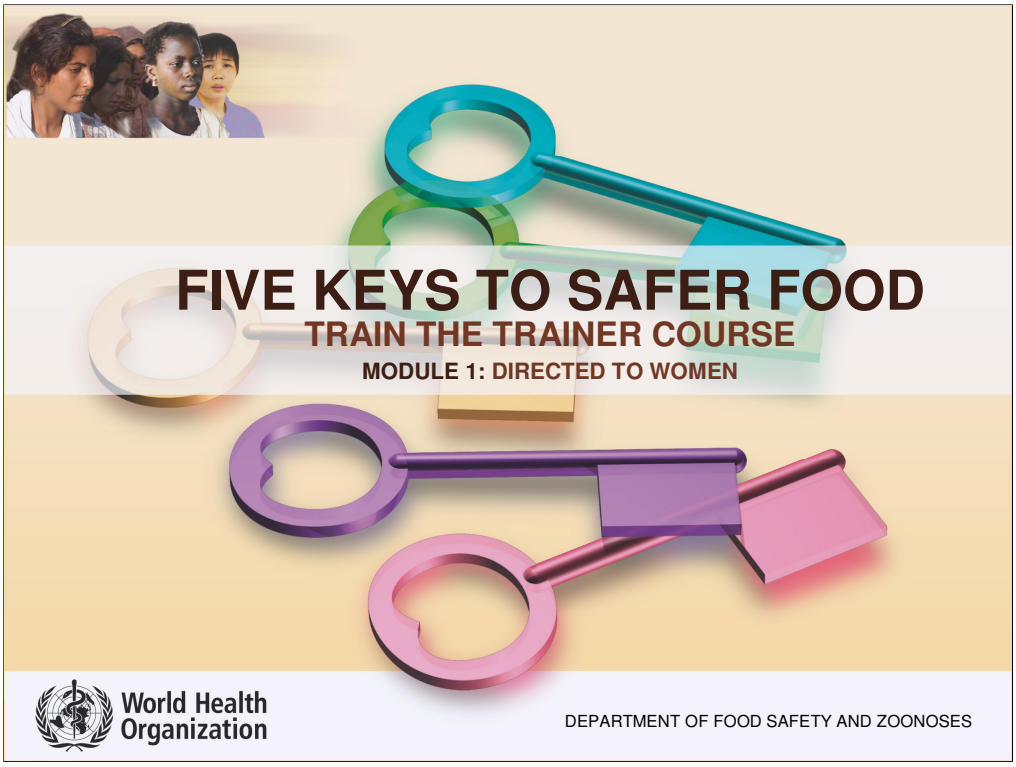
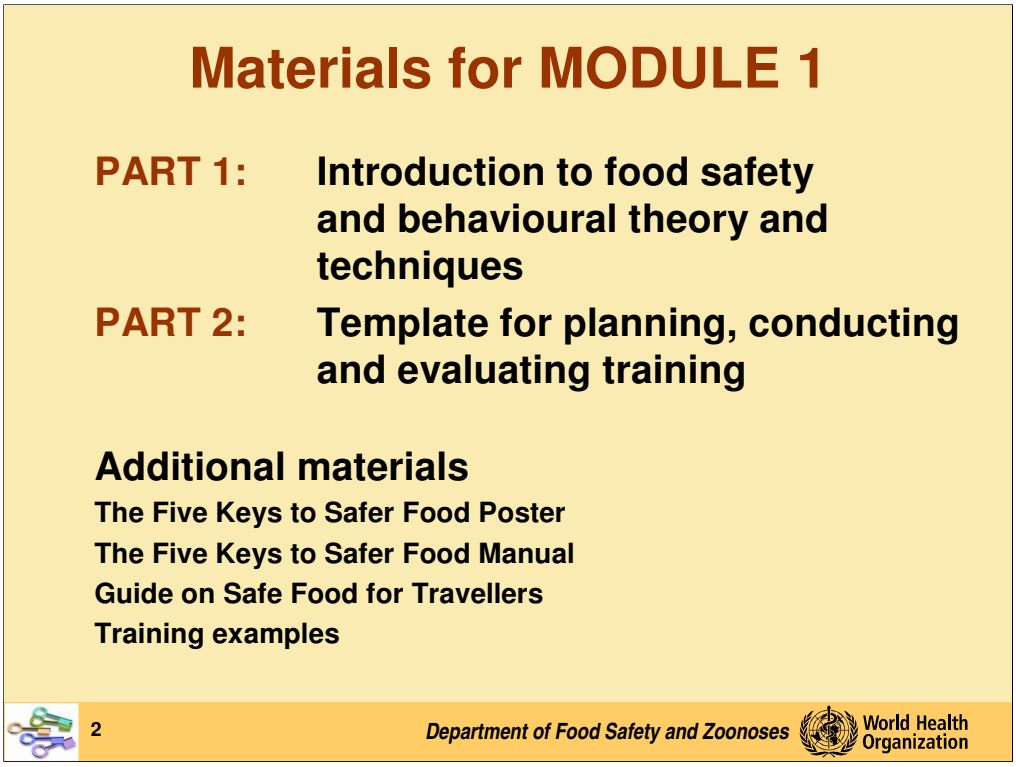


The concept of the Train the Trainer course and some additional guidance for Moderators are developed in document "Introduction to the Train the Trainer course and Guidance for Moderators" available at:

http://www.who.int/foodsafety/consumer/keys_training/en/index.html



The information provided for this train the trainer course includes Power Point slides with notes for Part 1: Introduction to Food Safety and behavioural theory and techniques and Part 2: Template for planning, conducting and evaluating training for women.

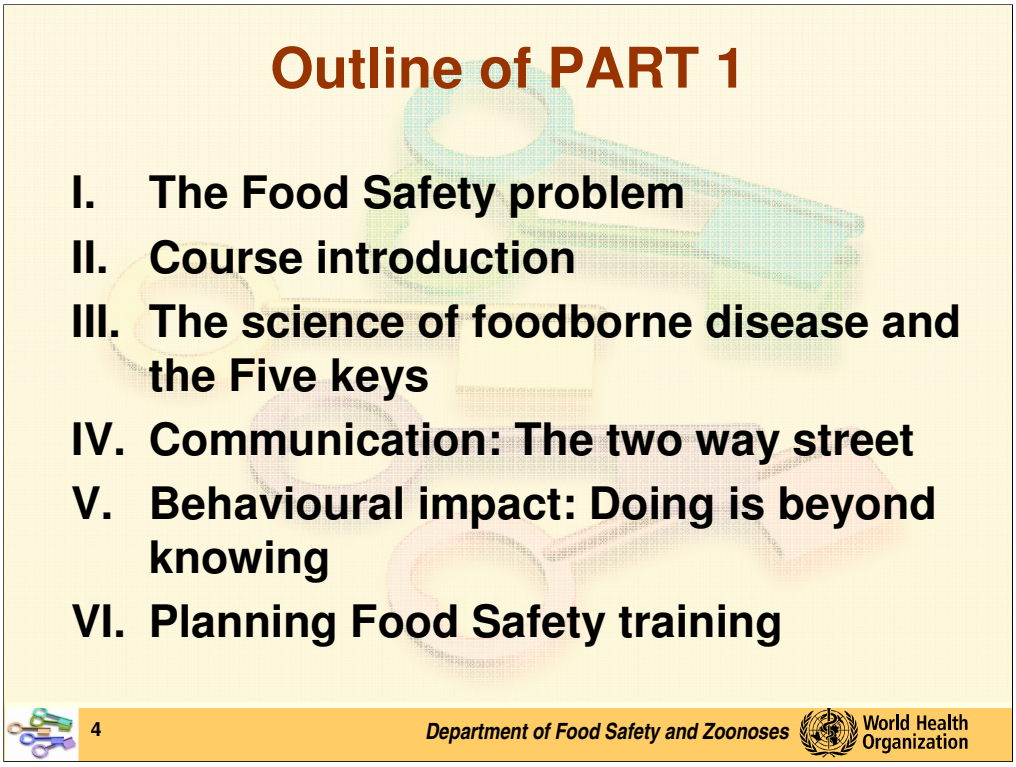
Part 1 presents the course introduction which explains the health implications of foodborne disease and the role of the WHO in preventing foodborne disease; each of the five keys and the scientific basis of the key. The module also explains behavioural theory and techniques to assess current behaviours. Finally WHO's safe food handling behaviours and ways to effectively communicate the safe food handling behavioural messages to promote adoption are explained.

Part 2 provides a template to aid in the planning the subsequent food safety training sessions for women. It presents a simple behavioural message for each Key, a sample teaching exercise, and examples of barriers and solutions for each Key. The food safety training for women will need to be adapted to local settings, the slides in Part 2 should be used together with the other food safety information provided by the WHO especially The Five Keys to Safer Food Poster, the Five keys to Safer Food Manual, the Guide on Safe Food for Travellers and the Food Safety Training Examples to prepare training sessions.

All the Five Keys to Safer Food materials are available at www.who.int/foodsafety/consumer/5keys/en/index.html.

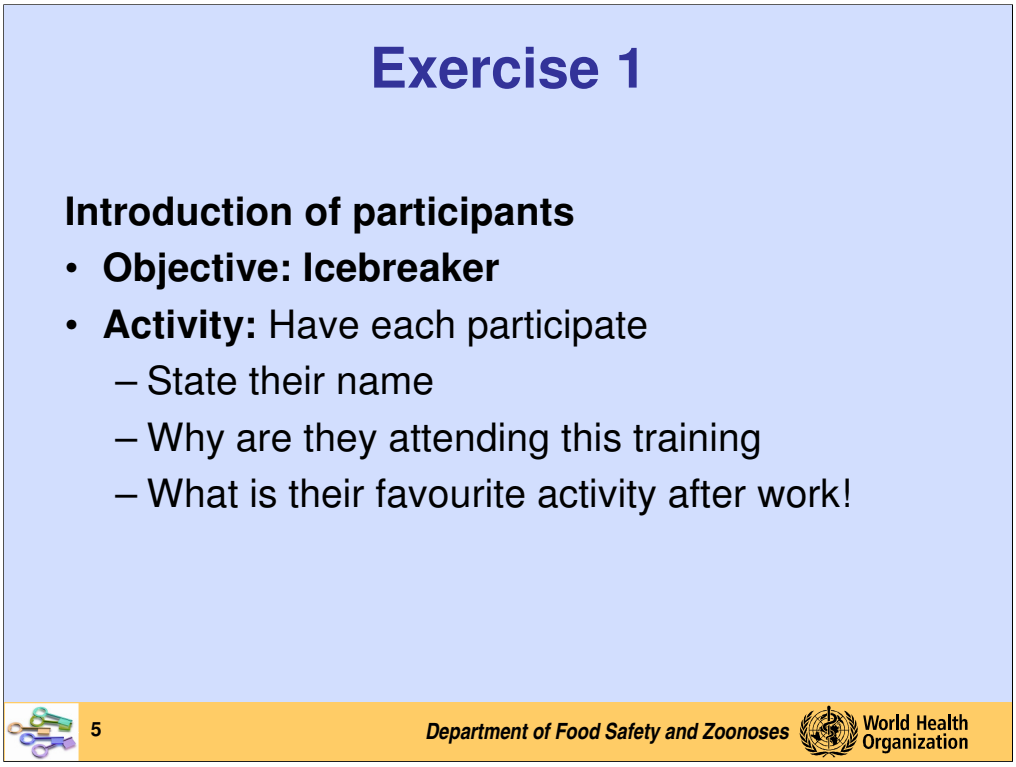
PART 1

Introduction to Food Safety & Behavioural Theory and Techniques



Part 1 presents the information needed to understand food safety and behavioural change. There are six sections in Part 1. Assuming the course starts on the morning of Day 1, Sections I and II should be completed before lunch break. Section III and IV should be completed on the afternoon of Day 1. A recap of the first day and Section V and VI should be presented on the morning of Day 2. Leaving the afternoon of Day 2 free to practice planning a food safety training session for women (Part 2).

Adaptation Tip: While it is possible to provide the information in a different sequence, the results of pilot courses found this sequence to be most effective in communicating both the science and the behavioural theories.



Exercise 1 is designed to facilitate group dynamics. Throughout the course participants will have an opportunity to learn for one another and thus it is important to provide opportunities for the participants to become acquainted with other members of the group. In this exercise, each participant should take no more than 1 to 2 minutes to introduce themselves in terms of their work activities and what they like to do outside of work. The total time of the exercise depends on the size of the group.

Adaptation Tip: The exercise to promote group dynamics can be modified. Another exercise could involve have participants introduce one another. It is important that all participants have an opportunity to speak during the activity.

I. The Food Safety Problem

Food Safety touches all our lives!

