with training explicit for yourself, your colleagues and ultimately the trainees. Furthermore, thinking out clear objectives can help you to distinguish between possible and essential content and helps in measuring the impact and success of the training.

For examples of aims and objectives, please refer to chapters 9-16.

---

# 3 What is learning?

Learning is the accumulation of knowledge/skills and the ability to constantly improve the effectiveness of action by individuals, teams, organizations and society at large. Learning involves applying lessons learned into future actions, which provides the basis for another cycle of learning.

## 3.1 How do adults learn?

1. Adults are voluntary learners. Adults rarely learn if they do not find the topic relevant to their lives.
2. Relevance: Adults learn best when the context of the training is close to their own tasks or jobs.
3. Experience: Adults have experience and can help each other to learn.
4. Peers: Adults learn most from their peers. Exchange of experience results in effective learning.
5. Active involvement and participation – best for learning.
6. Their short-term memory becomes weaker. Reinforcement by repetition can help.
7. Own pace. Too much hurrying may impede their learning capabilities.
8. Dignity. If Adults are not treated with respect and made to feel humiliated or laughed at before others, they may refuse any further learning in that context.

## 3.2 Knowledge transfer and innovation

Everett M. Rogers was professor at Stanford University, and he is famously known for his book “Diffusion of Innovations” which describes how, why, and at what rate new ideas and technology spread across communities. Innovation could better be understood as a new emerging technology, concept or idea, while diffusion is characterized as spread of innovation through certain channels over time among the members of a social system.

Rogers proposes that adopters of any new innovation or idea can be categorized as innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%) and laggards (16%), based on the mathematically based Bell curve. These categories, based on standard deviations from the mean of the normal curve, provide a common language for innovation researchers. Each adopter's willingness and ability to adopt an innovation depends on their awareness, interest, evaluation, trial, and adoption. People can fall into different categories for different innovations.

Rogers classifies adopters of innovations into five distinct categories:

- Innovators (Risk takers, eager to try new ideas, can be assumed as gatekeepers of diffusion dynamics).
- Early Adopters (Opinion leaders, more socially forward, experiment with new ideas in a careful way).
- Early Majority (Intellectual people, careful but adopt the trends more quickly than the average).
- Late Majority (Sceptic people, follow the trend after the majority of society has adopted).
- Laggards (Conservative people with belief in conventional ways, tend to be advanced in age).

The implications of this on knowledge transfer (training) are

1. It is quite normal to meet trainees who are not yet enthusiastic about a certain type of innovation; it takes time to transfer innovation.

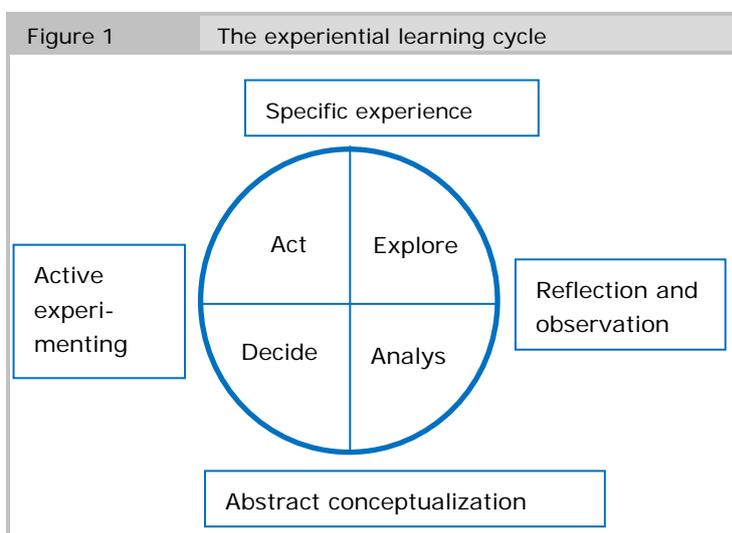
Therefore, selection of trainees is a crucial part of the training development and implementation process.

### 3.3 Experiential learning cycle

One of the main concepts around learning was developed by the American researcher David Kolb: the theory of learning by experience, The theory explains to a great extent the essence of the processes of interaction taking place during interactive training.

According to David Kolb, the learning cycle consists of four successive and interconnected stages:

1. Specific experience
2. Reflection and observation
3. Abstract conceptualization and
4. Active experimenting.



During the first stage of the cycle, the participants use either some specific personal experience that they already have or, as happens much more often, immediately obtain this experience with the help of a specially organized interaction during the learning activity.

During the stage of reflection and observation, conditions are created for the critical observation of, and reflection on what has been experienced and discussions are held among observing participants who are in some way related to the experience.

The productivity of such discussions will be greatest if the 'triangular rule' is observed by each of the participants. According to this rule three components are equally important — the topic, the group, and the person themselves. Unless all three components are present during the discussions, the emphasis will shift to one of these aspects which will negatively affect the effectiveness of the discussions.

In the third stage of the cycle, "Abstract Conceptualization", a unique knowledge can appear as a result of the joint reflections by the participants. The value of this unique knowledge is not in the information gained, but in its creative character. The value of this knowledge is strengthened by the participants' interaction, i.e. their joint movement in some singular direction with the goal of

---

realizing their individual needs. The results of interaction in this stage are expressed in the form of conclusions and deductions from the participants themselves, as a result of this joint reflection.

In addition, as one of the ways to explain the experience obtained, the participants of a workshop can be offered theories that explain the aspects discussed in some particular way. This in no way means the substitution of personal conclusions by the concepts established, rather the theories offered help the participants to fully formulate and realize their own deductions.

During the final stage of the cycle, the possibility to review the formulated conclusions is especially important. Most often, this review takes place during the practice, and finally leads to gaining new specific experiences, which in turn become the beginning of a new learning cycle.

It is essential, during the development of the training programme, to take into account the different quadrants of the experiential learning cycle, and to plan facilitation methods that will cater to needs of the audience. Not all people favour all four learning quadrants. Inspectors will not be happy with listening to power point presentations or lectures for most part of the day. They would likely to prefer discussions where they can share their experiences, ask questions, see slaughterhouses, and can reflect on how they could improve their own operations.

---

## 4 What will be the subject content?

What are the main topics, concepts, principles, etc. to be covered in your training? Many thoughts about the content will arise already in the process of thinking about the participants and the objectives. Some of the ideas on how to plan the content of your training (such as the checking of existing reference books, discussing it with other experts, etc.) have been listed already in text box 1 above.

Two other ideas that may help you to sort out the content of your training are:

- **Analyse the main concepts** that are important in relation to the subject matter. You can do this analysis, for example by undertaking one or more of these activities:
  - Isolating the main facts, principles, examples, etc. of the subject matter
  - Defining the main concepts in a dictionary-type manner
  - Listing of some clear examples
  - Drawing up of a model
  
- **Prepare a diagram** in which the relationship between the main factors are drawn, for example by:
  - Showing the causes and effects relationships in the case of a 'problem-solving' exercise
  - Drawing a matrix in order to get a systematic overview of how different sets of aspects influence each other
  - Outlining an algorithm in which the connections between different steps or phases are to be covered (e.g. a decision-making process or a step-by-step approach to diagnosing plant material)

### Text box 3 - Examples of methods and means of training

- Orientation visit to the slaughterhouse
- Visit to the slaughterhouse for inspection purposes
- Guided group discussion around the following themes: (a) hygiene measures, (b) slaughterhouse inspection, (c) meat inspection
- Lecture on role of the official veterinarian
- Hand-out of checklist for slaughterhouse inspection
- Sub-group exercise: comparing checklists of slaughterhouse inspection
- Lists possible hygiene measures used in slaughterhouse
- Presentation of the outcome of the sub-group exercises followed by a discussion

However you decide on the possible content of your training, keep these two pieces of advice in mind:

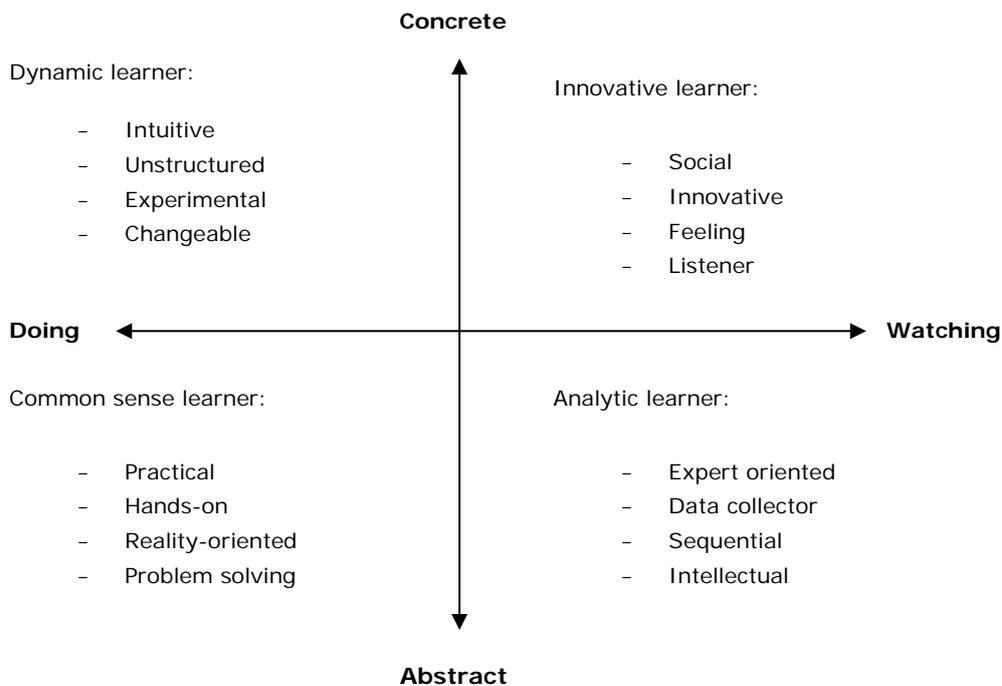
- Do not overload the programme, but stick to what is essential in relation to the objectives and manageable for the participants
- Try to leave an opening for adding the trainees' own content; this requires maybe some improvisation, but enables you to tailor the training to the needs and interests of the group!

---

# 5 What training methods and media are to be used?

Now that the participants, objectives and subjects of the training are defined you can start to think more about the methods and media that you may want to use. It is beyond the scope of this paper to outline all possible methods and media imaginable. Below you will find some general recommendations and points for consideration.

Different people have different learning styles as it was explained in chapter 3. Therefore try always to incorporate different methods in your programme to cater for as many different styles as possible. Some people are more analytical and benefit from very informative and logically sequenced training sessions such as lectures. Others learn better by finding out for themselves and need hands-on or more experimental training activities. In the figure below you find a general categorisation of the various categories of 'learners' and their key characteristics. Which learning style fits you best?



The general aims, objectives and the subject matter also determine the appropriateness of various methods and media. For example, if the aim and subject is skill acquisition, then the most appropriate methods include demonstrations, practical exercises, instructional videos, immediate feedback and correction. However, if the training is centred on cognitive change – knowing and understanding – you may want to go for lectures, group discussions, case studies, readers, etc. Sometimes training is also used to alter attitudes and outlooks. In this case question-answer sessions, group discussions, case studies, role plays and coaching may be more appropriate methods.

The availability of facilities, time and budgets are another important category of determinants. It may be a wonderful idea to use an instructional video if you wish to introduce a new technique or skill. However, unless it will be used by a large number of trainees for a considerable time, you will

---

find that the advantages normally do not outweigh the costs and time involved in producing the video. Instead a chart or sequential diagram will be more cost-effective. A practical whereby all participants can apply and test their new skills may be a desirable component of the training programme, but is also time consuming and requires the availability of the appropriate facilities. If either time or facilities are lacking, you will have to organise something else, for example a method demonstration.

Lastly, it is important to opt for a training method that suits your own skills, experience and preference. For example, if you do not feel very confident to stand in front of a group, then try to minimise the number of presentations and lectures. You may be much better in organising and coordinating study tours, practical assignments, group discussions or other more informal methods.

---

## 6 How are we going to organise and manage the training?

Once you have got some notion of the content and the training methods, you need to start thinking about the sequencing. How might the various ideas and subjects best be ordered within your programme? Here are some of the types of sequencing that you may need within your training programme:

- **Chronological sequence**, for example when dealing with scientific discoveries, development of institutions or programmes, etc.
- **Causal sequence**, which is closely related to the chronological order, but which emphasises the cause-effect relationship.
- **Topic-by-topic**, when a number of related topics and themes which could be studied in any order.
- **Backward chaining**, when the training is aimed at learning of a sequence of activities (e.g. introduction of Good Laboratory Practices) or decision-making (e.g. determining whether an organism is harmful or not), it may be useful to teach the final step first; you might then continue with the previous steps.
- **Problem-centred sequence**, by starting with analysing problem and then engaging the participants in developing solutions, you may provide them with a realistic context in which they can easily see the relevance of the new skills and knowledge.

Other important organisational issues that need to be defined beforehand, particularly when more than one trainers are involved are:

- A list of the main resources and facilities that are required that will serve as guide for planning and checking the availability.
- The division of the main responsibilities for developing and implementing the training activities.
- The timing of the preparatory activities and dates of implementation.

---

# 7 How are we going to monitor and evaluate the training?

It is essential to monitor the trainings we organize and implement to be able to:

- To guide and stimulate the learning process (continuous in-course evaluation).
- To obtain feedback for improving the training programme for planning adequate support and follow-up actions.
- Accountability to policy makers, who will have to make decisions about the continuation of the programme (relevancy, affectivity, and cost efficiency of the training).
- To (future) clients, who have the right to know how effective the training (was) is and to receive follow-up.

## 7.1 What do we evaluate?

The following "evaluation levels" can be distinguished:

- **A: Process:** Participants' and trainers' observations and feelings about the learning process: learning climate, content, training methods, organization, participation, intermediate learning results. This entails continuous evaluation during the course.
- **B: Learning outcomes:** What the participant learned during the course: new skills, attitudes, facts, principles. This entails "testing" participants' competence to perform at the end of the training according to the set objectives.
- **C: Behavioural change:** The effect of the training on the individual performance on the job. This entails examining changes in individual behaviour attributable to training.
- **D: Impacts:** The effects of the improved performance (attributable to training) on farmer's level: e.g. increased farmer organization, enhanced level of knowledge and skills, improvements in technology used, and ultimately: higher production level, more sustainability, less risks, etc.

Ideally we should set objectives of training at all four levels. The formulation of performance objectives enables evaluation at level **B** (end of course evaluation) as well as level **C** (impact evaluation). At level **C** and more so at level **D** it becomes very difficult to determine which effects can be attributed to the training programme and what is due to other sources of change.

## 7.2 When do we evaluate?

Before the training

- To match the course (objectives, methods, organization) with the training needs of organization and individuals.
- To pre-test educational material.

During the training

*On-going evaluation* is an essential *precondition* for applying participatory approaches in group learning events. It does not suffice to have an evaluation at the end of the course during which the

---

participants express their opinion and appraisal of the event by means of a questionnaire or a discussion. Ongoing evaluation by the participants is an essential element of the participatory learning process:

- To stimulate the participation of the participants in the steering of the course, and
- To make them *share responsibility* for the course
- To optimally *adapt contents and learning methods* to participants' needs and interests
- To develop a good team spirit and learning climate
- To stimulate learning

End of the training

- To get feedback from participants on the organization and implementation of the training course
- To assess the learning outcomes

After the training

- To evaluate impacts on performance on the job and at farmer's level
- To determine cost-effectiveness
- To give individual follow-up
- To determine the requirements for additional follow-up and institutional support

## 7.3 Who will evaluate?

Before training: Training organizer

During training: Participants and trainers

End of training: Participants and trainers (partially: training organizer)

After training: Training organizer, supervisors, trainees, clients (and sometimes outsiders)

## 7.4 How do we evaluate?

Before training: see needs assessment and pre-testing

During training: see in-course evaluation

End of training:

- Performance tests
- Self-assessment
- Group discussion
- Questionnaire
- Interviews

Impact evaluation:

- Interviews
- Individual participants
- Clients of participants
- Role-set
- Analysis of cases/critical incidents
- Job performance analysis (before/after observation)
- Evaluation seminar with group of ex-participants and job-related other persons
- Action learning network: ex-participants exchange experiences amongst themselves and with the training institute

---

## 7.5 Evaluation techniques

Some of the evaluation techniques you might use during implementation of a group learning event are:

- **Keyword collection** on cards to answer in an early stage of the workshop the question *“what should happen, what should not happen in this workshop”* and *regular review* during the workshop of the degree in which *rules* established are maintained.
- **Establishment of an evaluation committee**, which presents every morning first hour their evaluation of the previous day followed by a short discussion amongst participants.
- **Daily mood barometer**, each participant places at the end of each day a dot on a chart representing his/her evaluation of mood and atmosphere of that day. The “weighed” average of the dots for each day can be connected; the resulting lines represents the changes in group atmosphere over time.
- **Group growth barometer**, all participants give scores to a limited number of questions with respect to both task- and maintenance dimension of group learning. On a chart or blackboard the individual scores are numbered. In a short discussion very low or high scores (indicating different views on what is happening) can be discussed and group scores can be compared with the results on previous days.
- **Making a drawing, poem or song** in a small group representing their feelings about the learning event, might function well to express more subjective feelings and discuss group development and interrelations between participants.
- **Reflection on slides, drawings or charts** representing the main topics of the programme might be helpful to discuss the main learning results; **case-studies** dealing with key-problems might be used to assess the level of learners’ achievement.
- **Simple but well-chosen questions** are an effective tool for evaluation of small group work or plenary sessions. (e.g. “what has been helpful/not helpful so far?” “what suggestions do you have to make group learning more effective?” Etc.
- **Informal oral interviews**: talk with participants during drinks, dinner, etc. To get some valuable feedback of the participants.
- **Structured interviews/written questionnaires** might provide you with additional information about individual achievements and participants’ views on the learning event.
- **Observation**: continuous and sensitive observation of verbal and non-verbal behaviour of individual participants and of group interactions brings you in touch with participants’ feelings (and this may lead you to the right questions or other interventions).

The above-mentioned techniques refer mainly to the evaluation of the group learning process. What about the individual learning progress? What about tests and exams?

In conventional teaching, tests and techniques play an important role: it provides the main selection mechanism. In participatory training we are not interested in “grading” the participants. What matters is that participants get feedback on their attempts to improve their knowledge and skills and discover how to further improve, and that the trainer learns where training was effective and for whom or on what points extra efforts are needed. In (adult) education we want everybody to do well.

Also in participatory adult education the group will apply tests but with other aims and of another nature than in conventional learning approaches. Tests will focus on thinking and understanding, rather than on memory and repeating facts. Tests will have focus on performing what has been learned (on behavioural skills: e.g. solving a problem or implementing certain tasks, rather than filling in questionnaires (theory book knowledge). Tests will be the start of new learning, rather than just measuring the result of earlier sessions. In participatory education participants will help each other to find the appropriate solutions and are encouraged to use all the materials available, instead of the complete isolation that is common practice in conventional approach testing.

---

# 8 Guidelines and tips for training of trainers

Training is more effective if visuals are used to communicate and if participants actively participate in the workshop proceedings – or in the words of Confucius<sup>1</sup>: *'I hear and I forget; I see and I remember; I do and I understand.'*

Below you can find a series of pointers and considerations that can be used in any training of trainers exercise.

## **Planning/preparation checklist for facilitators**

- Think of the best trainer/facilitator you ever had; list qualities that made them great; then identify your weak points as facilitator and try to improve.
- Arrange for an acceptable venue (light, electricity, nice table setting where people can see each other - with break-out rooms, refreshments, visual equipment).
- Make sure you have all the (visual) materials needed - paper, pens, flipcharts, tape, markers, etc.
- Ensure you understand and have internalized all tools before being a facilitator otherwise you can't talk with confidence.
- Prepare well and rehearse.