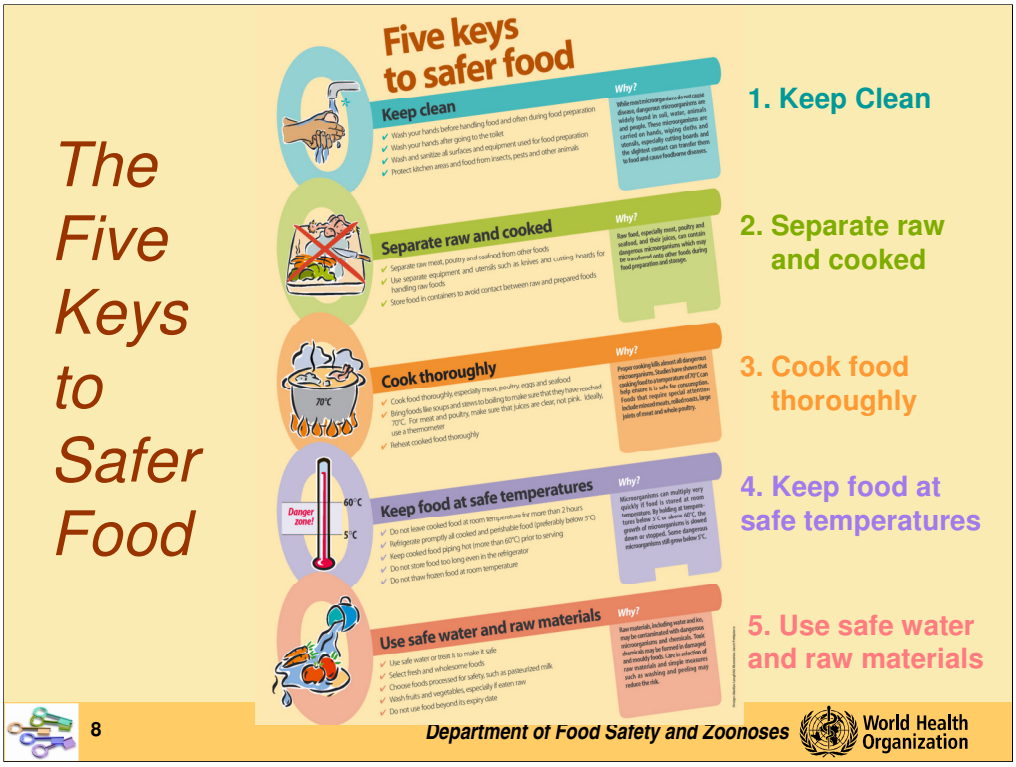
More than 200 diseases are transmitted through food

- Diseases are short and long-term
- Caused by microorganisms and chemical contaminants

Most foodborne diseases can be prevented by safe food handling practices

Foodborne disease is a serious public health problem in both developed and developing countries. More than 200 diseases are transmitted through food. These diseases may last a couple of days or a lifetime. Both microorganisms and chemicals cause foodborne disease. Fortunately, most foodborne diseases can be prevented by using proper food handling behaviours.

Adaptation Tip: While foodborne disease is a serious public health problem, many foodborne diseases are not recognized. In adapting the course, the trainer may want to cite examples of foodborne problems in their community. Similarly when planning subsequent food safety training programs for women, trainers will need to provide examples of foodborne diseases that illustrate an understanding of the problem at the local level.



In 2001, WHO introduced the Five keys to Safe food poster. Each key contains a simple message that, when practiced, help prevent foodborne disease. The Five Keys are:

1.Keep Clean

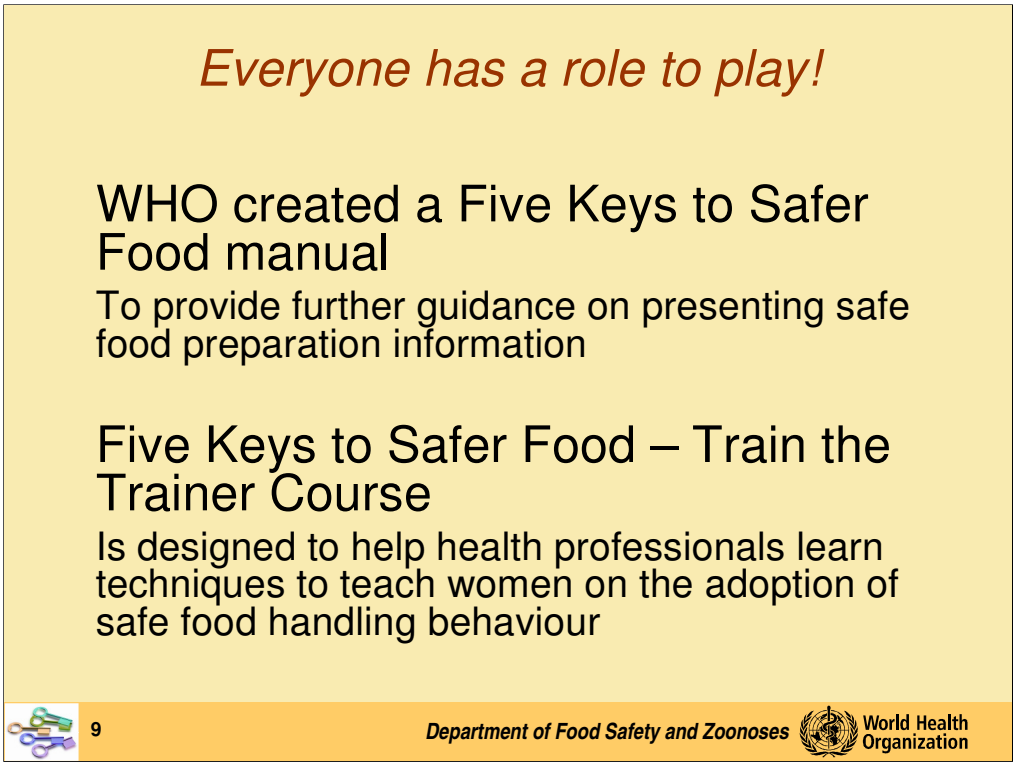
2. Separate Raw and Cooked Foods

3. Cook Food Thoroughly,

4. Keep Food at Safe Temperatures

5. Use Safe Water and Raw Materials

The Five Keys poster has been translated into over 55 languages, mainly on initiative from countries . If materials in another language are needed, arrangements for translation can be made through WHO Headquarters or the Regional and Country offices.



Safe food handling should be practiced by everyone involved in food production and handling, which is EVERYONE! As part of its mission to ensure the highest level of health for all people, WHO recognizes the need to teach proper food handling procedures to everyone involved in food production. WHO does this through programmes at Headquarters in Geneva, the Regional and Country offices. More information on the role of WHO in capacity building, food safety education, and the Five Keys to Safer Food manual can be found on the food safety website at http://www.who.int/foodsafety/en/. Information from the Regional and Country offices is also available.

To provide further guidance on presenting safe food preparation information, WHO created a Five Keys to Safer Food manual. The Five Keys to Safer Food manual is designed to provide the core food safety information needed to teach a food safety training session and suggests ways to modify the information for presentation to different audiences. After preparing the manual, WHO discovered that additional training materials on assessing and adopting the Five Keys behaviours was needed. This course is designed to go beyond education and focuses on training trainers on how to promote the adoption of safe food handling behaviours in women.

Promoting the health of women

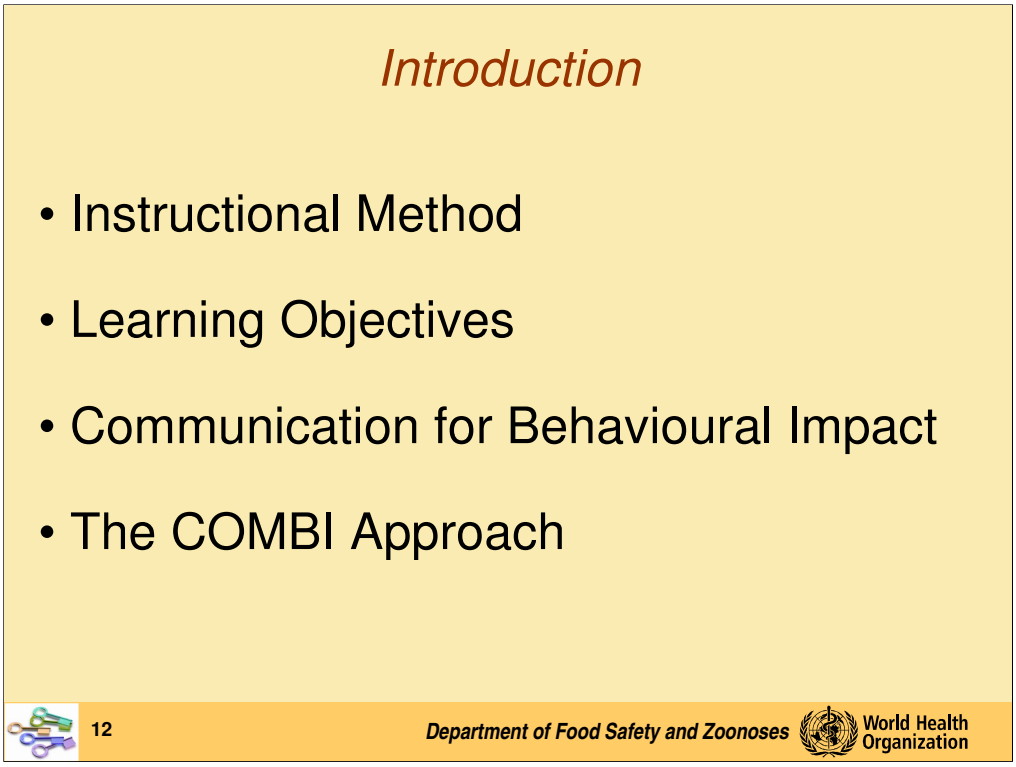
Why women?

- Women produce 50-80% of the food
  - Work in farming and other agricultural activities
  - Process food
  - Work as food vendors and producers
  - Prepare food in the home
  - Play an essential role in the prevention of foodborne disease

While exact figures on the number of women responsible for food preparation in the home are lacking, "women produce between 60 and 80% of the food in most developing countries and are responsible for half of the world's food production (FAO Focus, March 19, 2009)".

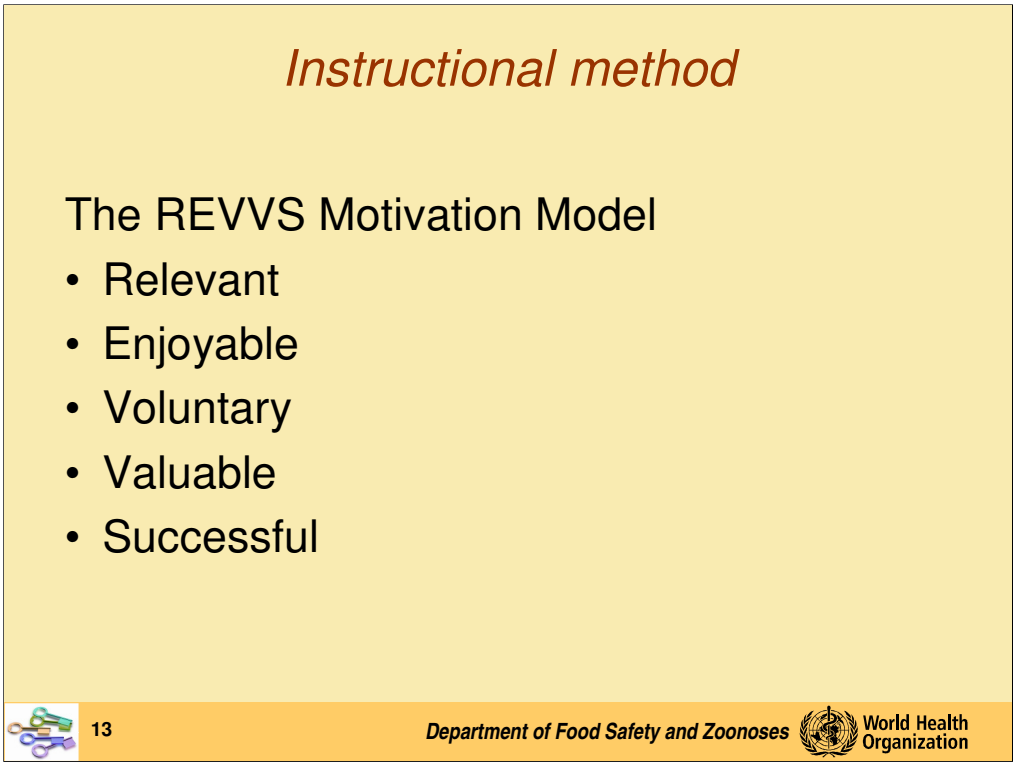
Women play an important role in all aspects of food production and preparation: on the farm, in food processing plants, in the marketplace and in the home. While women play an important role in safe food preparation worldwide, many women have had no formal education on how to perform these tasks. Tasks are usually performed according to tradition. It is important not to blame or belittle women for their lack of "scientific knowledge", but treat women with respect and acknowledge the importance of the tasks they perform.