## **Good Techniques/Practices for Training**

- Relax and energize participants. Facilitate name-learning.
- Familiarize participants with each other and with organizations represented.
- Ensure all participants understand the aims and objectives of the workshop.
- Always properly introduce the key aims of the training, and use an ice-breaker through which everybody is introduced, especially if you do not know participants well. Icebreakers are very important to keep a group interested and working together effectively. They are useful for training workshops, and for the actual monitoring process that involves group discussions and exercises.
- Ensure all the activities planned for the workshop are acceptable to the participants.
- Agree upon a timetable.
- List expectations, and get a sense of the level of knowledge present among participants at the start of the training.
- Adapt the programme to address the felt needs and make modifications to content, or
- Structure as requested by the group.
- Agree to 'rules' of the workshop (e.g. Mutual respect, one speaker at a time, no mobile phones, etc.)
- Emphasize 'learning by doing' as the approach that will be taken during training.
- Start every day with a recapitulation of the previous day. Then introduce the agenda for the day and seek inputs. For every training block explain what they will do, then do it, then summarize what was done including a list of key points (if possible summarized by participants).
- Use a variety of communication methods: show a wide range of visual aids (simple, easy to read in color and size, key words not long stories), involve children, encourage plenary discussion, group work, individual work, role-playing, etc.
- Role-play a bad facilitator versus a good facilitator for contrast and clarity.
- Also remember to incorporate activities that: invigorate participants and refresh participants (who have been working hard) in between training activities.

- 
- Stick to time-frames where possible.
  - Have a strong closing session where you review aims and expectations, summarize what was learnt, commit to action, and close with appreciation and congratulations.
  - Always build in an evaluation of the training as improvements can always be made. Any simple evaluation is suggested to focus on the following questions:
    - What did you like about the training?
    - What suggestions do you have to improve future training sessions?
    - What will you do as follow up to the training?

#### **Attitude/behaviour as facilitator**

- Stay relaxed and calm.
- Be open and honest.
- Be a good listener; observe record, record...
- Do not panic when the group is silent; wait patiently for them to think about what they want to say.
- Do not interrupt people.
- Do not make judgments of people's responses (for example, saying that 'this is good, and that is bad') or humiliate anyone.
- Do not let arguments dominate the discussion; encourage participants to re-focus on the main topic.
- Have eye contact, stand up and move around, speak slowly, use your voice (intonation).
- Make it as interactive as possible - involve and engage participants. Ask questions and invite participants to tell their stories.
- Use humor if natural for you, and smile.
- Choose words, stories, numbers, and cases that capture interest (use real examples to illustrate your points).
- Address concerns, questions, issues as raised by participants, while sticking to the main.
- Messages you want to get across.

---

## 9 Summarising the training plan

To conclude this guideline the main elements of the training plan are listed briefly once more:

- Provide a brief description of **the training participants** that includes information on their designation and responsibilities, their background, motivation, etc. as well the number of participants.
- **Clearly formulated aims and objectives** through which you make your intentions explicit for yourself, your colleagues and ultimately the trainees.
- A summary overview of **the subject matter of the training** in line with the objectives and needs and interests of the participants.
- The **training methods and media** that you intend to apply and which taken into account the needs of different learning styles, the nature of the aims, objectives and subjects, the available facilities, budgets and time and your own preferences and talents.
- A **summary of the main organisational issues** such as the sequencing of the activities, the required resources and facilities, the division of responsibilities and the timing in preparation and implementation.

In chapters 10-16 of this training manual, you will find examples for planning of training and training sessions.

For further training development, 2 levels of training are foreseen for inspectors/managers (head of slaughterhouse) / supervisor (supervising several slaughterhouses; working on central governorate level.

- Beginner (less than 5 years of experience) – focus of this training manual.
- Advanced (more than 5 years of experience) with focus on administration and management. – to be developed training. Managers and supervisors started as inspectors; they need to be trained on how to be a manager.

There are 27 governorates with about

- Poultry slaughterhouses: 270 mostly private
- Large animal slaughterhouses: 200, mostly public

There is 1 supervisor in each governorate. There are about 10 supervisors for the big slaughterhouses; there are 80 medium slaughterhouses, 300 slaughter holes.

- There are 480 managers (not all official, as not all slaughterhouses are public, but there are private slaughterhouses as well)
- In some slaughterhouses, inspectors are managers as well

Recommended training topics for Management (procedures; slaughterhouse inspection (basic and advance)

- 3 days: management and administration
  - How to plan the work in the slaughterhouse
  - How to facilitate the implementation the work
  - How to manage relationship with butchers and owner of slaughterhouse
  - How to apply the rules of the government
  - How to deal with condemned carcasses
  - Communication skills

- 
- How to manage daily problems with the butcher (e.g. water stops) – daily crisis management
  - Recommendation for improvement of the law (public, and penal law)
  - Develop R&D
  - How to improve the slaughterhouse
  - Peak during slaughtering (holidays); need to learn how to manage the peak
  - Communication and organization around the holiday
  - How manage HR in the slaughterhouse

---

# 10 Sample training programme outline

**Training Title:** Slaughterhouse inspection

**Participants:** The participants of the course will consist of junior and senior slaughterhouse inspectors. Juniors have minimum 2-3 years of experience as inspectors; seniors generally have at least 10 years of experience.

**Aims and Learning Objectives:**

The overall aim of this training course is to provide the participants with a clear perspective on what an official vet is, how to perform ante- and post-mortem inspections, what competencies and attitudes inspectors must have.

At the end of the course the participants should be able to:

- Explain what is the role of an official vet.
- Explain good practices in primary production including transportation.
- Explain official guidelines for ante-mortem inspection.
- Explain and apply HACCP and GHP.
- Decide if an animal is fit for human consumption and could be slaughtered, or animal should be segregated.
- Describe how to design, build and operate a slaughterhouse that meets EU requirements.
- Identify improvement points for existing slaughterhouses in Egypt in accordance with EU requirements but still applicable in Egypt.
- Explain and apply guidelines "Product Inspection" for post mortem inspection.
- Separate suspect carcasses from carcasses fit for human consumption based on official guidelines.
- Decide if carcass is fit for human consumption or carcass should be partly condemned, or seized.
- Explain and apply appropriate guidelines when evaluating by-products.
- Define what animal by-product is and its categories.
- Describe rules farmers and butchers must follow to avoid contamination of meat.

**Training methods**

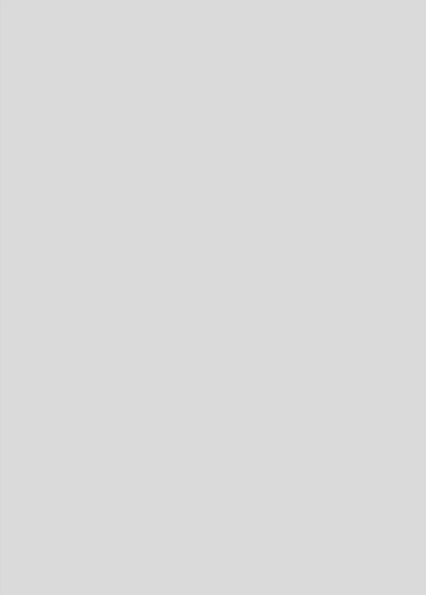
- Lectures and guided group discussions on the above subjects
- Orientation visit to a slaughterhouse
- Hand-out / PowerPoint summarising the above mentioned lectures
- Practical group and individual exercises
- Presentation of the outcome of the group exercises followed by a discussion

**Organisational issues**

- Tentative programme:
  - 5 times half a day programme in a 4-day period: 3 days in class-room, 1 day visit to slaughterhouse
- Resources:
  - Lecture/meeting room for the given days
  - Hand-outs on based on programme
  - Slides matching given lectures
- Responsibilities:
  - GOVS training department: overall coordination, contacting external resource people, preparation and implementation for all days

## Recommended program

	Day 1	Day 2	Day 3	Day 4
Morning 09-12:00	<p>1. Introduction to course</p> <p>Course outline Expectation management Needs assessment</p>	<p>3. Before slaughter</p> <p>Good practices in primary production including transportation</p> <p>Procedures and manuals describing proper meat inspection: Ante-mortem inspection</p>	<p>4. During slaughter</p> <p>Prerequisite (slaughterhouse inspection)</p> <p>Guidelines laying down the principles and procedures for licensing, registration and approval of establishments</p>	<p>4. During slaughter</p> <p>Slaughterhouse practice (hygiene code); Principles, concepts and methods of HACCP; HACCP in the food production chain.</p>
Coffee break 10:30-10:45	<p>2. Context</p> <p>Significance of animal health for food safety; Role of government and other regulatory authorities in meat hygiene Meat Inspection as a capacity</p> <p>Veterinary Competent Authority and the official veterinarian, as defined in the new Veterinary Law.</p>			
Afternoon 12:30-14:30	<p>2. Context</p> <p>National legislation and certification principles</p> <p>Traceability and registration</p>	<p>Trainer gives tips for young veterinarians on how to make judgment in difficult cases This session is meant for advanced inspectors How to evaluate risk for human consumption and human health, and generating contamination in the slaughterhouse, e.g. in case of contagious diseases (e.g. tuberculosis, brucellosis, sarcosporidiosis, cystisarcosis)</p>	<p>4. During slaughter</p> <p>Design and improvement of establishment Guidelines for the construction and proper layout and equipping of new slaughterhouses and for upgrading of existing premises.</p>	<p>5. After slaughter</p> <p>Guidelines for safe treatment and disposal of slaughterhouse waste and animal by-products</p>

Day 5	Day 6	Day 7	S
<p>5. After slaughter</p> <p>Procedures and manuals describing proper meat inspection: Post-mortem inspection</p> <p>Recap of exercises for slaughterhouse visit; making groups, agreeing on roles in groups</p>	<p>6. Visit to slaughterhouse;</p> <p>Group work on before, during and after slaughter</p> <p>Implementing the guidelines in meat inspection and slaughterhouse inspection; practical exercise</p>	<p>Presentation of and reflection / evaluation on group work in the slaughterhouse</p> <p>Distribution</p> <ul style="list-style-type: none"> <li>a. Cold chain</li> <li>b. Transportation</li> <li>c. Presentation, Inspection of meat in shop</li> </ul> <p>6. Competencies of the meat inspector</p> <p>Professional qualities and competencies for the Meat Inspector Professional integrity</p> <p>Communication with food business operators and dealing with difficulties during inspection</p> <p>How to behave to prevent conflict and to solve conflict.</p> <p>Course evaluation</p>	

---

# 11 Introduction to course

## Prerequisite for participating in this training session

- Participants are all veterinarians; therefore, they should be able to identify animal diseases based on symptoms.
- Participants must be aware of the veterinary law (e.g. list of statutory diseases and judgment regarding the diseases; what is the official veterinary).

## Learning objectives

By the end of the training session, participants will be able to:

- Explain objectives of the course; how it fits with their career and position.
- Recall the different sessions of the training program and explain their importance.
- List names of the other participants and their expectations regarding the course.

## Structure for training session

Welcome, introduction of trainer(s) and course organizers (PowerPoint)

- Introduction of facilitators
- Introduction of participants
- Introduction of training program
- Sharing expectations

## Exercises

### Exercise 1 – Introduction of participants

**Objective** of exercise: get to know each other; feel good

**Preparation** for exercise by facilitator: none

**Needed tools**

- A4 paper
- Pens

**Explanation of the exercises**

At the beginning of the course, participants are still shy. They do not know each other, and they might be scared to speak up in front of the other participants. It is essential that at this very early stage, they feel comfortable in the learning environment.

Even the shyest participants are willing to speak in a small group.

Therefore, the participants should be put into group of maximum of 4-5 people. They will have to prepare a small poster for each participant in the group:

1. Name (how participants would like to be called during the training).
2. Family (brief introduction of family).
3. Hobby (what participant likes doing in his/her free time).

Name	
Family	Work
Hobby:	Anything else
Motto	

- 
4. Expectations from the training (what issues, problems does the participant face when doing inspection, and how does he expect the training program to contribute to solving his/her issues).

In each group, there is usually 1 person who likes speaking in front of a group; that person should introduce each member of the group by the help of the prepared notes on the A4.

Possible presentation of notes:

Following the introductions, facilitator can ask participants to name a participant by pointing at him, and asking the others what is his / her name. This way, participants can remember each other's name quite easily.

---

# 12 Context

## Learning objectives

By the end of the training session, participants will be able to:

- Explain the importance of meat inspection and capacities required to do the job
- Explain the importance of international organization in terms of producing healthy food

## Structure for training session

- Meat Inspection as capacity (PowerPoint) / Frits van Vugt (Dr Hassan Shafik)
- Significance of animal health for food safety (Dr Hassan Shafik)
- International context (Dr Hassan Shafik)

## Background material

### Introduction

The immediate objective of meat inspection is to ensure that the carcass, the meat including organs and edible offal that arise from the slaughter of an animal, are safe for human consumption. In this respect meat inspection is a crucial step to protect the consumer from risks associated with defective animal origin products. From the food for human consumption it is the animal origin products that carry the highest risk. Meat inspection is therefore implemented as a preventive control measure; each individual animal and its products are to be inspected before it is allowed on the market.

Meat inspection however has a broader significance than only the evaluation of the safety of the individual animal and its carcass. Meat inspection is the fundament of the system of guarantee of animal health and food safety at national level. Veterinary inspectors, in charge of meat inspection are the key to promote the health and welfare of the human population, to improve animal health and welfare and to enable the country on a national scale to benefit from international trade and tourism.

In the following chapters the national and international context will be elaborated to illustrate how meat inspection at slaughter relates to the broad framework: it will enable the veterinary inspectors in charge of meat inspection to carry out their duties in a conscientious way and in accordance of their professional obligations as the pivot of the veterinary public health guarantee system.

### Meat Inspection as a Capacity

Meat inspection covers the investigation of the health status of both the live animal, short before slaughter, and the assessment of the carcass including the organs and other materials that are obtained at slaughter (hides, offal etc.). The inspection of the live animal is called: *ante mortem (AM)*, the investigation after slaughter is called *post mortem (PM)*. AM and PM are intimately connected: they are the two parts of inspection of the animal that together provide crucial information if the animal is free from (serious) disease and its products are safe for consumption. The observations of the live animal in a clinical examination, the inspection of the carcass, organs etc. draws on pathological anatomy. The basis of the capacities that enable the veterinary inspector to perform meat inspection is his knowledge as a veterinarian. This knowledge he has obtained in his training at University (Vet school).

In addition to the basic veterinary capabilities meat inspection requires

- Definition of norms and standards: the criteria to decide on the safety of the animal and its products. Which observations have to lead to decide the material is not fit for consumption, or which treatment (heating, freezing) need to be applied for (conditional) approval. These norms and standards need to be defined by the veterinary public health

---

authorities of the country (in Egypt this is GOVS). The norms and standards are based on scientific knowledge, and each national government can (and should) decide on internationally agreed guidelines (see notes 3 and 4 on FAO, Codex Alimentarius, OIE). At national basis the norms adopted need to be laid down in the relevant veterinary legislation.

- Norms and standards do not only apply to diseases of the animal to be slaughtered: the safety of the animal products is also highly dependent on proper and hygienic operations in slaughtering and cutting of the carcass, as well as in transport and at the market (retail). Proper working methods in the slaughterhouse have to prevent for instance faecal contamination; products fit for consumption are to be kept free from the floor and other dirty surfaces. The meat inspector has to supervise that proper hygienic principles are obeyed.
- Procedures and manuals: to ensure that the inspection is carried out in a proper, uniform and systematic way the veterinary authorities need to develop and make available to the meat inspectors clear and transparent manuals, procedures (Standard Operating Procedures) and certificates. Meat inspection needs to be uniform all over the whole territory of the country. Also for these procedures guidelines have been developed in international context (FAO, CODEX, note 3).

The primary tools the meat inspector uses for his operations are his senses (eyes, ears, nose, touch) and a knife. Of course it can very well be that he needs more information: he may decide that it is needed to take samples (blood, tissue probes) for laboratory analysis (serology, bacteriological examination etc.). The authorities are responsible that an adequate infrastructure is available for the meat inspection, so that laboratory investigation can take place by specialised personnel.

The position of the veterinary inspector performing his duties at the slaughter of the animal requires a broader commitment than only assessing the health status of the animal at slaughter and the safety of the products from the animal: from his professional responsibility as a veterinarian he will have to ensure the proper treatment of the animal from the point of view of animal welfare. At slaughter waste and by-products will arise: condemned materials, organs and tissues that are unfit for human (or animal) consumption. These materials can be a source of infectious diseases (abscesses, purulent material, intestinal content with parasites, whole carcasses from animals infected with dangerous organisms) and therefore they have to be disposed of in a proper way. By all means it has to be prevented that they enter the food chain. The veterinary inspector has to ensure that proper disposal takes place, in accordance with the national legal provisions.

### **Significance of animal health for food safety**

It is beyond any (reasonable) doubt that among the food products in our basket the products from animal origin are associated with the highest risk. Food products of animal are often perishable (they need adequate cooling and have a limited shelf life), are easily contaminated during the production process (faecal contamination) and most of all, animal products may carry diseases that can harm the human health. Many diseases of animals are dangerous for human beings as well: when they can be transmitted to the human being through the food, they are called food borne zoonoses. Meat inspection plays a primary role in the prevention of zoonoses.

Food borne diseases cause an enormous damage to human health on world scale. In the industrial world it is estimated that 30% of the population suffers from food borne illness each year. For the developing countries this figure will be significantly higher. Therefore it is important to realise that the significance of food borne diseases hardly can be overestimated, although it is difficult to give figures with some degree of accuracy. The reasons are that in many countries, with highest level of food borne diseases the registration of these diseases is often (almost) absent. Furthermore there is a lot of underreporting because cases of food borne disease are not diagnosed. Also we have to realise that in case of chronic problems (infections like tuberculosis, cancer due to carcinogenic contaminants) the connection between the food and origin of an infection or health damage may stay unclear.

The consumer on the market, when buying a piece of meat, will most certainly take a look: is the product o.k.? does it look good, does it smell? what is the consistency? Only when the consumer has the impression the product is safe and of acceptable quality he will buy it. The consumer may even ask the seller to get additional information. These are the options for the consumer to control the risks that

---

could be associated with animal origin products. However, the consumer (generally) is not in a position to see the animal from where the product came from. And even if he did, the consumer does not have the knowledge to evaluate what he can see at the animal and its carcass. The conclusion is that the consumer can try to assess the quality of what he buys, but he has very limited possibilities to do so effectively. Therefore the consumer has to rely on an expert, on a system of guarantee. This system of guarantee is provided by the national authorities, through the system of meat inspection. It is the meat inspector who assesses the health of the living animal before it is slaughtered and who inspects the organs, the carcass and other materials at slaughter: on the basis of this inspection the products of the animal are allowed on the market so that the consumer is protected against the risks he cannot assess himself.

We have to realise that not all the risks that are associated with animal origin products can be adequately assessed with the tools and capabilities of the meat inspector. Also at the level of the meat inspector there are limitations: he has to reach a decision on the floor of the slaughterhouse, in a short interval of time; he has no advanced laboratory immediately at hand and he does not know what kind of "invisible" risks may be present. Meat inspection is a sieve that separates fit from unfit for human consumption, but not all the material with potential risk stays in the sieve: some material may slip through. Therefore there is a second sieve: the system of guarantee at national level. It is the national government, generally through the actions of the veterinary public health authorities that collect information on the disease status of the animal population, on the occurrence of contamination and pollution, on the possible presence of harmful bacteria. The veterinary authorities have at their disposal tools that allow them to control risks at national level: laws and regulations, manpower, equipment and funds to eradicate animal diseases, laboratories to implement advanced diagnostic research and to carry out monitoring and surveillance programs. An important tool for the national authorities is also the import control (inspection and control of animals and products at the borders before import: this is a key instrument to prevent the introduction in the country of potentially dangerous food products or animal diseases). The national system of guarantee will provide backing to the meat inspector for the control of risks the meat inspector himself is unable to "see": for instance the possible presence of chemical pollutants like dioxins, diseases with specific dangers to human health like Avian Flu. The individual meat inspector in his turn has to rely on this national guarantee. These two levels of specialised expertise, of safety control, complement the simple sensory assessment of the consumer: they protect the consumer in a way he can never do on his own.