II. Course introduction

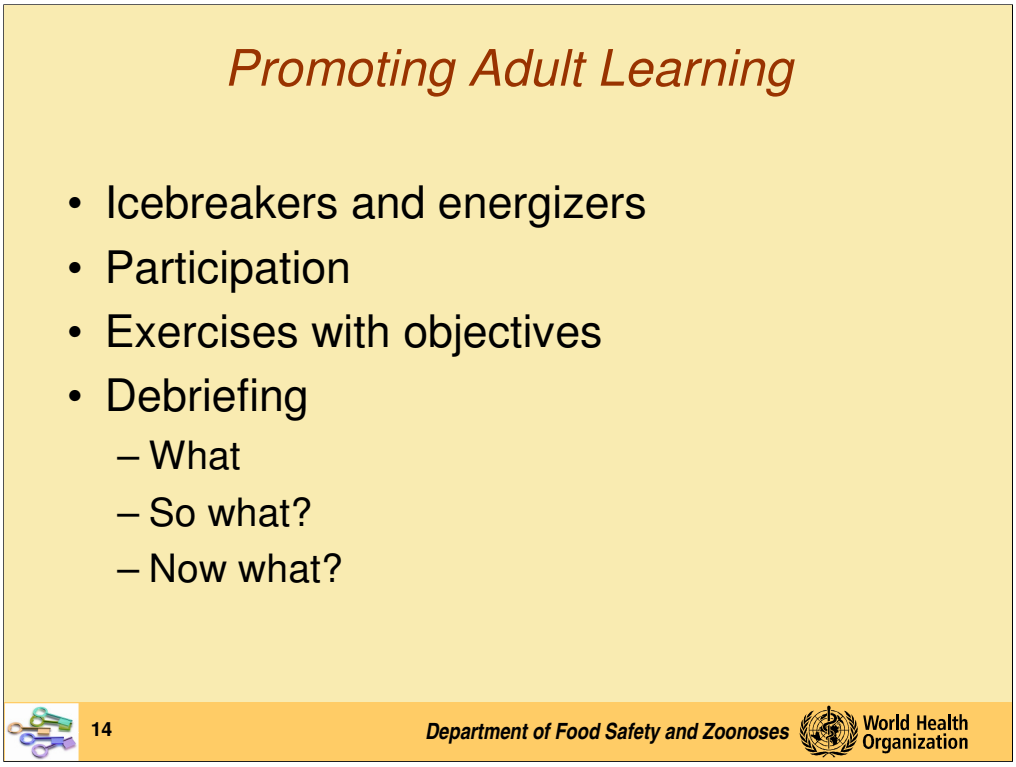


This train the trainer course is designed to provide trainers with the skills they need to teach safe food handling behaviours to adult women. Adult learners respond best to training that meets their needs and in which they can apply their knowledge. Techniques that promote learning in adults have been incorporated into the course. The success of the course depends on the participation of individuals attending the course. Participants must apply their knowledge and provide their honest feedback on what approaches will and will not work in their communities.

Adaptation Tip: Both the science and COMBI strategies are constant for all audiences. This course has focused on how to provide safe food handling training for adult women because women play such an important role in safe food handling and because there was a lack of courses for this audience. The course can be adapted to meet the needs of other audiences.



Adults are motivated to learn when the information is relevant, the presentation is enjoyable, their participation in voluntary, the information is valuable, and they are successful. Too often adult instruction is based upon childhood learning models that fail to incorporate adult learning theories. **The REVVS Model** focuses on how to present information for adult learners. The first concept of the REVVS model is to make the information **relevant** to them- their work, career or life**.** Next, it is important to make the information fun and **enjoyable**. Third, adults need to feel that the learning is **voluntary**. Thus it is important to give them choices about what, how, where and when material will be presented. Adult learning is also promoted when the information is **valuable** to them. Explaining that proper food handling prevents illness is one way of making the information valuable. Finally, adults will retain information when they feel **successful**. Thus it is important that one creates an environment where they will succeed. A high challenge-low threat environment encourages successful learning.

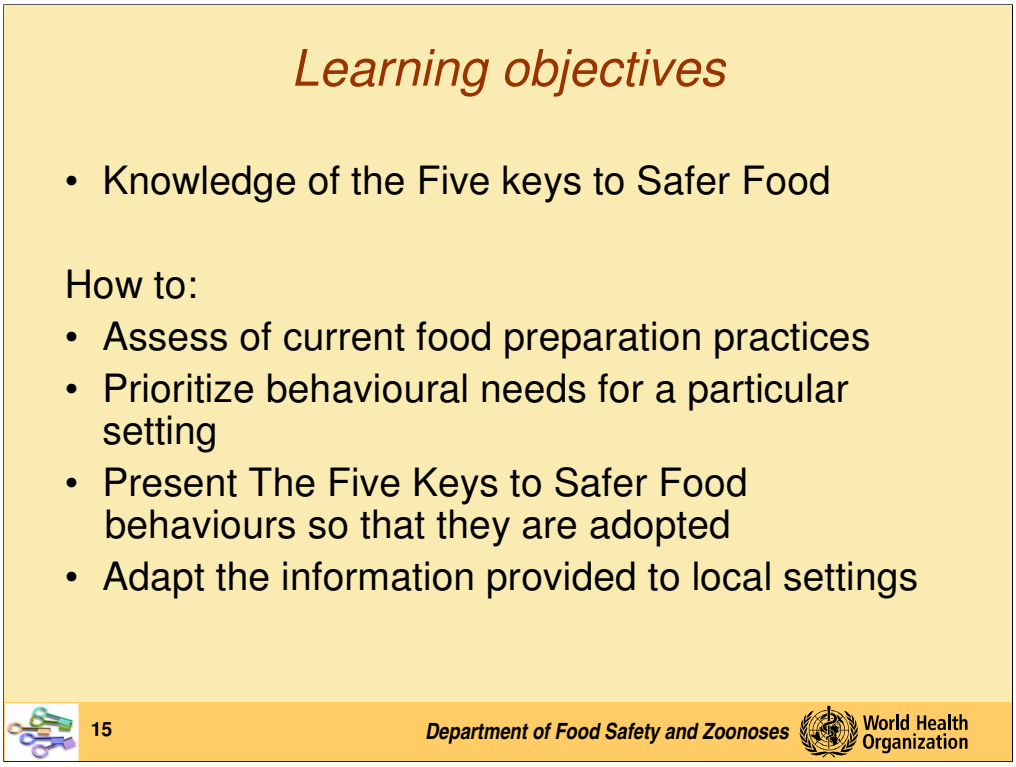


Fun and physical icebreakers and energisers not only contribute to the social dynamics of the group learning experience but also promote building "rapport" with the learners. In addition, physical activity increases learning by increasing attention and the processing ability of the brain. The **participatory approach** is particularly successful for topics, like safe food handling, which are based on best practices and real-life experiences. It recognizes that the collective experience and knowledge of the group can provide many of the answers, given the opportunity to discuss the topic in a structured way. This programme encourages participation and emphasizes individual and group sharing of ideas. **Exercises** enhance the learning experience by providing an opportunity for adults to share their knowledge. The purpose of each exercise must be clear to both the trainer and the learner. Giving a brief overview of the exercise and explaining the objectives before the exercise facilitates learning. It is also important to give clear instructions about the task and reporting and to set clear time limits before beginning the exercise. Debriefing of the learning exercise should come immediately after the exercise and focus on making sense of the exercise, and clarifying or summarizing the KEY LEARNING POINTS. The three objectives of the debrief are:

WHAT? To establish what happened. To articulate feelings (about the exercise's intent and the learning that was built in).

SO WHAT? To extend the specific learning from an exercise to general learning.

NOW WHAT? To apply this learning to real work and real life situations, and to have learners consciously consider and commit to different behaviours and actions.



The LEARNING OBJECTIVES for Module 1 include knowledge of the Five Keys. In addition, after completing this course, participants will know:

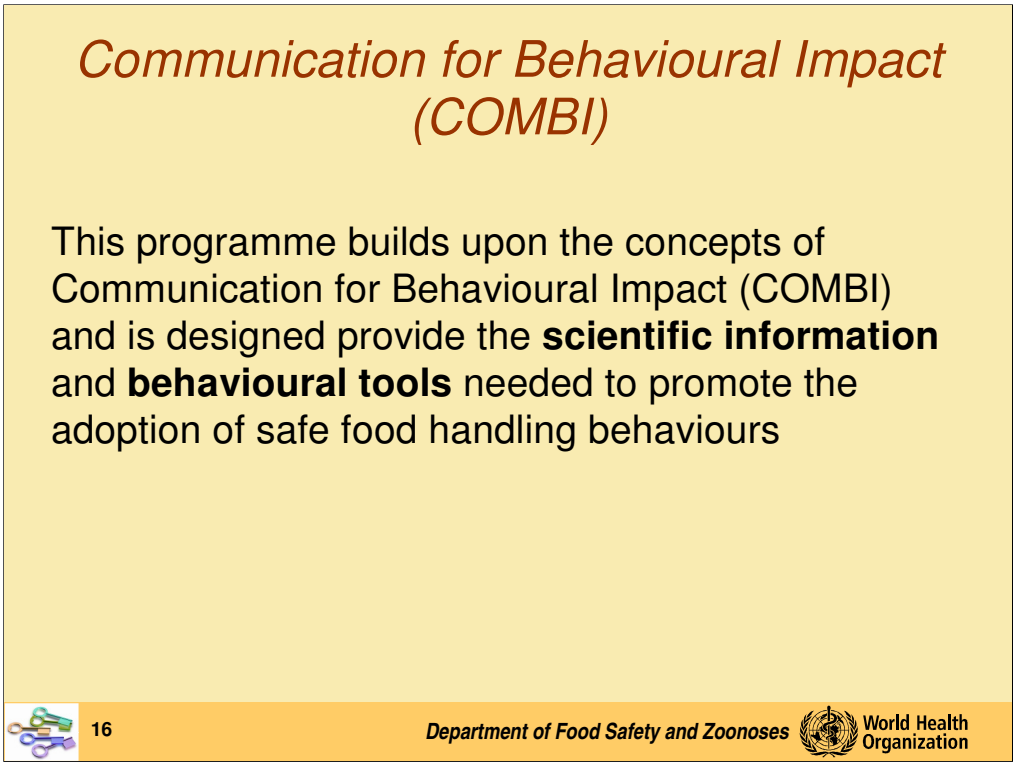
• How to assess current food preparation practices

• How to prioritize behavioural needs for a particular setting

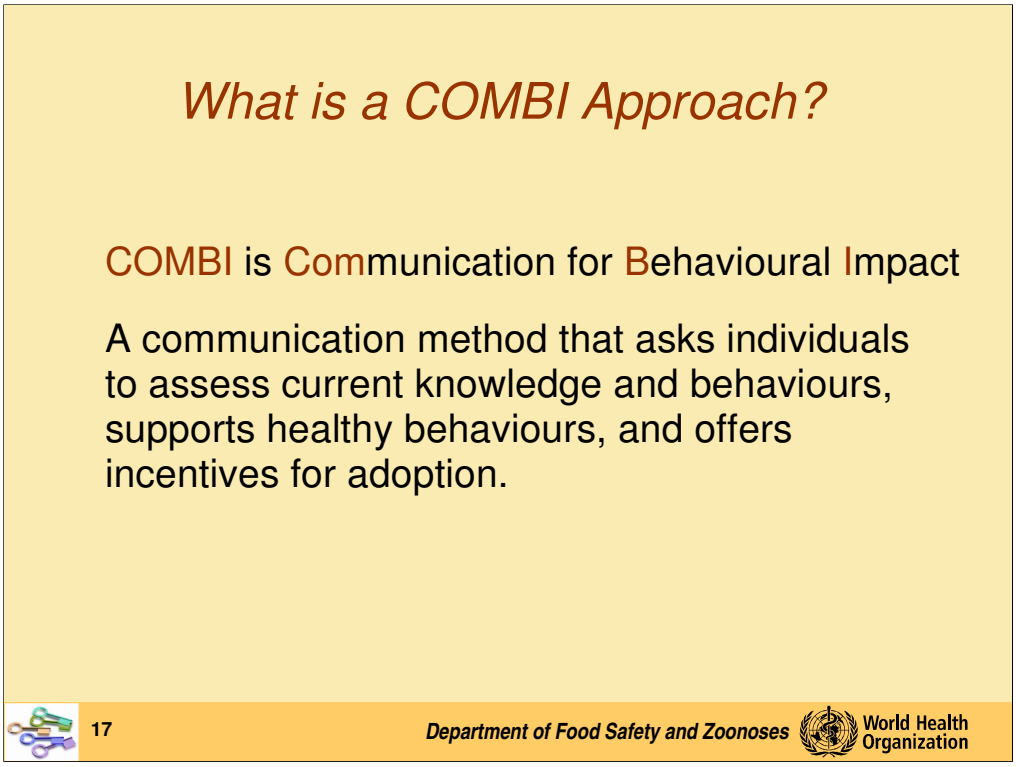
• How to present The Five Keys to Safer Food safe food handling behaviours so that they are adopted

• How to adapt the information provided in the training package to local settings

Adaptation Tip: Expansion of the learning objectives is discouraged.



This training course builds upon the concepts of communication for behavioural impact (COMBI), and is designed to train professionals knowledgeable about proper food handling how to promote the adoption of these behaviours. The course provides both the scientific rationale for the behaviour and discusses behavioural techniques that can be used to promote the adoption of safe food handling behaviours.