We could even say that there is also an international system of guarantee: the national public health authorities are in contact with each other at international level. They meet in (specialised) international organisations, like FAO, OIE, CODEX, WHO, to exchange information, to agree on measures to prevent the spread of risks from one country to another, to agree on international rules and guidelines. Most prominent is also the scientific cooperation to increase the knowledge on risks associated with food and animal health.

The meat inspector is also playing a crucial role in the control of potential risks that do not have an implication for the safety of the animal origin food. The veterinary inspector should inspect each animal alive before slaughter, *ante mortem*. This allows him to assess if the animal has any symptoms of diseases that are dangerous for the animal population: in the veterinary law (and in accordance with international agreements) specific diseases have been defined that require nation-wide attention to be controlled. They are called notifiable diseases. In fact these diseases may spread so rapidly and easily, are so difficult to control that they require powers and tools that surpass the capacities of an individual veterinarian and farmer. A prominent example is Food and Mouth Disease. The list of notifiable diseases contains diseases that may cause considerable danger for human health (like rabies), for economic damage (FMD, AI) and that therefore require control measures at national level. OIE gives a recommended list of diseases that can be considered by individual countries to be adopted as notifiable in their national Law.

The role of the veterinary inspector at the *ante mortem* inspection is to be the eyes of the national government to assess whether the animal he inspects is free of those statutory diseases. In case he suspects the animal suffers from one of these diseases it is his obligation to immediately inform the relevant authorities. Only in this way the national veterinary authorities can take their responsibilities and take appropriate action. The national authorities are fully dependent on the eyes they have in the field through the veterinary inspectors. This role, which is the fundament of the national veterinary

---

guarantee system, cannot be overestimated. The whole system depends on the professionalism of each and every veterinary inspector. The *ante mortem* inspection is a system of passive surveillance.

The system of guarantee for animal health and safety of food from animal origin consists of the following essential elements:

- The system is based on the Veterinary Law: this gives the veterinary services the authority to inspect, to take appropriate action and to enforce the legal requirements.
- The veterinary services (in Egypt this is GOVS, together with the veterinary services at governorate level) constitute the concrete workforce, the "apparatus" to implement the Law and structure the activities.
- Laboratories (AHRI and regional labs) give a backing to the veterinary services at all levels with scientific expertise and specialised diagnostic facilities. Identification of animals and movement control (I&R) allows for traceability and origin control of animals.
- Systematic inspection at slaughter (AM & PM) is the key instrument to prevent that animals and food derived thereof, unfit for consumption reach the consumer. The systematic inspection is also a continuous monitoring of the health status of the animal population (passive monitoring).
- For specific diseases the veterinary services may organise active monitoring programs (for instance this is the case for brucellosis).
- Systematic inspection of animals and animal products at the borders before they are allowed for import. This will prevent potentially dangerous materials and infectious diseases to enter the country.
- A system of enforcement (sanctions) is required to ensure that the legal provisions are obeyed and that non-compliance can be punished.

The veterinary inspector needs to be aware of his crucial position in this whole system. This machinery can only function properly, when the veterinary inspector is playing his role in the system.

### **International context**

The control of animal diseases and the safety of food for human consumption are major issues for a national government. The animal population has to be protected against serious diseases, which in case of occurrence have to be combated and if possible have to be eradicated. This is of vital importance for the economic benefit of the country as a whole and of the individual farmer specifically. Animal health is intimately connected to human health and welfare because the causative organisms of animal diseases (zoonoses) often are also infectious for humans. Transfer of the disease for the animal may occur directly through contact: this is an issue for farmers, animal transporters and butchers. More indirectly but of much greater significance is the risk that the disease is transmitted through the food originating from the animal (products): food borne zoonoses.

To control the dangers that could be associated with animal disease and food (of animal origin) a system of guarantees has been created for international trade. Adequate control of food safety and animal diseases is a basic requirement for a country to participate in international trade. A detailed set of norms and standards has been set up to regulate and facilitate trade between countries. The basis is that in trade between countries the government of the exporting country needs to give guarantees as required by the importing country. The organisations mandated to lay down the norms and standards in the field of animals and products of animal origin are the OIE and the CODEX (see note 3). The norms and standards are defined after (often lengthy) discussions and negotiation in which all member countries can actively participate. In case of disputes countries may request arbitration by the World Trade Organisation (WTO).

It is obvious that trade between countries will be greatly facilitated when they apply the same norms and standards. This is called "harmonisation". The basis of the many free trade zones in the world is that the member countries have agreed on harmonisation of norms and standards and on accepting each other's systems of inspection and control. Free trade agreements are a powerful instrument to support international trade and for improvement of business opportunities for agricultural and food producers. It is important to stress that acceptance of free trade will require a great deal of trust in the partner (or partners). The capabilities of the trade partner to adequately control the risks and to maintain the agreed level of safety and disease freedom are to be accepted. For this reason in some

---

free trade zones mechanisms are present to enforce compliance to the agreed harmonised norms. In EU an inspection body is present to assess the compliance of the member states: Food and Veterinary Office (FVO) carries out regular inspections in all EU member states and the reports are freely available on Internet.

Other examples of free trade zones are in this region the Gulf Cooperation Council (GCC), the Mercosur in South America and the SADCC (in southern Africa).

Egypt is in the process of a more close (trade) cooperation with the EU. This means that to some degree harmonisation between the Egyptian norms and standards in animal health and food safety and those of the EU will need to be reached. It will also require that at both sides trust in each other's systems of guarantee has to be established.

The veterinary inspector, working in the slaughterhouses, is by all means the basis of the guarantee system and the focus of the enforcement and compliance with the norms and standards. The guarantees to be provided by the national government in Egypt regarding health of animals and safety of food depend on the professional capacities of the veterinary inspector. Every veterinary inspector has to be well aware of the fact that he does not only safeguard the health of the consumers with the specific animal and its products he is inspecting, but that he is at the same time a vital part of the national and international guarantee system of animal health and food safety. The veterinary inspector is not working on his own; he is part of the national system, in the same way as he himself cannot do a proper job without the support from the veterinary public health system.

---

# 13 Inspection before slaughter

## Learning objectives

By the end of the training session, participants will be able to:

- Explain good practices in primary production including transportation.
- Explain official guidelines for ante-mortem inspection.
- Separate sick animals from healthy animals based on official guidelines.
- Decide if an animal is fit for human consumption and could be slaughtered, or animal should be segregated.
- Evaluate possibilities of final decision on segregated animals: animal can be still slaughtered or must be condemned as it is not fit for human consumption.
- Explain own reasoning to butcher and farmer leading to judgment and decision (legal and scientific foundation).

## Structure for training session

1. Discussion on good practices in primary production including transportation (PowerPoint) – (Dr Hany Abubaker, Dr Ahmed Abdel Hafiz) (1 hour)
  - a. What are the main areas that should be covered? (9 areas) (clustering of ideas of participants by trainer) (15 minutes)
    - i. Basic animal welfare
    - ii. Shelter and handling facilities
    - iii. Livestock feeding and watering
    - iv. General livestock management practices
    - v. Animal health
    - vi. Farm environment management
    - vii. Carcass disposal
    - viii. How do I know that my cattle are well-fed?
    - ix. On-farm record keeping
  - b. Transportation (15 minutes)
    - i. Impact on animal and meat
    - ii. How to select animals for transportation
    - iii. How to prepare animals for transportation
    - iv. Pre-transport handling
    - v. Journey length
    - vi. Loading and unloading
    - vii. How to group animals during transport
    - viii. Loading density
    - ix. Design of transport vehicle
    - x. Identification and traceability
    - xi. Holing facilities: stall
2. Discussions of the official guidelines for ante-mortem inspection (75 minutes) – Dr Sayed Barakat)
  - a. Participants read “Product Inspection Manual” (pages 1-7)
  - b. Facilitator poses questions to check knowledge of participants:
    - i. What is the definition of ante-mortem inspection?
    - ii. Please, list of objectives of ante-mortem inspection.
    - iii. Please, define role of official veterinary
    - iv. Please, define roles of butchers / farmers

- 
- c. Participants bring their questions from own work experience on ante-mortem inspection
3. PowerPoint on diseases, lesions and infections (Dr Adel Amin) - 1 hour. Trainer gives tips for young veterinarians on how to make judgment in difficult cases. **This session is meant for advanced inspectors.**

How to evaluate risk for human consumption and human health, and generating contamination in the slaughterhouse, e.g. in case of contagious diseases (e.g. tuberculosis, brucellosis, sarcosporidiosis, cystisarcosis)

## Background information

2 leaflets on good primary production and transportation

Product inspection manual (pages 1-7)

- General introduction to product inspection
- Ante-mortem inspection

## Exercises on ante-mortem inspection

### Exercise 1

**Objective** of exercise: to practice making judgment regarding whether meat is fit for human consumption, etc.

**Preparation** for exercise by facilitator: PowerPoint presentation of pictures showing animals in different conditions.