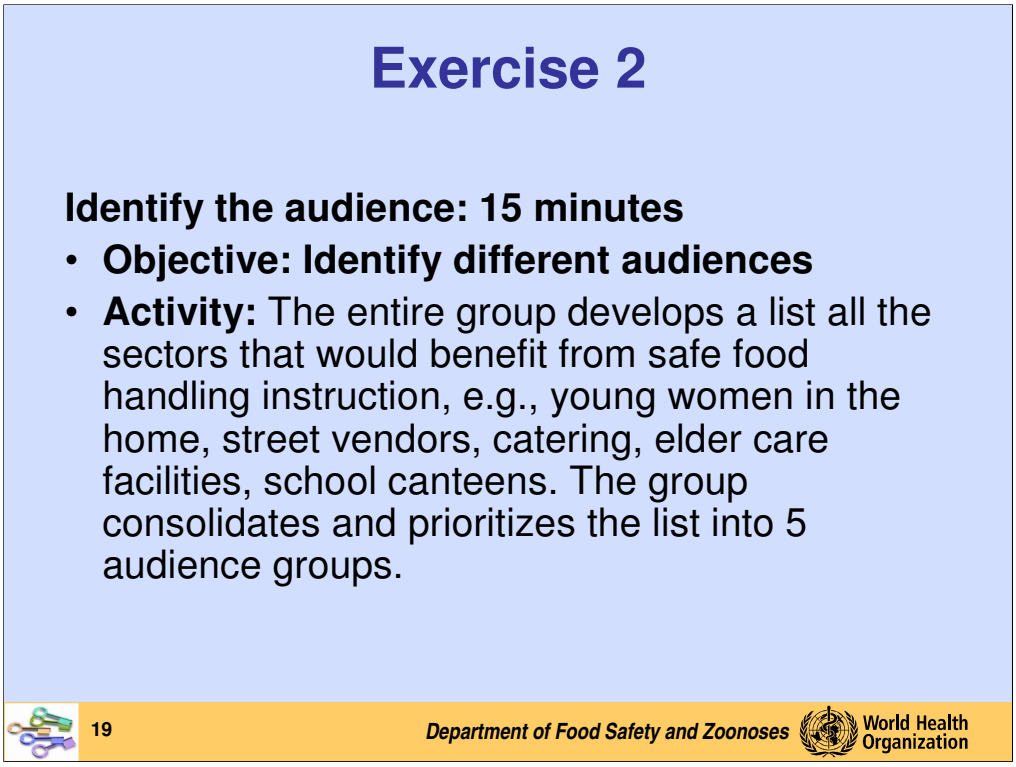
Communication for behavioural impact is a communication method that asks individuals to assess current knowledge and behaviours supports healthy behaviours and when necessary provides incentives for the adoption of new, healthy behaviours.

This presentation will highlight a COMBI approach by identifying several steps that can be applied to the training session to help identify the reason that safe food handling behaviours are not practiced and encourage the adoption of healthy behaviour by using information from the Five Keys to Safer Food.

The most important concept of the COMBI method is that the education must begin with the "people" and their health needs.

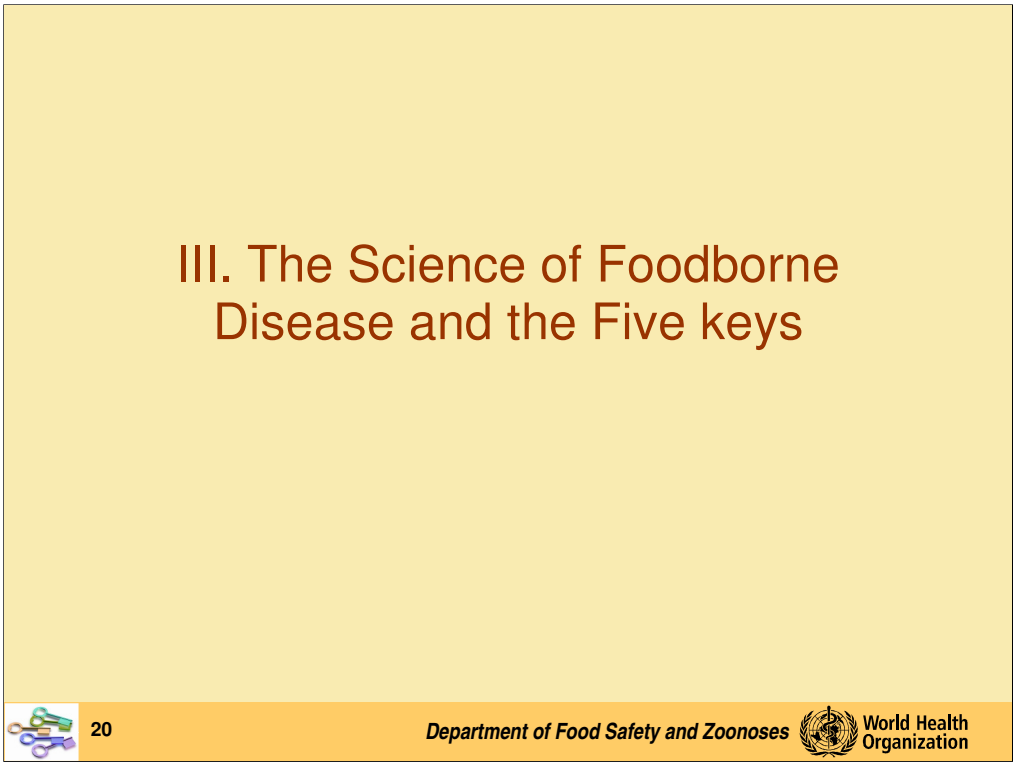
KNOW YOUR AUDIENCE!

As we will see throughout the course, the COMBI approach is designed to be flexible, to understand the audience, their needs and to meet those needs. Therefore, it is important to know and understand the audience prior to starting any COMBI course. Each audience must be treated in a specific way and addressed in a language that they understand. It is important to respect their culture and beliefs and choose the right way to convey the message.

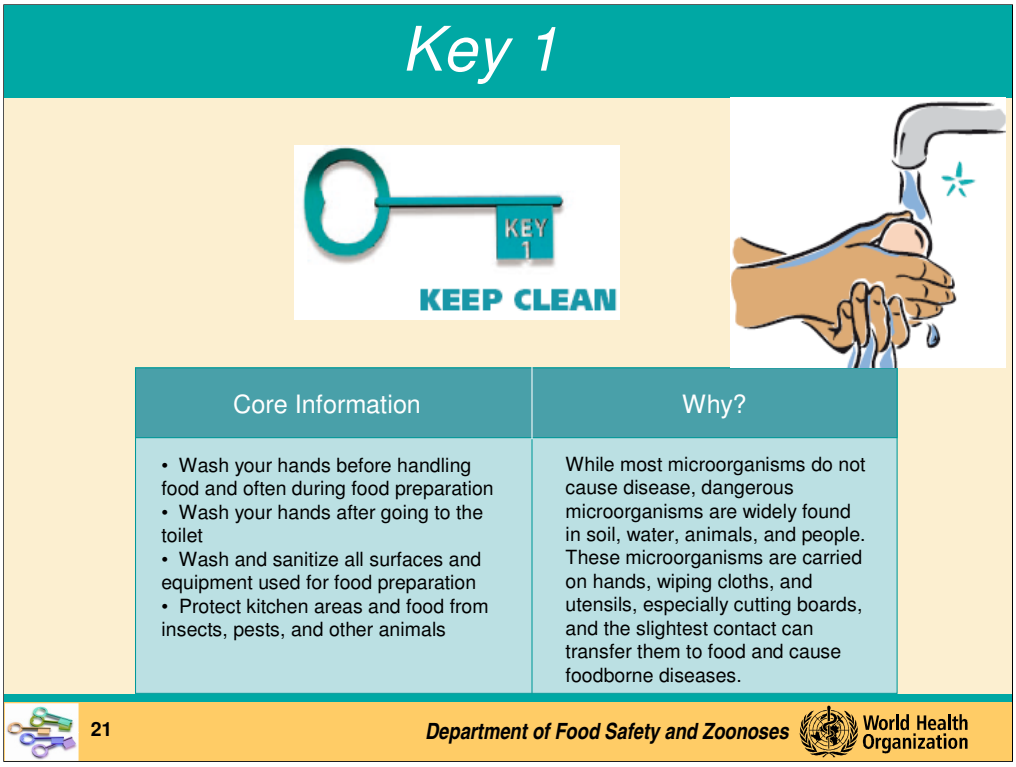


The first step in designing the training program is to identify groups that could benefit from safe food handling training. These audiences can be identified by having participants list the sectors that could benefit from this training. The moderator must then condense and prioritize the list. It is best if the participants are familiar with the sectors identified and if the audiences are groups of women.

These audience groups serve as the basis for subsequent workgroup exercises. (Note: It works best if the workgroups have no more than 5 members; for 25 participates this becomes 5 groups for 30 participates this means 6 groups. More than 30 participants is not recommended)

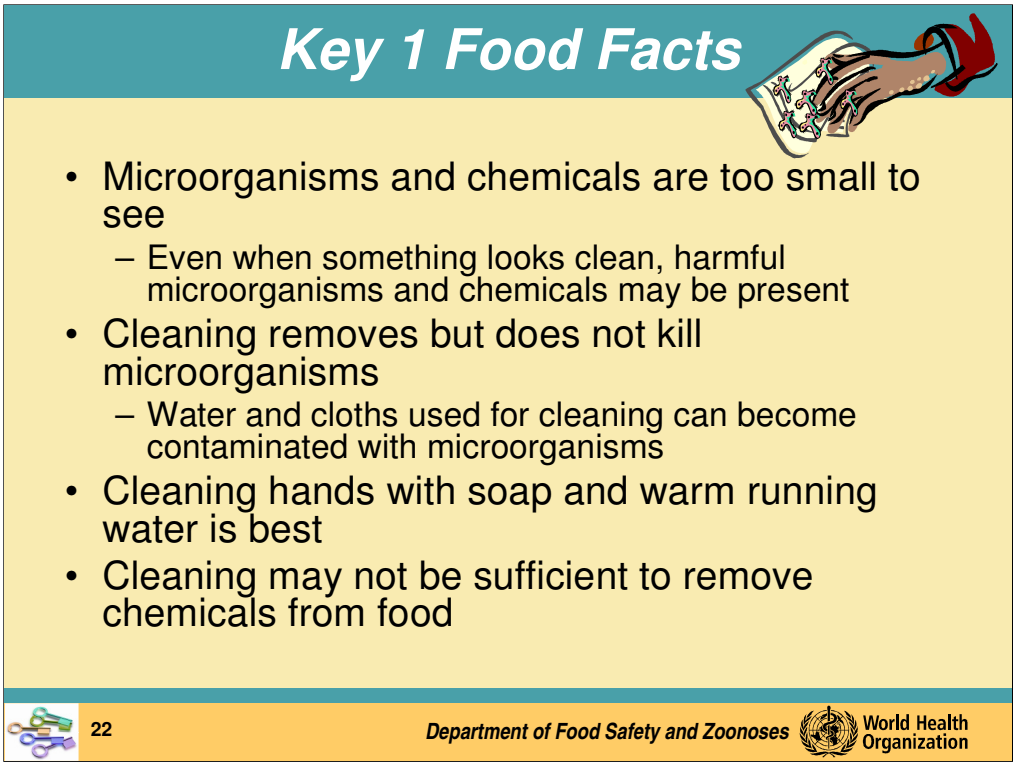


The messages of the Five Keys are based upon solid scientific evidence. While it is possible to prepare food safely without having a detailed scientific understanding of food microbiology and chemistry, having a good understanding of food safety science helps the trainer determine whether a practiced behaviour is adequate to protect the consumer.



This slide presents Key 1 from the the Five Keys to Safer Food poster. The simple message, and the behaviour that must be practiced for Key 1 is “Keep Clean”. The "core information" describes how to keep hands and the food preparation areas clean. The “why” provides a simple explanation of why the behaviour is important. Several studies have shown that adults are more likely to adopt a behaviour when they understand the reason why the practice is important.

Adaptation Tip: The Five Keys to Safer Food manual contains recommendations for simplifying the language for the information contained in this slide.



Many people believe that food must look spoiled or dirty to be harmful. However, since microorganisms and chemicals are too small to see; even when something looks clean, harmful microorganisms and chemicals may still be present.

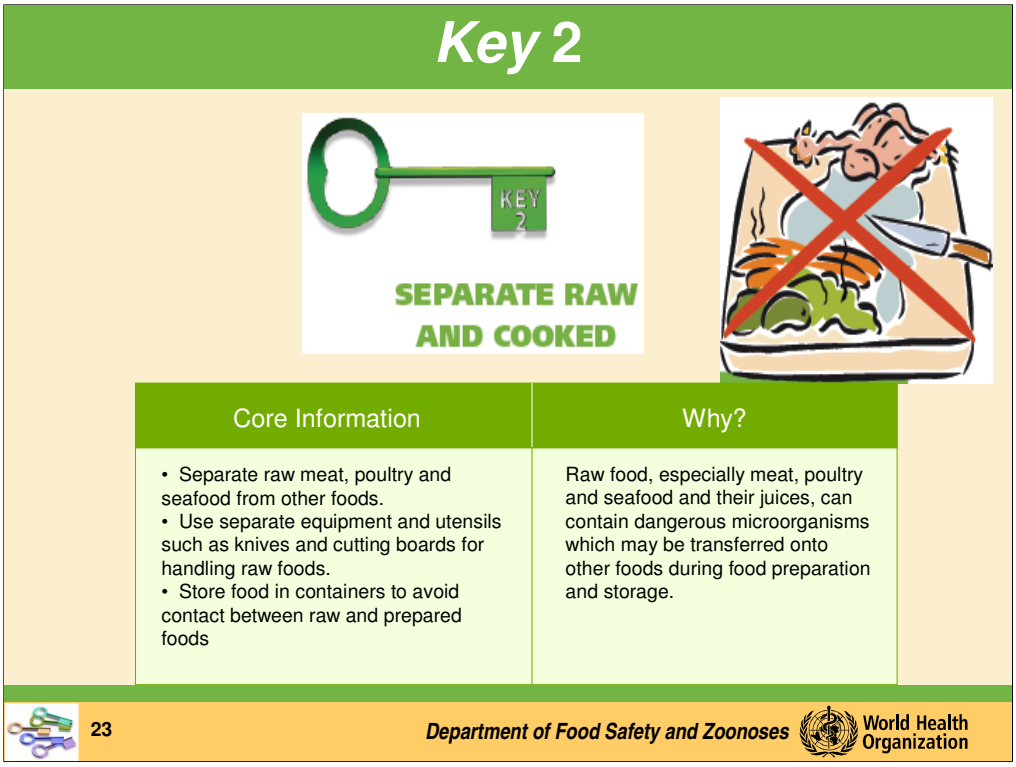
Cleaning removes but does not kill microorganisms. Therefore the water and cloths used for cleaning can become contaminated with microorganisms.