#### Needed tools

- Beamer
- PowerPoint (prepared by training material developers)

#### Explanation of the exercises

- Participants will form groups of maximum four
- Facilitator asks participants to brainstorm on possible judgments
- Groups present their findings in plenary session.
- Facilitator draws up final check list together with participants

### Exercise 2

**Objective** of exercise making judgment regarding whether animal is sick or healthy in different scenarios

**Preparation** for exercise by facilitator: 4 scenarios to be evaluated (prepared by training material developers)

#### Scenario 1:

Farmer says that animal is sick, animal got some medicine treatment but he does not have information on what kind of disease or treatment the animal has received and when (information and traceability; good practices in primary production)

First question is did cow get antibiotic treatment? (could be dangerous for human health)

If that is not the case, animal could spend 24 hours – 3 days in slaughterhouse before slaughter to release medicine, depending on the drug. Veterinary has to check what drug needs what time to disappear from the animal.

As there is no information at all; the only decision is to condemn the animal.

Scenario 2:

Cow has fast breathing; high temperature, animal is not standing on his feet properly (animal health)

Animal must be isolated for slaughter. There is risk of disease; other animals should not be infected to avoid risk. Symptoms do not refer to disease that is risk for human consumption.

Official vet should have an extra examination on the carcass to make sure that it could not have risk on human health.

Scenario 3:

Animal is walking in circles, animal with an anxious expression in its eyes (animal health)

Animal must be isolated for slaughter. There is risk of disease; other animals should not be infected to avoid risk. Symptoms do not refer to disease that is risk for human consumption.

Official vet should have an extra examination on the carcass to make sure that it could not have risk on human health. Official vet has to make a sample (blood, tissue, lymphatic nodes, etc.) and send it to laboratory for check of disease. Hypothesis is that animal has nervous disorder.

In Egyptian situation, judgment might be different. But animal should be slaughtered in isolation from healthy animals. (to be suggested for improvement in Egypt)

Scenario 4:

Yellow coloration of the sclera of the eye or skin

Animal must be isolated for slaughter. There is risk of disease; other animals should not be infected to avoid risk. Symptoms do not refer to disease that is risk for human consumption.

Official vet should have an extra examination on the carcass to make sure that it could not have risk on human health.

In Egyptian situation, judgment might be different. But animal should be slaughtered in isolation from healthy animals. (to be suggested for improvement in Egypt)

Scenario 5:

Among 5 animals of a farmer, 1 does not have an ear-tag.

What is acceptable in Egypt? Is farmer to be trusted? (Registration)

Scenario 6:

There is a lot of faecal material and mud on live animal.

Faecal material carries Salmonella and Listeria risk, which is very dangerous for human health; animal is condemned.

What is acceptable in the Egyptian situation? After cleaning, animal is passed for slaughter? (Cleanness)

	Passed for slaughter	Passed for slaughter subject to a second ante mortem inspection	Passed for slaughter under special conditions (or emergency slaughter)	Condemned	Emergency slaughter
Scenario 1				X (EU)	
Scenario 2			X or		X
Scenario 3			X or		X
Scenario 4			X or		X
Scenario 5				X (EU)	
Scenario 6				X (EU)	

---

**Needed tools**

- Beamer
- PowerPoint (prepared by training material developers)

**Explanation of the exercises**

- Participants will form groups of maximum four
- Facilitator asks participants to brainstorm on "What is your judgment? Can animal be slaughtered, or it should be segregated?"
- Groups present their findings in plenary session
- Facilitator lists correct actions and gives explanation

**Reflection on the exercise**

To enhance discussions, the following issues should be discussed:

- What is working in the EU, might not work in Egypt: e.g. condemning animal (balancing risk on human health and economic consequences for farmers).
- Judgment and decision are partly subjective; how to harmonize this subjectivity in Egypt is key to ensure that no slaughterhouse that is very lenient, other are very strict regarding judgment and decision.
- Attitude and behaviour towards farmers, and how to manage relationship especially with regard to economic consequence.
- Do veterinarians need extra training at GOVS to identify statutory diseases to ensure more professional inspection?

---

# 14 Slaughterhouse requirements

## Learning objectives

By the end of the training session, participants will be able to recall:

1. Principles, concepts and methods of HACCP
  - List and explain principles of HACCP
  - Identify critical control points in slaughterhouse small ruminants and large animals
2. Prerequisites (slaughterhouse inspection)
  - Apply good hygiene practice (GHP) in slaughterhouse
  - Implement slaughterhouse inspection based on GHP using appropriate tools
3. Design and improvement of establishment
  - Describe how to design, build and operate a slaughterhouse that meets EU requirements
  - Identify improvement points for existing slaughterhouses in Egypt in accordance with EU requirements but still applicable in Egypt.
4. Guidelines laying down the principles and procedures for licensing, registration and approval of establishments
  - Explain the concept and need for licensing, registration and approval of establishment in the Egyptian context

## Structure for training session

1. Principles, concepts and methods of HACCP (30 minutes) Dr Mostafa Esmail / Dr Ahmed Ayad
  - Trainees recall principles of HACCP
  - Trainees list CCPs in slaughterhouse
  - PowerPoint by Dr Mostafa Esmail
2. Prerequisites (slaughterhouse inspection) (240 minutes) –Dr Mostafa Esmail / Ayad
  - Video is shown to participant based on which they evaluate seen slaughterhouse with help of tool/method used in Egypt (there are 12 videos)
  - Presentation of EU tool to evaluate slaughterhouse
  - Compare two tools: identify differences; evaluate their usability in Egyptian context and benefits of both tools
3. Process of slaughter (Dr Ahmed Ayed – PowerPoint on method of slaughtering) – 30 minutes
4. Design and improvement of establishment (25 minutes) – Dr Fahim Shaltout
  - Participants evaluate improvement points for slaughterhouse based on given scenario
5. Presentation on animal health and food safety (PowerPoint; Dr Fahim Shaltout) – 30 minutes
6. Guidelines laying down the principles and procedures for licensing, registration and approval of establishments (30 minutes)
  - Lecturer gives presentation followed by plenary discussion Dr Fahim Shaltout

## Background information

1. Videos on good and bad slaughterhouse practices
2. Two tools to evaluate slaughterhouse (Egyptian, EU document on slaughterhouse inspection)
3. Guidelines for the construction of slaughterhouse: design, facilities and equipment
4. Egyptian guideline for GOVS audit of slaughterhouses

---

# Exercises

**Objective** of exercises: to identify good and bad slaughterhouse practices by applying HACCP and comparing EU and Egyptian tools.

**Preparation** for exercises by facilitator:

Access to videos (DVD)

Print tools

## Needed tools

- Paper
- Pens

## Explanation of the exercises

- Participants form groups of 4
- Facilitator instructs trainees to watch videos and answer the questions
- Plenary discussions after participants worked out their answers in group

*Video 1: Food Safety - Slaughterhouse*

URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=yoZs0wyizUw](http://www.youtube.com/watch?feature=player_embedded&v=yoZs0wyizUw)

## Exercise 1

*First part of video*

1. Based on the video, please write source of contamination in slaughterhouse
  - Blood contamination
  - Cracks in the floor
  - Offal separated from carcasses
  - Bad storage , chiller not working
  - No separation between clean and dirty area
  - No uniform for workers
  - Presence of children
  - Bad odour from slaughterhouse itself , environment, (garbage), insects and pets
  - Slaughter on the ground
  - Cross-contamination between carcasses and skin
  - Cleaning of the ground at the same time (source of contamination)
  - Trailers is rusty & dirty
  - No maintenance of equipment , tap water open continuously (source of contamination)
  - Old contaminated tools
  - Transport of offal with people themselves (no tools for transport)
  - Presence of plastic pails which is a source of contamination by residues
  - Danger between due to uncover electricity and water
  - No traceability due to separation between carcasses & offal
  - All process of slaughtering in the floor
  - Transportation by own cars, worker's shoulders etc. Did not use cars for transportation
  - No refrigerators cars (no enough cars)
2. Please, cluster sources into categories (5); presentations of clusters
3. Please, share your other observations (general discussions)
  - No cooperation between different authorities
  - No respect for doctors and for the role of official vet
  - Official vet is escaping his duty

---

*Second part of video*

4. What major issues do you see?
  - Slaughtering outside the slaughterhouse (clandestine), which is not legal; in this case high risk is found because no inspection is done.
  - Role of food safety authority
  - Hygiene issues

*Third part of the video*

5. What are the key issues?
  - Animal byproducts
  - How to properly use animal by-products?
  - How to process animal byproducts?
  - Sanitary issues
  - Collected & sold by local authority (hooves , bones ,horns, hides)
  - Offal sold for eating
  - What is the situation in Egypt? / share experiences, make recommendations on improving the situation

**Exercise 2**

1. Participants will form groups of maximum four
2. Facilitator introduces tool for slaughterhouse inspection
3. Participants watch videos
4. Participants apply tool (flip chart) – group work
5. Groups present their findings in a plenary session, followed by a discussion.
6. Participants compare results tool currently used and introduced tool
7. Participants present their findings, plenary discussion follows

**Reflection on the exercise**

To enhance discussions the following issues could be touched upon:

- Which tool should be used in Egypt?

*Video 2: Small Slaughterhouse in the US / The Good Slaughter: A proud Meat Cutter Shares Story*

URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=3pq5MWLZyII](http://www.youtube.com/watch?feature=player_embedded&v=3pq5MWLZyII)

**Exercise 3**

1. What are the practices that are intended to avoid cross contamination on meat during slaughtering?
  - Removal of blood
  - No watching of carcass
  - Skinning
  - Away from the slaughtering process
  - Evisceration
  - Legation of the oesophagus
  - Cutting
  - Washing of tools
  - Chilling
2. Based on the example in the video, what is applicable in Egypt?
  - How to slaughter animal individually in batch slaughter house in Egypt?
  - Is that possible? Why (not)?
  - How to improve the situation in Egypt?
  - Is it possible to set up the approach of batch slaughtering in 3-5 years in Egypt? What can you do without financing?
  - What fund is necessary to improve slaughter hole? How can you access funds?