The importance of hand washing should be stressed. When cleaning hands it is best to use soap and warm running water.

For hand washing in particular it is important to not wash hands in a bowl of water. The microorganism that cause disease can survive in a bowl of water and even grow.

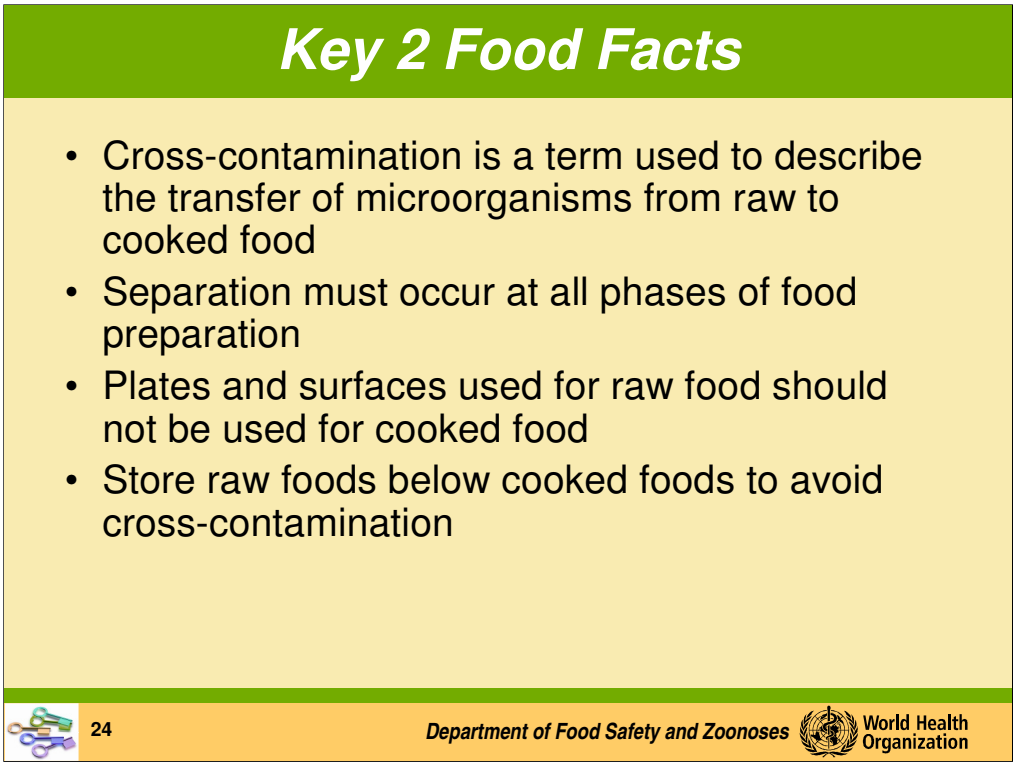
Washing or peeling food can remove chemicals from the outside of the food. However, in some cases the chemicals are actually in the food (e.g., mercury in fish). In this case, washing the outside of the food will not be sufficient to remove chemicals from food.

Adaptation Tip: In preparing the train the trainer session, the moderator may want to add additional information tailored to the local in-country conditions.



This slide presents Key 2 from in the Five Keys to Safer Food poster. The simple message for Key 2 is “Separate raw and cooked” foods. The "core information" describes how to properly separate raw and cook food. The “why” provides a simple explanation of why the behaviour is important. Several studies have shown that adults are more likely to adopt a behaviour when they understand the reason why the practice is important.

Adaptation Tip: The Five Keys to Safer Food manual contains recommendations for simplifying the concepts presented in this slide.



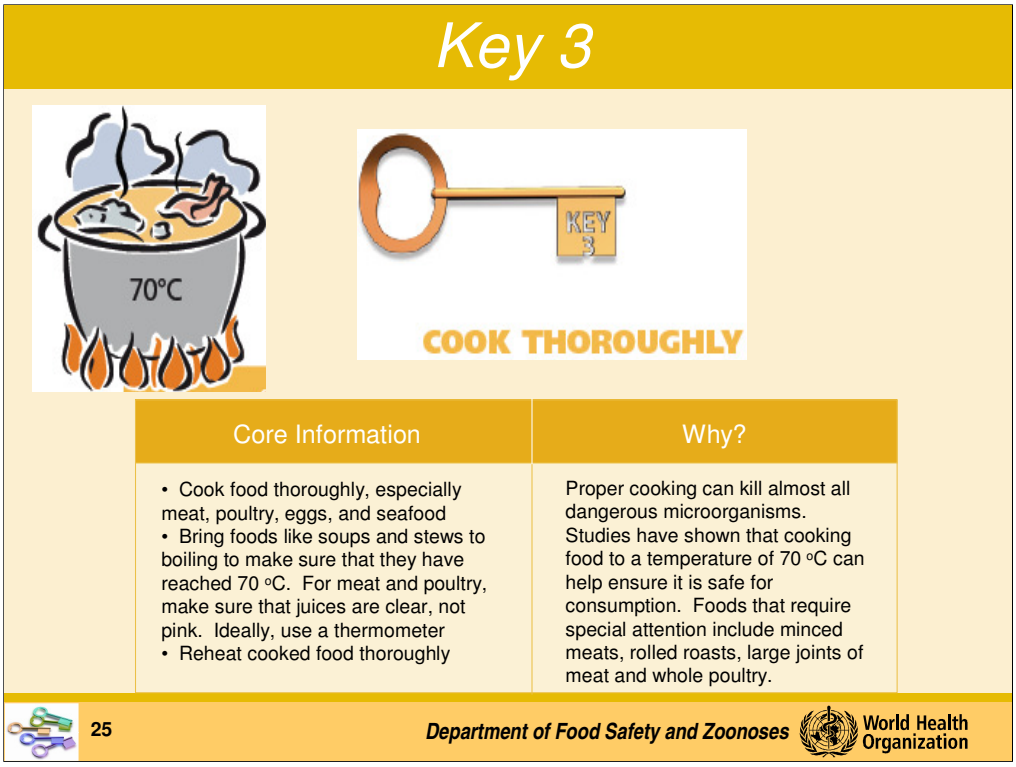
Cross-contamination is a term used to describe the transfer of microorganisms from raw food to cooked foods.

Cross-contamination can occur at any point in food handling from slaughter until consumption. Separation of raw and cooked foods must occur throughout all phases of food preparation including growing of crops, slaughter of animals, selling, purchasing, preparation and storage slaughter to prevent dangerous microorganisms on raw foods from transferring to cooked food.

It is important to remember that when a plate has been used for raw food it should not be used again for cooked foods until it is washed with soap and water.

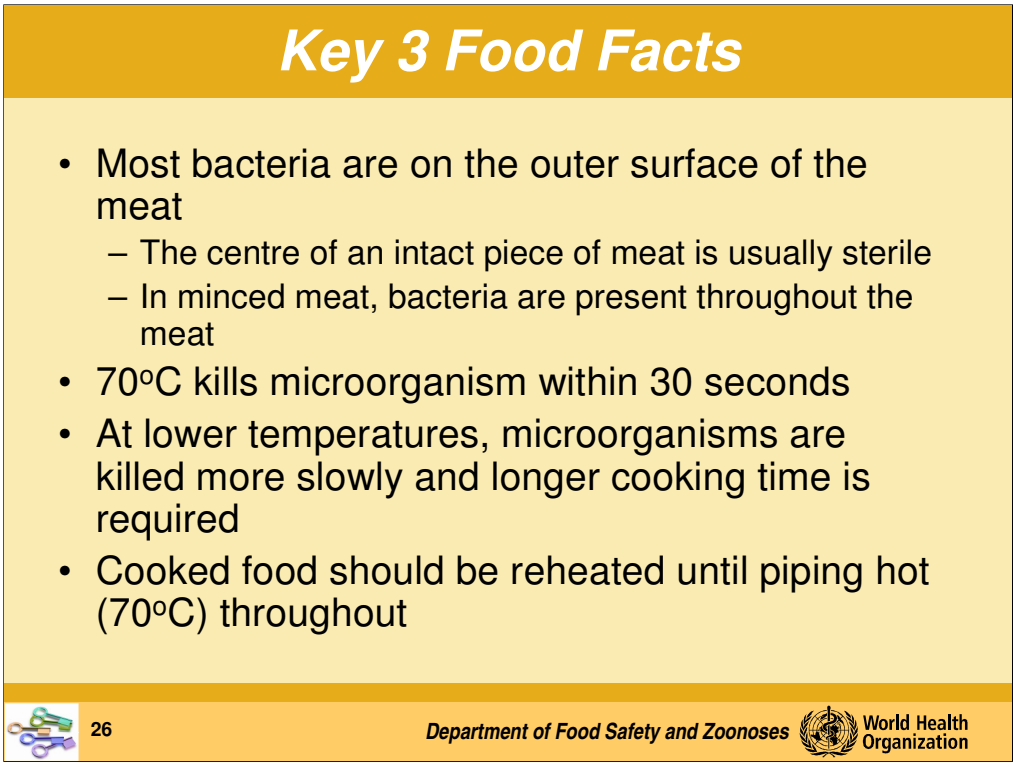
To prevent the transfer of disease-causing microorganisms from raw foods to cook foods during storage, raw foods should be stored below cooked foods. The juices from the raw food can drip onto and contaminate the cooked food.

Adaptation Tip: In preparing the preparing the train the trainer session, the moderator may want to add additional information tailored to the local in-country conditions. For example, if animals often roam in field where fresh vegetables are grown, the trainer should point out that this causes cross-contamination. Alternatively, if cooking of meat on a Barbeque is common, the moderator should remind participants that placing cook meat on the plate that held raw meat is a common source of cross-contamination.



This slide presents Key 3 from the Five Keys to Safer Food poster. The simple message for Key 3 is “Cook Thoroughly”. The "core information" describes how to properly cook food. The “why” provides a simple explanation of why the behaviour is important. Several studies have shown that adults are more likely to adopt a behaviour when they understand the reason why the practice is important.

Adaptation Tip: In countries that use Fahrenheit temperatures for food preparation, the moderator should use 158 °F, the exact conversion of 70 °C to Fahrenheit. Trainers may prefer to use an “rounded” figure of 160 °F when teaching the material to women.



Since bacteria are found on the outer surface of meat, the centre of an intact piece of meat is usually sterile and safe from bacteria. However, when meat is minced or ground, the bacteria on the outside are mixed into the meat and thus are present throughout the meat. It is important to cook these food until the centre reaches a temperature of 70 °C.

Cooking foods to a temperature above 70 °C kills microorganisms on foods within 30 seconds.

When food must be prepared at lower temperatures, a longer cooking time is needed because the microorganisms are being killed at a slower rate and more time is needed to ensure they are killed.

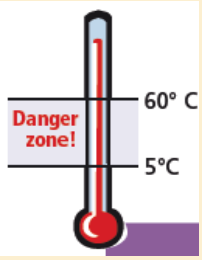
When reheating already cooked foods, they should be reheated until piping hot

(70 °C) throughout the entire food. The middle of the food should not still be cool.

Adaptation Tip: In some parts of the world, minced meat is called ground meat. Other adaptations in the terminology may be helpful. It should be noted that some national authorities have develop different cooking temperatures for different meats. WHO has found that 70 °C is protective. In countries that use Fahrenheit, the moderator should use 158 °F, the exact conversion of 70 °C to Fahrenheit.

In countries that use a microwave to reheat food, there is an increased likelihood that the reheating will not result in 70 °C throughout. The importance of proper reheating should be stressed as this is a common source of contamination. Dishes that are thoroughly cooked are sterile but often become contaminated during serving. Women may not see the point of reheating foods only to have to wait for them to cool before eating. However, if the reheating is not complete, microorganisms can grow in the reheated foods.

Key 4



Core Information	Why?
• Do not leave cooked food at room temperature for more than 2 hours • Refrigerate promptly all cooked and perishable food (preferably below 5 °C • Keep cooked food piping hot (more than 60 °C) prior to serving • Do not store food too long even in the refrigerator • Do not than frozen food at room temperature	Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5 °C or above 60 °C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms still grow below 5 °C.

This slide presents Key 4 from the Five Keys to Safer Food poster. The simple message for Key 4 is “Keep food at safe temperatures”. The "core information" describes how to properly keep food at safe temperatures. The “why” provides a simple explanation of why the behaviour is important. Several studies have shown that adults are more likely to adopt a behaviour when they understand the reason why the practise is important.

Adaptation Tip: The Five Keys to Safer Food manual contains recommendations on how to simplify and explain this concept.

Key 4 Food Facts

- Microorganisms grow very quick in the danger zone (between 5°C and 60°C)
- Chilling and freezing does not kill microorganisms but limits growth
- Options for storing foods below 5°C include ice boxes, cold water, and digging a hole
- If storage below 5°C is not possible, obtain fresh food and use it quickly

Between a temperature range of 5°C-60°C, microorganisms grow very quickly. While chilling and freezing does not kill microorganisms, it does slow the growth rate and keeps foods safe for a longer period of time. Buying and preparing smaller portions of food can decrease the need for storage.