---

Video 3: Abattoir: Demonstration box (halal, casher) (1:53)

URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=QuTY0XW4VDE](http://www.youtube.com/watch?feature=player_embedded&v=QuTY0XW4VDE)

Halal slaughter with restrainer

Demonstration objective

#### Exercise 4

1. Is there any way to improve the situation in Egypt based on this video?
  - Fields: animal well fare
  - Ante-mortem inspection
  - Collection of blood (by product management in the slaughterhouse)
2. Is it easy to implement slaughter box in Egypt?
  - Yes
  - No
  - Yes ,how and when
  - No, why
  - In future what you need to implement

Video 4 US Industrial slaughterhouses

Abattoir Practices 2/3 (DVD)

URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=-zggRaylggQ](http://www.youtube.com/watch?feature=player_embedded&v=-zggRaylggQ)

Abattoir Practices 3/3 (DVD)

URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=FB8chNuMYu0](http://www.youtube.com/watch?feature=player_embedded&v=FB8chNuMYu0)

#### Exercise 5

1. Why should animals be in quarantine 24 hr before slaughter?
  - Registration
  - Rest & provide drinking water
  - Control of infection, incubation period
  - Ante-mortem inspection
2. Why should animals be cleaned before slaughter in corridor?
  - Get rid of dirt
3. How to use slaughter box for small & large size animal?
4. List the example of practice used in slaughter to minimize cross-contamination during hide removal?
  - Use plastic covers
  - Rubber strip
5. Why we use plastic cover and rubber strip?
  - Avoiding cross contamination
  - For reducing microbial count
6. Traceability
  - What the methods is used in this slaughterhouse?
  - What is the practice in Egypt to ensure traceability and link between offal and carcass?
7. Distance between carcasses in the slaughtering line
  - Why & what is distance between carcasses?
  - To avoid contamination from hide
  - What is the situation in Egypt? How to improve it?
8. Evisceration
  - Leakage of rumen content; how can we control it?
  - Ligation

- What is the benefit of that?
    - Avoid contamination which has public health importance
9. Different stages of inspection where official vet acts
- Why these stages?
  - What is the purpose? What diseases to check for?
    - Head for cysts
    - Carcasses for TB mainly in Egypt etc.
    - Viscera for TB etc.
    - Organs

*Video 5: EU Industrial slaughterhouse (to compare with Video 4)*

*Example of cattle slaughtering lines 1/2 (DVD)*

*URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=Ach2hmBT0jQ](http://www.youtube.com/watch?feature=player_embedded&v=Ach2hmBT0jQ)*

*Example of cattle slaughtering lines 2/2 (DVD)*

*URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=A5vCCw\\_gUjU](http://www.youtube.com/watch?feature=player_embedded&v=A5vCCw_gUjU)*

### **Exercise 6**

1. Primary production
  - Why is this video important?
    - Registration (ear tags)
    - Am inspection
    - Animal welfare
    - Hygiene in the farm
2. What is the purpose of I&R?
3. Slaughtering process
  - What is the benefit of Islamic methods?
    - Animal welfare
    - Decrease contamination
    - Palatability of meat
4. Traceability
  - How to ensure traceability between offal & carcass
    - Egypt
      - No separation during the slaughter process
    - EU
      - Labelling, line of slaughter

*Video 6 – Information about hygiene*

*Meat inspection 1/5 (DVD)*

*URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=qMFWEIG5fuY](http://www.youtube.com/watch?feature=player_embedded&v=qMFWEIG5fuY)*

*Meat inspection 2/5 (DVD)*

*URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=A6JO9b6lnos](http://www.youtube.com/watch?feature=player_embedded&v=A6JO9b6lnos)*

*Meat inspection 3/5 (DVD)*

*URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=-f0h3bzE9bY](http://www.youtube.com/watch?feature=player_embedded&v=-f0h3bzE9bY)*

*Meat inspection 4/5 (DVD)*

*URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=-f0h3bzE9bY](http://www.youtube.com/watch?feature=player_embedded&v=-f0h3bzE9bY)*

*Meat inspection 5/5 (DVD)*

*URL: [http://www.youtube.com/watch?feature=player\\_embedded&v=zXyAsdx70tE](http://www.youtube.com/watch?feature=player_embedded&v=zXyAsdx70tE)*

### **Exercise 7**

Can this animal be slaughtered? & why?

- The hygiene of animal (Law); legally not allowed by the decree 517
- What is the situation in Egypt in the slaughterhouses?

- 
- How are official vets able to implement the law?

Guidelines in the EU for the official vet on the cleanness of animal before slaughtering (Hygiene Package EU 853, 854 / 2004)

- In EU, there are 4 categories of "cleanness":
  - 100% clean - Accepted
  - 80% clean - Accepted with precaution
  - 50% clean Accepted with precaution
  - 20% clean Not accepted for slaughtered

How is it possible to manage this in Egypt?

- Slaughter after cleaning
- Just clean and slaughter?
  - Yes, there is a risk with contamination
  - No, take precaution with the carcass
- Give example of how to deal with the situation
- What are the difficulties with butchers regarding cleanness of animals

Traceability in Egypt

- What about the traceability of offal & carcass?
  - In this video it can be done
- What about in case of Egypt?
  - No possibility to separate offal from carcass, because the decree does not allow that; everything has to stay together until the meat inspection. In EU, it is possible to separate because there is traceability.
  - If it is separated in Egypt, according to the law; offal must be condemned.

---

# 15 After slaughter

## Learning objectives

By the end of the training session, participants will be able to:

- Module 1: Procedures and manuals describing proper meat inspection: Post-mortem inspection
  - Explain and apply guidelines “Product Inspection” for post mortem inspection
  - Separate suspect carcasses from carcasses fit for human consumption based on official guidelines
  - Decide if carcass is fit for human consumption or carcass should be partly condemned, or seized
  - Explain own reasoning to butcher and farmer leading to judgment and decision (legal and scientific foundation)
- Module 2: Guidelines for safe treatment, use and disposal of slaughterhouse waste and animal by-products
  - Explain and apply appropriate guidelines when evaluating by-products
    - Define what animal by-product is and its categories
    - Define what risks animal by-products might carry in terms of food safety and human health and environment
    - Explain various ways of use and disposal of by-products in accordance with the guidelines
  - Describe rules farmers and butchers must follow to avoid contamination of meat
- Module 3: Distribution: Cold chain, Transportation, Presentation, inspection of meat in shop
  - Explain rules to butchers and farmers the importance of and rules for maintaining cold chain from slaughterhouse to customer
  - Check whether carcasses are properly transported

## Structure for training session

Module 1 (300 minutes)

1. PowerPoint on post-mortem inspection (Tuberculosis) by Dr Ahmed Aye – for beginners (60 minutes)
2. Introduction to guidelines “Product Inspection for post mortem inspection” (Dr Emad el Hagar / Dr Salaam Lelhouseny) (240 minutes)
  - Trainer bases his discussion on key questions:
    - What is the objective of post-mortem inspection?
    - What is the link between ante-mortem and post-mortem inspection?
    - What are the most frequent lesions in slaughterhouses in Egypt?
    - What rare lesions you have seen in your experience in the slaughterhouse?
    - What is the meaning of the stamp put on the carcass?
  - Decision-making and judgment based on pictures shown to trainees
  - Role play: butchers / farmers do not agree with judgment of inspector in the above cases; how to deal with the situation? (4 role-plays)

Module 2 (45 minutes)

3. Discussion on
  - Importance of handling of animal by-products (risks associated with animal by-products)

- 
- Current practices in Egypt – video presentation on animal by-products
4. Trainees offer improvement points / simple solutions for current practices

#### Module 3 (45 minutes)

5. Discussion of current practices in Egypt
6. Trainees offer improvement points

## Background information

1. "Product Inspection for post mortem inspection" from page 7-14
2. Pictures carcasses showing symptoms of diseases
3. Picture with stamp
4. Guidelines for safe treatment, use and disposal of slaughterhouse waste and animal by-products
5. "Slaughterhouse inspection" page 23-25

## Exercises

### Objectives of exercises:

1. To make decision and judgment regarding carcass
  - Based on symptoms/ lesions shown on pictures, identify whether meat is fit for human consumption
  - If not, what the next steps should be regarding further examination and action (samples to be sent to labs)
  - Make judgment and decision
2. To identify key issues regarding animal by-products
3. To increase awareness on how to handle difficult situations

**Preparation** for exercise by facilitator: pictures / slides with animal diseases; slides for quiz on animal by-products.

### Exercise 1

Decision-making and judgment based on pictures shown to trainees

1. Participants form groups of 4
2. Picture is shown to whole class
3. Groups compete in giving answer first; the group who does, receives 1 point
4. Groups with most points wins

### Exercise 2

Role play

Butchers / farmers do not agree with judgment of inspector in the above cases; how to deal with the situation?