Adaptation Tip: There are options besides refrigerators for storing foods below 5 °C. These include ice boxes/coolers, cold water, pantries built over streams, and digging a hole. If storing foods below 5 °C is not possible, it might be reasonable to obtain fresh foods and use them quickly.

In countries that use Fahrenheit, the moderator should use 41°F, the exact conversion of 5 °C to Fahrenheit and 140 °F, the exact conversion of 60°C to Fahrenheit.

Key 5

Core Information	Why?
• Use safe water or treat it to make it safe • Select fresh and wholesome foods • Choose foods processed for safety, such as pasteurized milk • Wash fruits and vegetables, especially if eaten raw • Do not use food beyond its expiry date	Raw materials, including water and ice, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be formed in damaged and mouldy foods. Care in selection of raw materials and simple measures such as washing and peeling may reduce risk.

This slide presents Key 5 from the Five Keys to Safer Food poster. The simple message for Key 5 is “Use Safe Water and Raw Materials”. The "core information" describes how to select safe water and raw materials. The “why” provides a simple explanation of why the behaviour is important. Several studies have shown that adults are more likely to adopt a behaviour when they understand the reason why the practice is important.

Key 5 Food Facts

- Rainwater collected in a clean tank is safe
- Water from canals and rivers contain microorganisms and is unsafe
- Unsafe water can be treated to inactivate microorganisms by a rolling boil, 3-5 drops of chlorine per litre, and filtration
- Wash all fruits and vegetables with clean, safe water
- Peeling fresh fruits and vegetables may remove chemicals found on the outside of the fruit or vegetable (eg: pesticides)

Rainwater that is collected in a tank is safe as long as the tank is clean and has not been used for anything else. Water from canals and rivers is not safe because it contains dangerous microorganisms. However, this unsafe water can be treated to kill microorganisms by bringing the water to a rolling boil, adding 3-5 drops of chlorine per litre, or filtration.

Fresh fruits and vegetable should be washed with clean, safe water. Peeling fresh fruits and vegetables can remove chemicals and microorganisms from the outside surface of the fruit or vegetable. In some cases, chemicals and microorganisms can enter the fruit or vegetable. These products must be grown under conditions that prevent contamination.

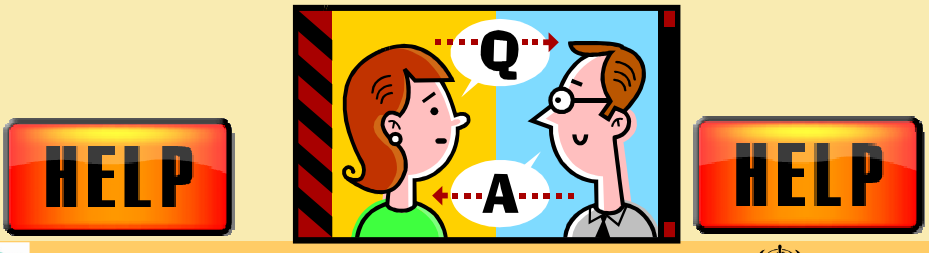
IV. Communication

Too often health education programs present a one size fits all message. Especially with adults it is important to recognize that they may already know a good deal of information. This means that trainers must ask questions about the current level of understanding and construct messages that are tailored to the audience.

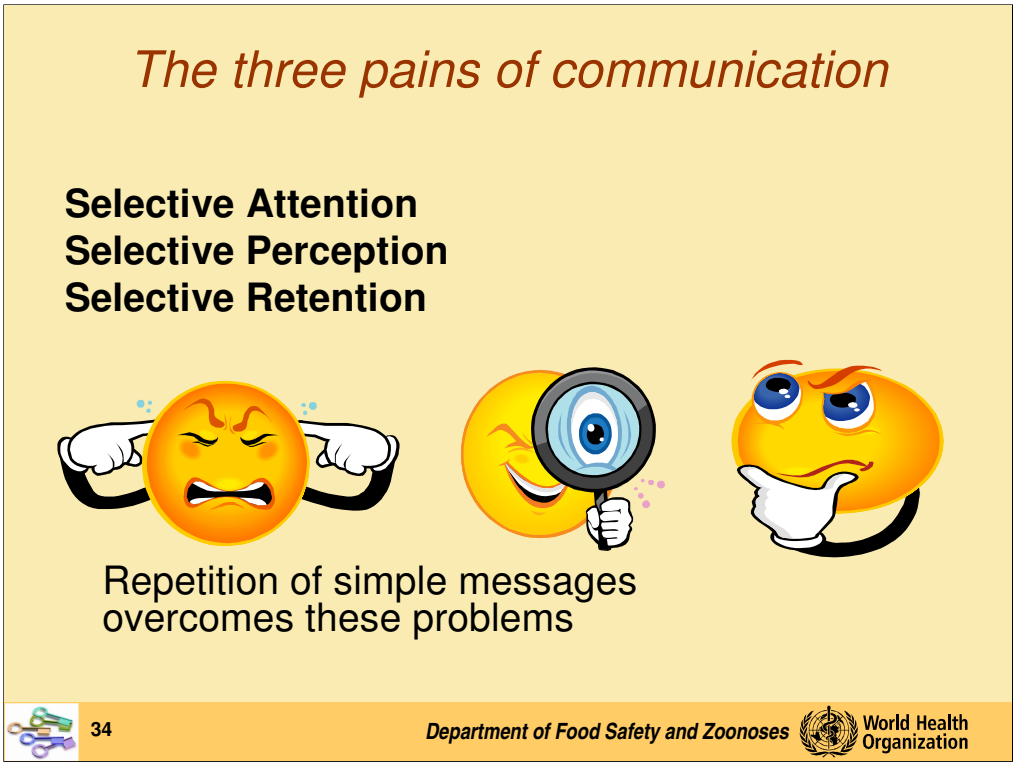
Construction of a message

The understanding is promoted by:

- Clear, simple messages
- Factual
- Tailored to the audience
- Repetition



Effective communication means that the listener understands what the speaker is saying. This understanding is improved by simple messages, based on fact, presented in a way the listener can understand. Repetition improves understanding as well. The importance of repetition stems from the fact that the listener may not be giving you their undivided attention.

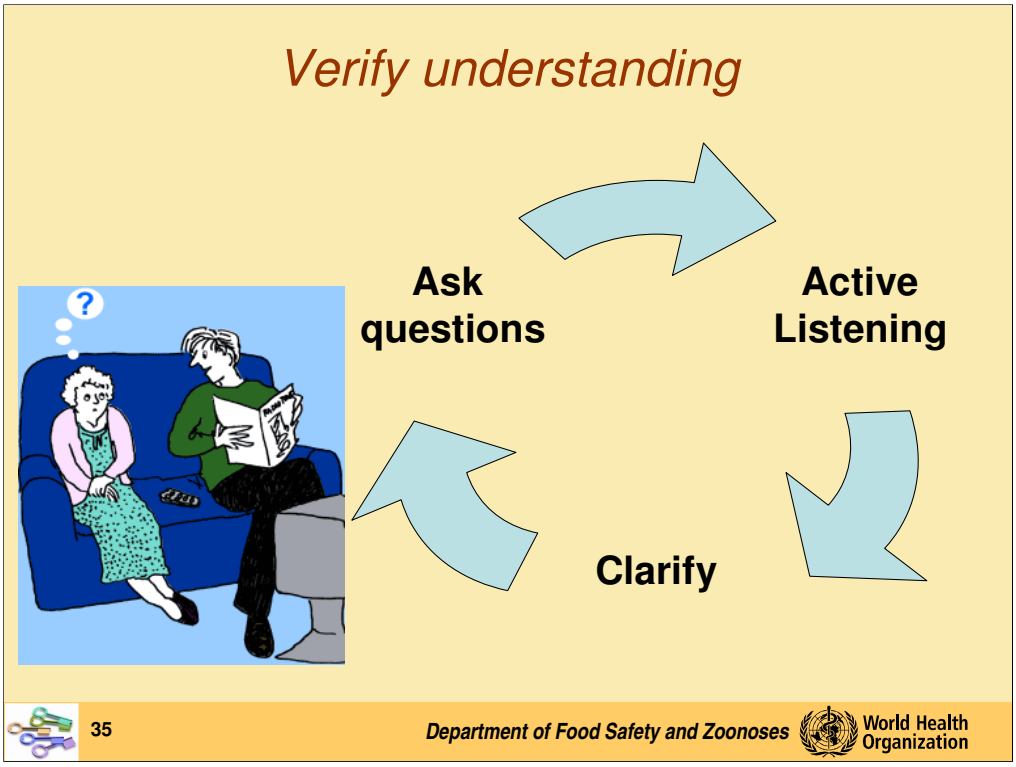


Effective communication is inhibited by the receptivity of the listener.

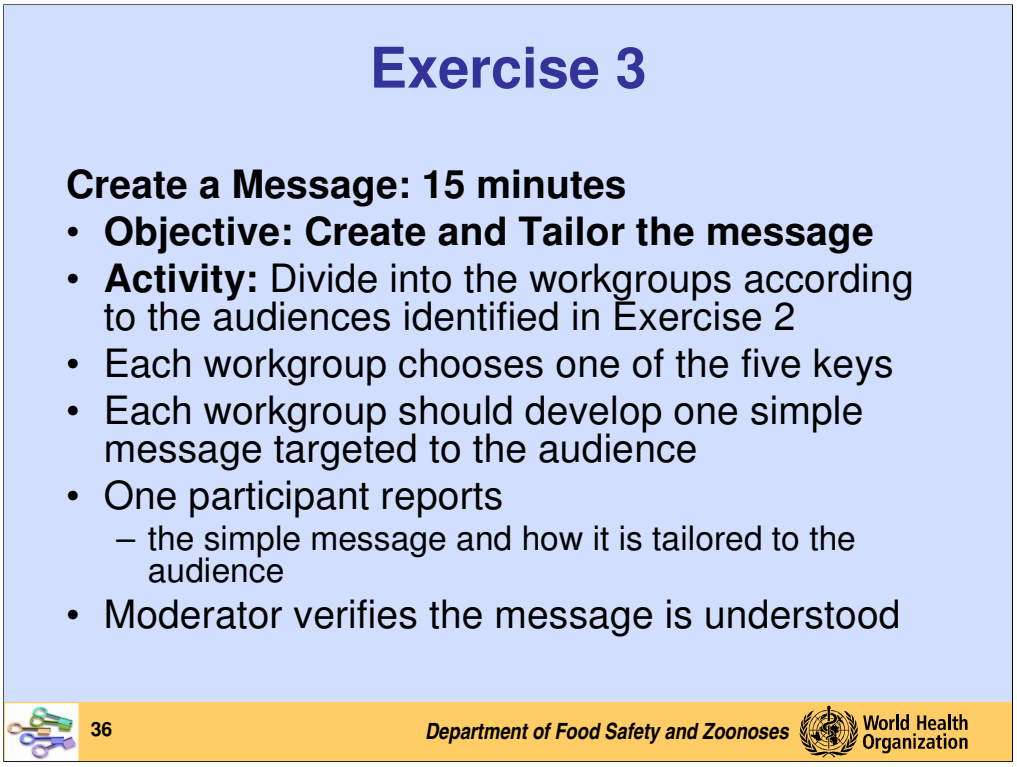
Selective Attention is a term used to describe the limitation of the attention span. Usually one is fully attentive for about 40 seconds. Since people drift in and out an effective communication strategy is to repeat the key messages often throughout the session so that everyone eventually hears the message.

Selective Perception refers to the natural tendency to perceive or interpret symbols and messages from one's own perspective. This perspective is influenced by culture, tradition, language, social mores, education, etc… Keeping messages simple and free of jargon helps to overcome selective perception. Also repeating the same information in a slightly different way can help overcome selective perception.

Selective Retention refers to yet another natural phenomenon in communication, i.e. the tendency to simply forget. Repetition also helps to improve retention.



Even after delivering a message several times, it is necessary to ensure that the listener has understood the content of the message. Verifying that the message has been understood can only be accomplished by questioning the listener. Active listening, i.e., paraphrasing the response is a technique used to verify that the message has been understood. If not, the message must be clarified. This process is repeated until one has verified that the message has been understood.



Each workgroup will be assigned one of the keys and one of the audience groups identified in Exercise 2. The workgroup will have 15 minutes to develop the message that is simple and tailored to this audience so that the audience can understand the information presented in the key.

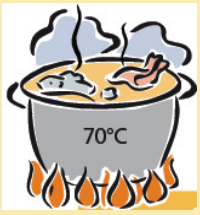
Adaptation Tip: This is the first full exercise and it is not uncommon for participants to interpret the assignment literally and just repeat the message of the key. However, in one of the pilot programs, the concept of key 2, separate; was explained to a group of young women via the message "Your boyfriend and husband should not meet." In another pilot, the group develop a short song about hand washing for Key 1. The moderator may need to provide these or other examples to help the workgroups with this activity.

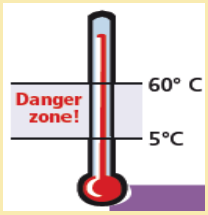
An additional adaptation of this exercise, the whole group should verify that the message has been understood.

V. Behavioural impact

Doing is beyond knowing

It is the healthy behaviours that people adopt, or fail to adopt, which impacts health



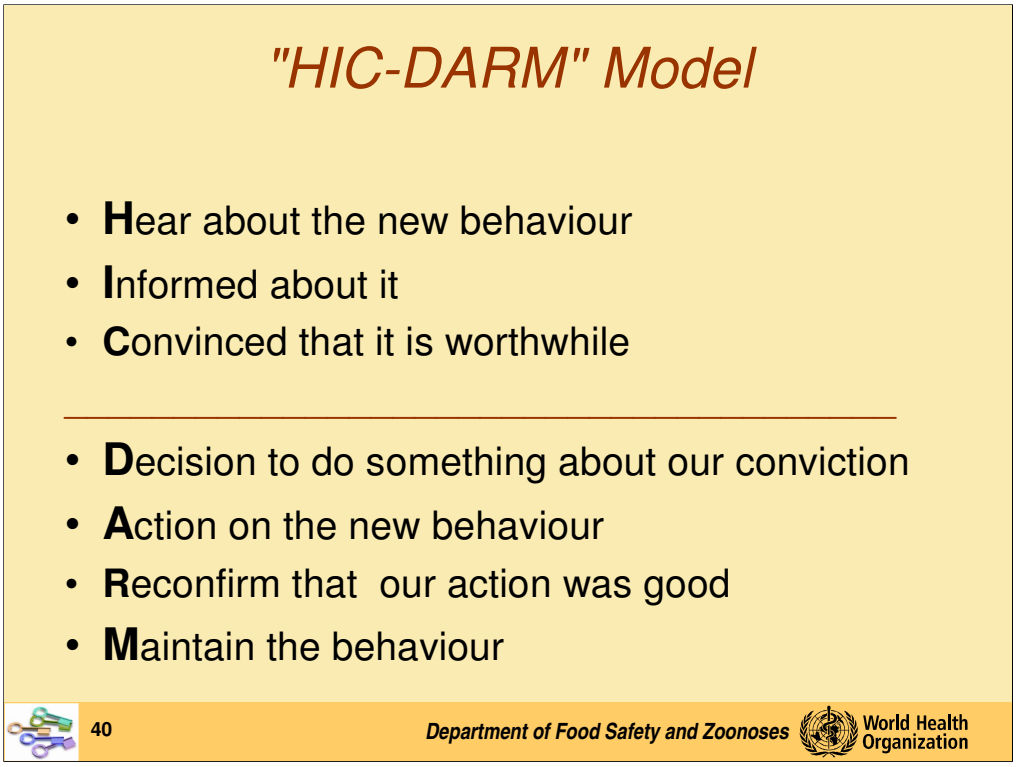


According to COMBI and other social mobilization programmes, it is important to move beyond education into behaviour modification because one has to practice the healthy behaviour to benefit from it.

Knowledge is essential but not enough

New knowledge must be assessed in terms of personal beliefs and social norms and is adopted when the benefits are greater than the effort

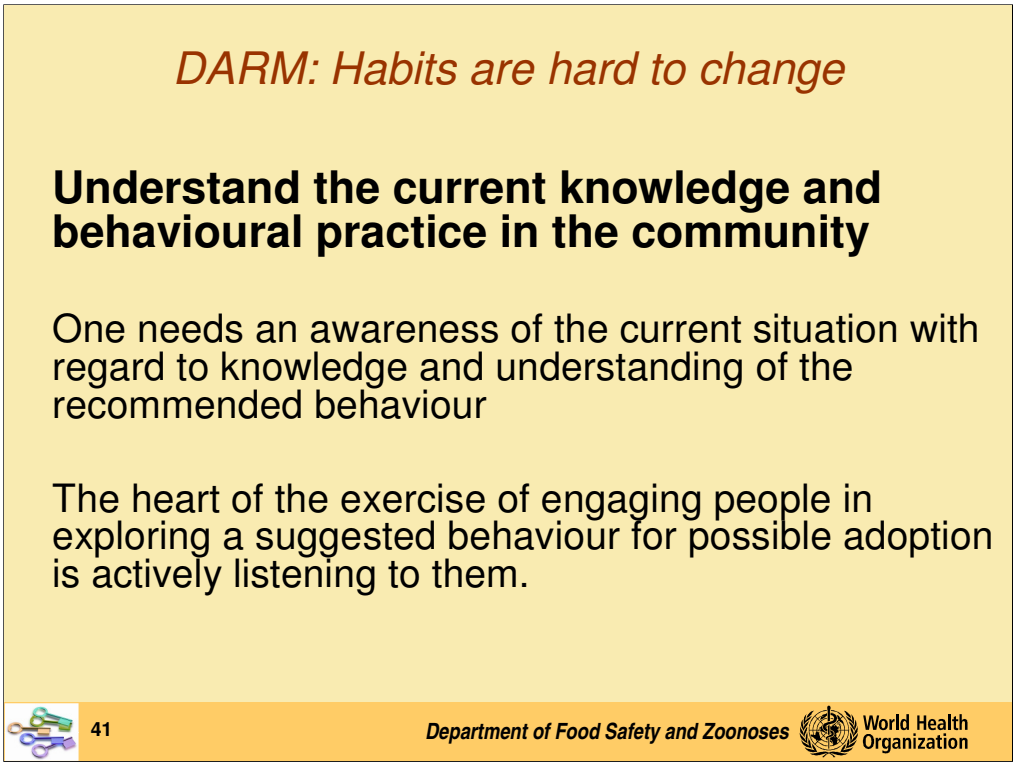
Knowing about behaviour and understanding why it is important are essential for behavioural adoption. However, there are many examples where informed, educated individuals do not practice healthy behaviours. Before adopting a new behaviour, one must engage in a full and fair appraisal of the behaviour to determine the benefits of the behaviour and if the benefits are greater than the effort of performing the behaviour. For women in particular, social norms may limit decision-making authority. In some cultures, women may be responsible for food preparation (and other food-related activities) but they may not have decision-making authority to change behaviours related to culture, religion or tradition.



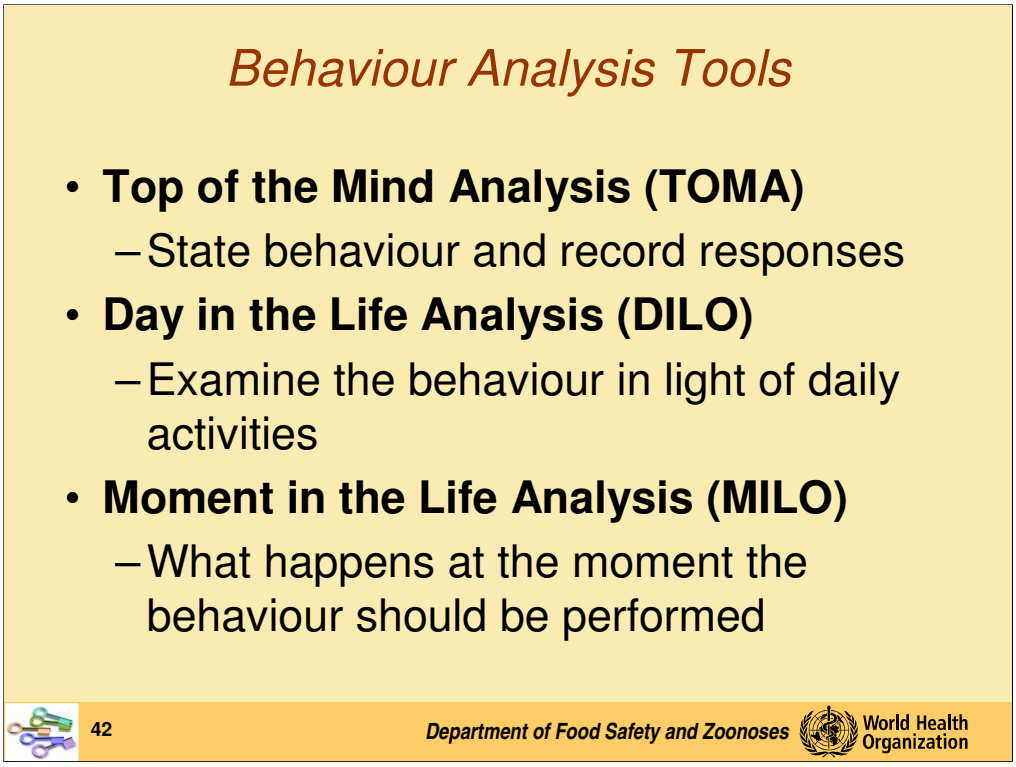
HIC-DARM is a simple behavioural model that describes the process for adopting a new behaviour. It is based upon behaviour adoption theory. According to the HIC-DARM model, first one hears about a new behaviour. If interested, one becomes more informed about the behaviour; and depending on the information presented one may later become convinced that the behaviour is worthwhile. This part of the behavioural adoption model is the education piece, and shows the importance of making educational message interesting and relevant.

According to the model, the behavioural change component occurs later. In time one makes a decision to do something about the conviction to change behaviour and takes action on the new behaviour. With time one reassess that decision and reconfirms that the action on the behaviour was a good one and if all goes well, one maintains the behaviour.

The line between HIC and DARM illustrates the gap between presenting information and convincing someone to take the next steps towards behavioural adoption. Each step of the HIC-DARM process demands an appropriate communication intervention. Therefore, messages must be tailored to meet the behavioural need. The techniques and tools presented in this module provide flexible and creative ways to mobilize women to adopt the new safe food handling behaviours.



To begin, one needs an awareness of the current situation with regard to knowledge and practice of the recommended behaviour. Several COMBI techniques can be used to provide an understanding of the situation in terms of knowledge and practices of the behaviours of the Five Keys.



Rarely are people aware of all the barriers preventing the adoption of a new healthy behaviour. The situational analysis involves listening to people and learning their perception of the merits of the behaviour and factors which constrain or facilitate adoption of the behaviour. In this analysis, participants are asked to state how they perceive the behaviour. In some cases, women are willing to discuss their thoughts about the merits and barriers to performing a behaviour to anyone who asks and is willing to listen in supportive nonjudgmental manner. In other cases, behavioural techniques and tools are needed to complete the situational analysis.

There are several techniques that can be used to help participants express their true thoughts and perceptions about a behaviour including Top of the mind analysis, Day in the life analysis, Moment in the life analysis.

Top of the Mind Analysis (TOMA)

Example

- Say “Keep Clean”

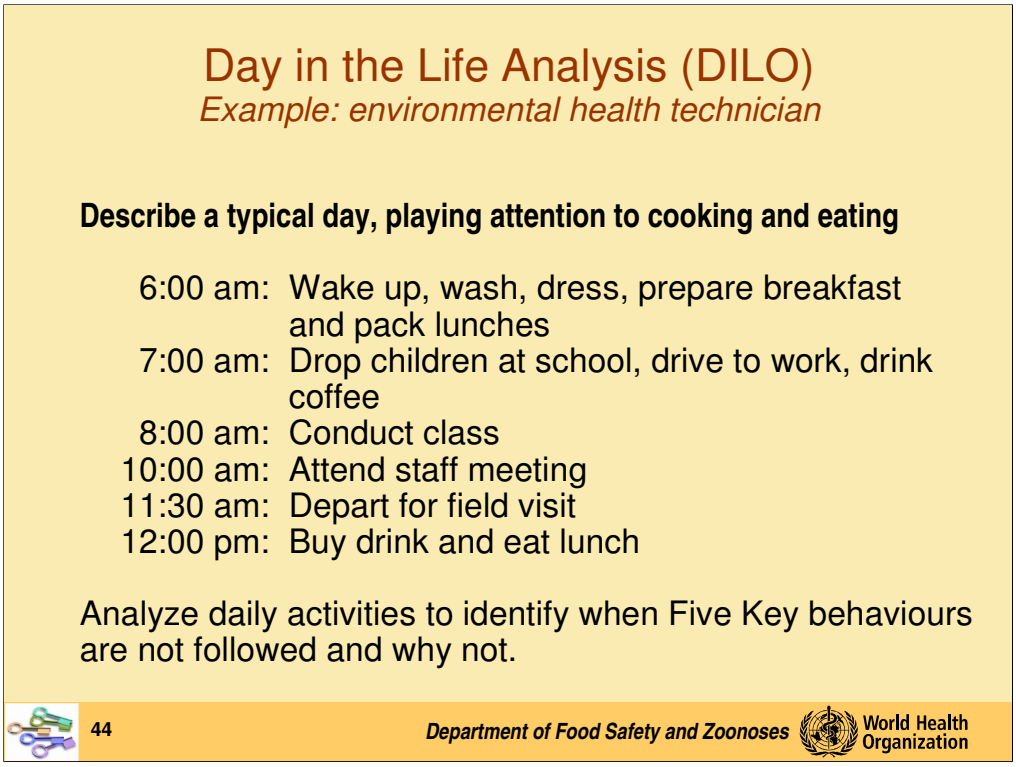
  Say the first thing that comes to mind

  Say the second things that comes to mind

  And the third
- What does this say about practicing the behaviour?

A simple exercise to gain insight on how a behaviour is perceived is the Top of the Mind Analysis. The trainer states a word or phase associated with the key behaviour, for example keep clean. The participants are asked to the state the first, second and third thing that comes into their mind after they hear the word or phase. Analysis of this activity provides insight into how positively or negatively the behaviour is perceived.

Adaptation Tip: Since the behavioural analysis tools are likely to be a new concept, the moderator may want to conduct a couple of examples with the group and help the group understand what the results illustrate regarding current beliefs.



The Day in the life analysis (DILO) explores the behaviour in light of the other daily activities that one must perform during the day. This techniques of good for determining when the healthy behaviours are being practiced and when they are not. Analysis of the response provides insight into the barriers that prevent behavioural practice.