1. Participants form groups of 4
2. Given 5 minutes to agree on the situation and possible solution
3. Groups play out scenario in front of class
4. Plenary discussions on the different scenarios

### Exercise 3

Quiz on animal by-products

1. Participants form groups of 4
2. Slide is shown to whole class
3. Groups compete in giving answer first; the group who does, receives 1 point
4. Groups with most points wins

---

# 16 Competencies of the meat inspector

## Learning objectives

By the end of the training session, participants will be able to:

- List key required competencies of meat inspectors
- Evaluate own strengths and weaknesses in terms of the identified required competencies

## Structure for training session

- Group work on identifying required competencies of meat inspector followed by plenary session (45 minutes)
- Evaluation of self as meat inspector, presentation of evaluation (45 minutes)

## Exercises

### Exercise 1

**Objective** of exercises: share views on what the required competencies of meat inspectors are; identify key requirements;

Differentiate between inspector and manager

- Legislative Framework and the Manual for Official Controls
- Knowledge of HACCP
- Ante-Mortem and Pre-slaughter Inspection
- Slaughter and Processing
- Post-Mortem Inspection
- Health Marking and Identification Marking

Handling of Animal By-products

- Enforcement

**Preparation** for exercise by facilitator: none

### Needed tools

- Paper
- Pens

### Explanation of the exercise

1. Participants form groups of 5
2. Facilitator requests them to list key competencies of meat inspector
3. Groups develop list
4. Groups present lists in plenary session
5. Plenary discussion on findings, and identifying 6 most important competencies; prioritize them

### Exercise 2

**Objective** of exercises: evaluate self, identify strengths and weaknesses

**Preparation** for exercise by facilitator: none

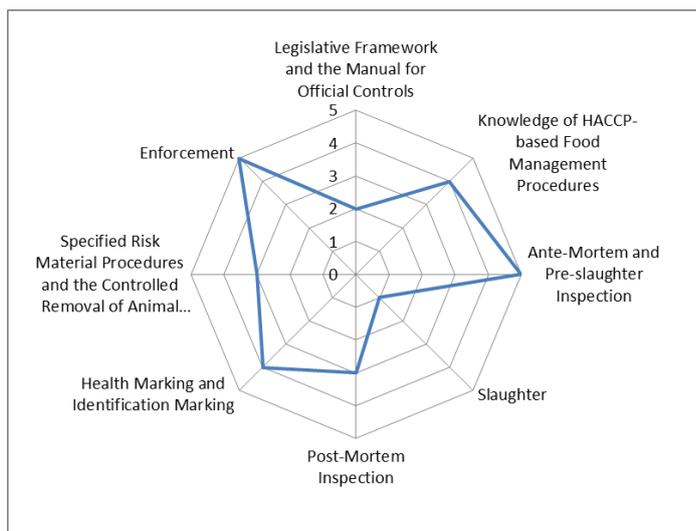
## Needed tools

- Paper
- Pens

## Explanation of the exercise

1. Participants work individually
2. Based on the identified 5 top competencies, participants develop a spider web by using a scale and describing self in terms of the identified competencies
  - Scale 1, poor
  - Scale 5, excellent
3. Participants present spider webs and exhibit them on the wall
4. Plenary discussion on findings (strength and weaknesses)

Example for spider web:



## Background information

### Professional qualities and competencies for a meat inspector

The veterinary inspector requires a number of professional competences to perform his task as guardian of food safety and animal health.

- Adequate veterinary technical knowledge: this concerns clinical diagnosis, pathology and pathological anatomy of the relevant animal diseases. He has acquired this knowledge in his university training as a veterinarian. The welfare of the animals is also his concern, so he must have adequate knowledge at this field also.
- He must have a thorough knowledge on the criteria of meat inspection, both at *ante mortem* and at *post mortem* levels. This implies that he knows which observation should lead to which decision: fit for human consumption, unfit for human consumption, or under which condition (parts of) the carcass can still be allowed on the market. The criteria to be applied have been laid down in national legislation and/or instructions and manuals provided by the national veterinary authorities (GOVS). The veterinary inspector performs his duties on the basis of the mandate given to him by the national authorities (the Veterinary Competent Authority) through the national Veterinary Law. Therefore the veterinary inspector needs to have good knowledge on the Veterinary Law, relevant by-laws as well as the laws that give him the tools for enforcement (sanctions) in case of non-compliance. The veterinary inspector should have also a clear picture of his position in the "local" veterinary and public health context: whom to contact in case of abnormalities or emergency situations and which procedures to follow.

- 
- Inspection and control in meat inspection also implies that the veterinary inspector has to supervise the hygiene of the process of slaughtering and handling of the animal products. The inspector needs to be able to apply corrective measures when the rules of hygienic operations are not obeyed.
  - The meat inspector is required to assess health of the animal and safety of the products in an independent way: it is absolutely necessary that his judgment is impartial and not influenced by any commercial or private personal interests. (see also the paragraph on professional integrity).
  - The meat inspector has to perform his duties in a transparent and controllable way: he should keep adequate documentation of his actions. Documentation implies that the veterinary inspector keeps records on which animals and products he has inspected and what his findings were. In case of abnormalities or food poisoning it must be possible to investigate and trace back what has happened at meat inspection and what the observations of the inspector were.

Above qualities and competences clearly indicate that the veterinary inspector needs to operate as a professional authority, as a guardian of public interests, who represents the national authority and has the skills to take his responsibilities. He needs to be aware of his position and his duties.

### **Professional integrity**

The veterinary inspector performs a public function: he safeguards the public good: health and safety of the food on the market and health and welfare of the animal wealth. This boils down to the point where the inspector has to realise he is dependent on the trust of the consumer. Trust is a most perishable commodity, maybe even more than the animal products themselves. Trust depends on professionalism, transparency and independence. The consumer, society as a whole must be able to trust that the judgments of the inspector are not jeopardised by personal (financial) interest. The decision of the inspector has to be solely motivated by the interests of the consumer, assuring that the consumer can trust that the product he buys and eats is safe and wholesome. It could be that the owner of the animal does not agree with the decision of the inspector and has the opinion that the meat should be allowed on the market. It may even be that the owner of the animal or the butcher puts pressure on the meat inspector to pass the carcass as fit for human consumption, although the inspector himself has ground to condemn the material. By all means the inspector should follow his professional judgment and ignore and withstand the pressures placed on him. The inspector has to be devoted to a greater interest: the public interest has to prevail over the private interest of the producer or owner.

In accordance with the principles of a Constitutional State the owner of the animal or the butcher can object to the judgment of the inspector: procedures are open for a complaint at the civil court. Such complaint will not be against the individual inspector, but against the Veterinary Services. In this way the inspector is protected as an individual person.

We should realise that in practice the pressure exerted by the animal owner or butcher can materialise in offering money or goods. Veterinary inspectors should keep high moral standards: they should refuse any gifts from animal owners, business, butchers etc. Gifts and services rendered can always compromise the independency of the inspector's judgments.

It is important that the veterinary authorities, employing the veterinary inspectors, adopt a coherent policy to support the inspectors in keeping high moral standards and create the conditions for their independence.

Elements of such policy may be:

- Job rotation: narrow personal connections between a meat inspector and the owner of the animal or the butcher can be prevented when the meat inspector is not always working in the same premise or the same place. When the veterinary inspector works in a team of inspectors, they can rotate from day to day or week to week to serve in a specific place. In this way it becomes more difficult for the butcher or meat trader to build close personal connections. Also the meat inspectors can feel they are in a stronger position because they can share their experiences. By all means it is useful when they report to each other and to the head of the veterinary service when an attempt has been made by a butcher to

---

influence them or to compromise their independent judgment. In serious cases it may be necessary that the butcher or trader is prosecuted in court.

- In the preceding paragraph, it was indicated that transparent operations imply that the inspector carefully documents his actions: what animals he has inspected, what was the result of the inspection and what was his decision. Keeping adequate records, especially when obligatory based on Standard Operating Procedures, limits the possibilities for interference and compromise. When the process of inspection is more formal and standardised it will be more difficult to introduce "informalities" and diverge from the rules.
- Information campaigns should be run to make clear that government inspectors are (supposed to be) doing their work in an independent and professional way, without being interfered by private interests. Such campaigns should make clear to the public that the government veterinary inspectors have a high moral standard and their judgment is free from interference. Specific campaigns can also be launched among the inspectors to clarify to them how they can act in case of attempts of interference. This can be supported by a code.
- Development and adoption of a code of conduct: such code can give guidelines about professionally independent functioning of government inspectors. How to ensure independence, how to react when interference by the private owner occurs, how to keep adequate distance from the private producer and maintain high moral standard. The moral code, in connection with the campaign for the public and producers, can be a great help for the individual inspector to withstand pressures and compromise.
- Professional sanctions may be a (ultimate) necessity to enforce that the meat inspector does his work properly and is not influenced by private interests. The veterinary inspector works as a representative of the Competent Authority, in this case GOVS, and therefore GOVS may apply sanctions in case the inspector is malfunctioning in any way and does not perform his job according to the professional and moral standards.

---

# 17      References and resources

- D. Herenda, P.G. Chambers, A. Ettriqui, P. Seneviratna, T.J.P. da Silva, Reprinted 2000, *Manual on meat inspection for developing countries*, FAO Animal Production and Health Paper 119.
- ALINORM 93/16A, Joint FAO/WHO Food Standards Programme, Codex Alimentarius Commission, 20th Session, Geneva, Switzerland, 28 June – 7 July 1993.
- FAO/WHO guidance to governments on the application of HACCP in small and/or less-developed food businesses; proceeds of electronic discussions.
- Sheridan, J.J.; Allen, P.; Ziegler, J.H.; Marinkov, M.; Suvakov, M.D, 1991, *Guidelines for slaughtering, meat cutting and further processing*; FAO Animal Production and Health Paper 9.
- FAO, Manual no 2, Animal Production and Health: Good Practices for the Meat Industry. Rome 2004; ISBN 92-5-105146-1.

## Manuals prepared during the project:

- Official Veterinarian
- Good Practices for Primary Production
- Product Inspection
- Transport of Slaughter Animals
- Hygiene Code; Guidelines for Slaughterhouse Inspection

To explore  
the potential  
of nature to  
improve the  
quality of life



---

Centre for Development Innovation  
Wageningen UR  
P.O. Box 88  
6700 AB Wageningen  
The Netherlands  
[www.wageningenUR.nl/cdi](http://www.wageningenUR.nl/cdi)

CDI Report CDI-14-004

The Centre for Development Innovation works on processes of innovation and change in the areas of food and nutrition security, adaptive agriculture, sustainable markets, ecosystem governance, and conflict, disaster and reconstruction. It is an interdisciplinary and internationally focused unit of Wageningen UR within the Social Sciences Group. Our work fosters collaboration between citizens, governments, businesses, NGOs, and the scientific community. Our worldwide network of partners and clients links with us to help facilitate innovation, create capacities for change and broker knowledge.

The mission of Wageningen UR (University & Research centre) is 'To explore the potential of nature to improve the quality of life'. Within Wageningen UR, nine specialised research institutes of the DLO Foundation have joined forces with Wageningen University to help answer the most important questions in the domain of healthy food and living environment. With approximately 30 locations, 6,000 members of staff and 9,000 students, Wageningen UR is one of the leading organisations in its domain worldwide. The integral approach to problems and the cooperation between the various disciplines are at the heart of the unique Wageningen Approach.