Adaptation Tip: The moderator may wish to use an another example. Generally groups are successful with this exercise and can identify when the days events prevent the practice of the safe food handling behaviours.

Moment in the Life Analysis (MILO)

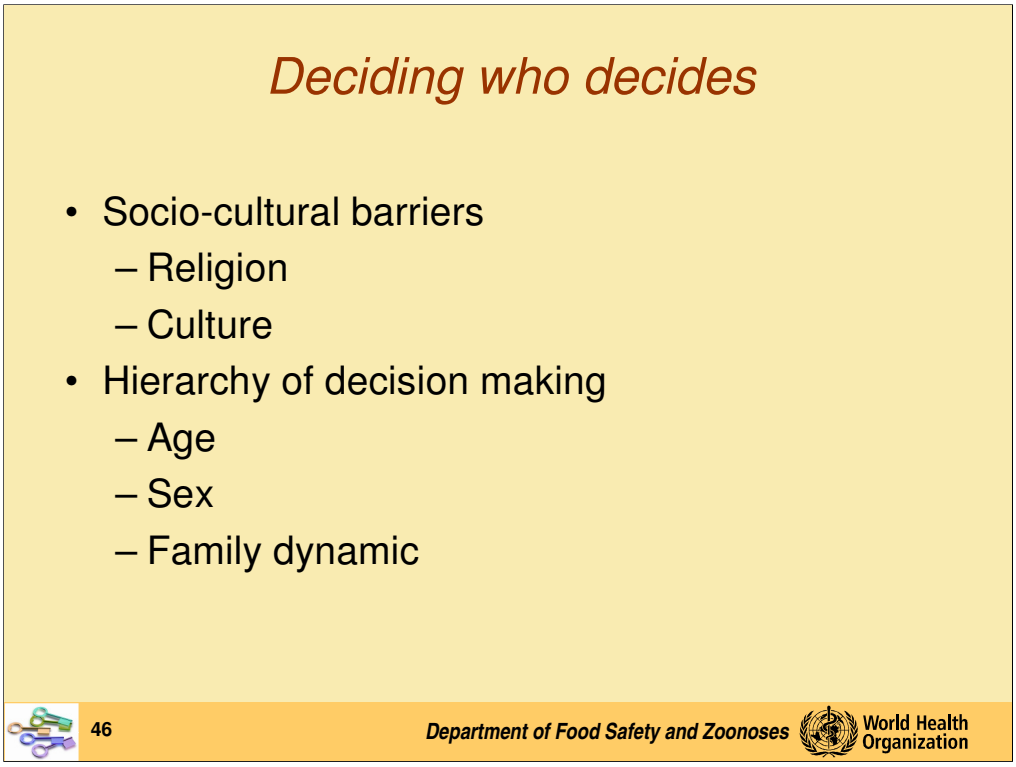
Example: Working mother

Describe activities around dinner preparation:

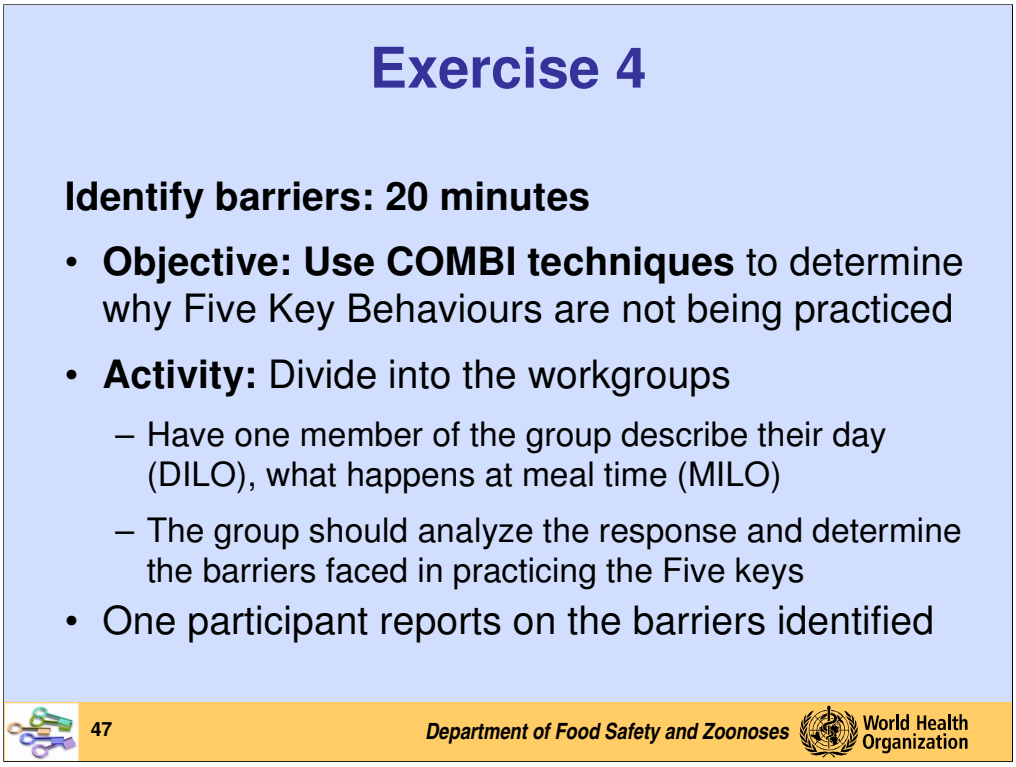
5:00 pm: Pick up children
5:30 pm: Wash hands, begin food preparation, feed cat, change clothes, make salad, set table, finish food preparation
6:00 pm: Husband returns, prepare drinks
6:15 pm: Serve meal
6:45 pm: Clear table
7:30 pm: Depart for evening activity

Analyze and identify barriers to safe food handling

The Moment in the Life Analysis (MILO) is a variation of the DILO and examines what happens at the moment when one is expected to perform the behaviour. For example, what activities occur during dinner preparation. Analysis of the response can identify why safer food handling behaviours are not being practiced.



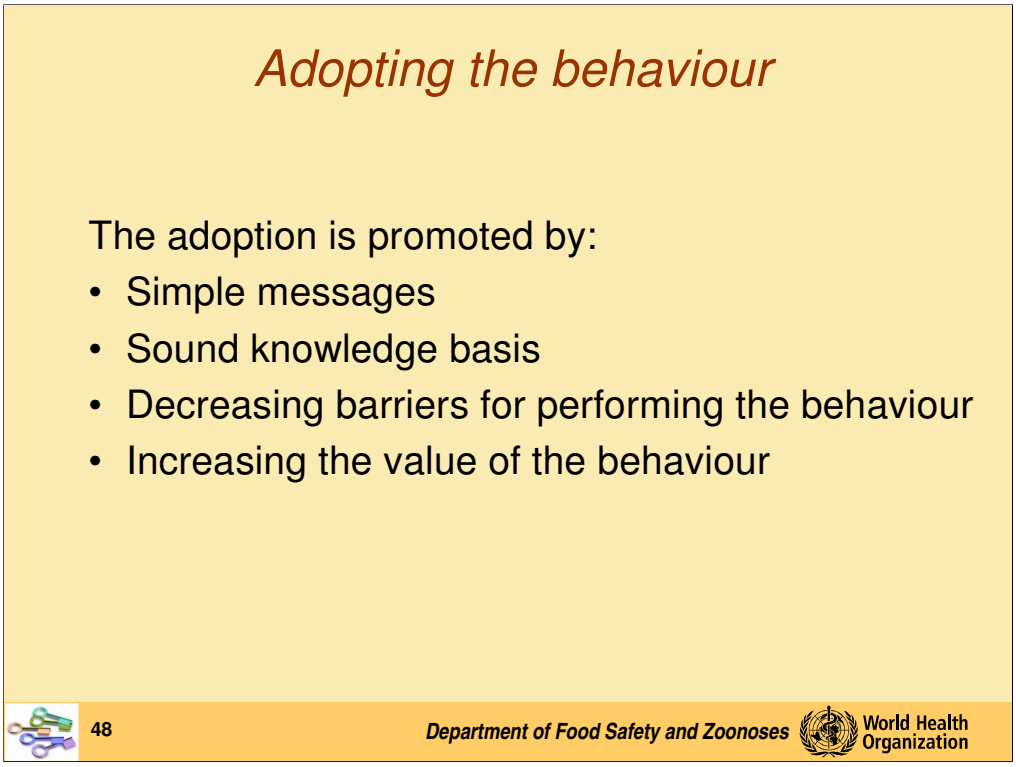
While there may not be resistance to improving overall food safety, there may be intra-household and community resistance with women having knowledge that others do not have. Therefore, one can not just focus on the behaviour of the woman alone, but needs to consider the woman's behaviour in light of the community where she lives. In joint households, where the hierarchy of decision-making is based not only on sex but age, the daughters-in-law may be responsible for food production and preparation, but the mother-in-law may make the decisions concerning these activities.



Often a safe food handling behaviour is not practiced at a certain time or location. For example one may not have access to refrigeration for a prepared lunch or one may not be able to wash hands before eating food from a street vendor. By analyzing the events in a day, the group can identify when and why a behaviour is not being practiced.

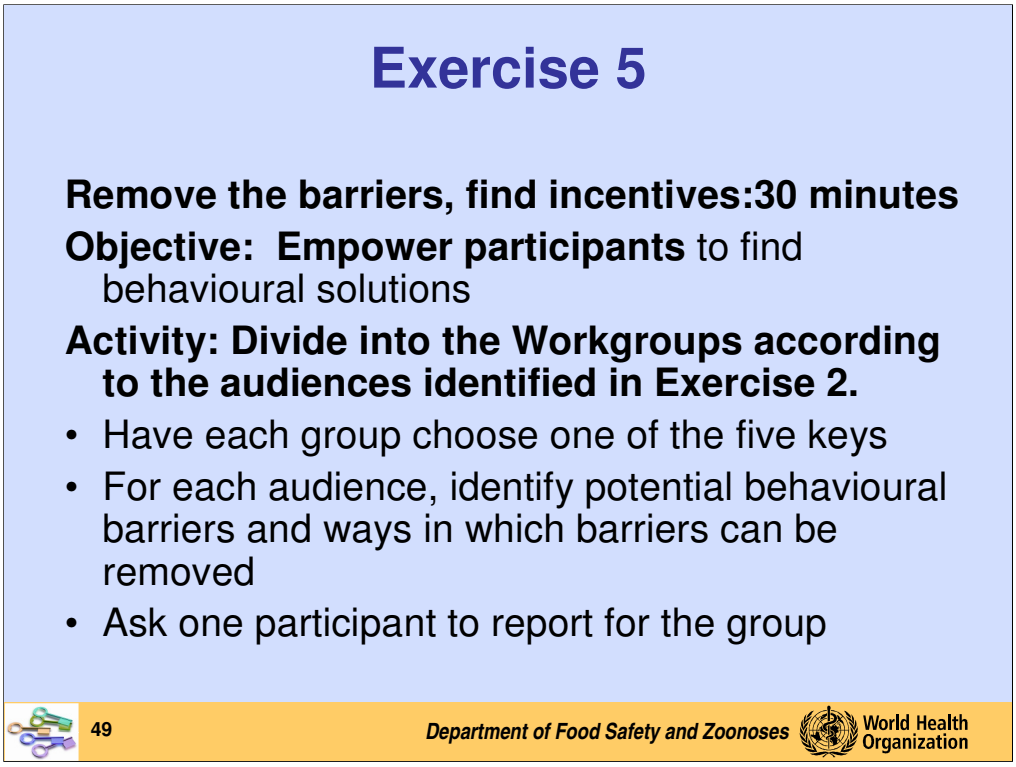
The moderator should recap the finding from all groups and point out the similarities and differences.

Adaptation Tip: Participants, especially scientists and inspectors, have a tendency to focus on the details of the day and getting them precise rather than on the barriers. In the report, be sure that participants do not spend time recap the whole day but focus on identifying barriers to practicing the five key behaviours.



Adoption of the healthy behaviour is promoted by combining the communication techniques of presenting the behaviour as a simple message and ensuring it is understood with incentives for behavioural adoption. Since one only practices a behaviour when the benefits of performing the behaviour are greater than the effort it takes to perform the behaviour, behavioural adoption is promoted by decreasing the barriers connected with performing the behaviour and/or increasing the value of the behaviour. For example, if we want people to wash their hands before eating, there must be a facility for handing washing that is convenient to the eating facilty. If one observes that by practicing a behaviour there is less illness in the family, the value of the behaviour is increased. In communities where women are not the decision-maker, removing barriers may involve engaging the community decision makers to ensure that women are empowered to utilize their knowledge.

The moderator should remind the group that behavioural solutions will only remove barriers that are behaviourally based. For example, if there is no clean running water in the community, the behaviour of handwashing can not be correctly practiced unless there is an additional intervention.



This exercise works best if the participants are familiar with the audience. The moderator may need to reorganize the workgroups to facilitate the exercise. In the recap, the moderator should ask the whole group if the barriers identified are behavioural, lack of knowledge or lack of infrastructure. The COMBI programme can address education and behavioural change only. The findings from all workgroups should be compared with the similarities and differences pointed out.

Adaptation Tip: It is not uncommon for workgroups to focus on the lack of knowledge as the main reason that a behaviour is not been practiced. The moderator should challenge the group to think beyond education to identify behavioural barriers and incentives.

VI. Planning Food Safety training

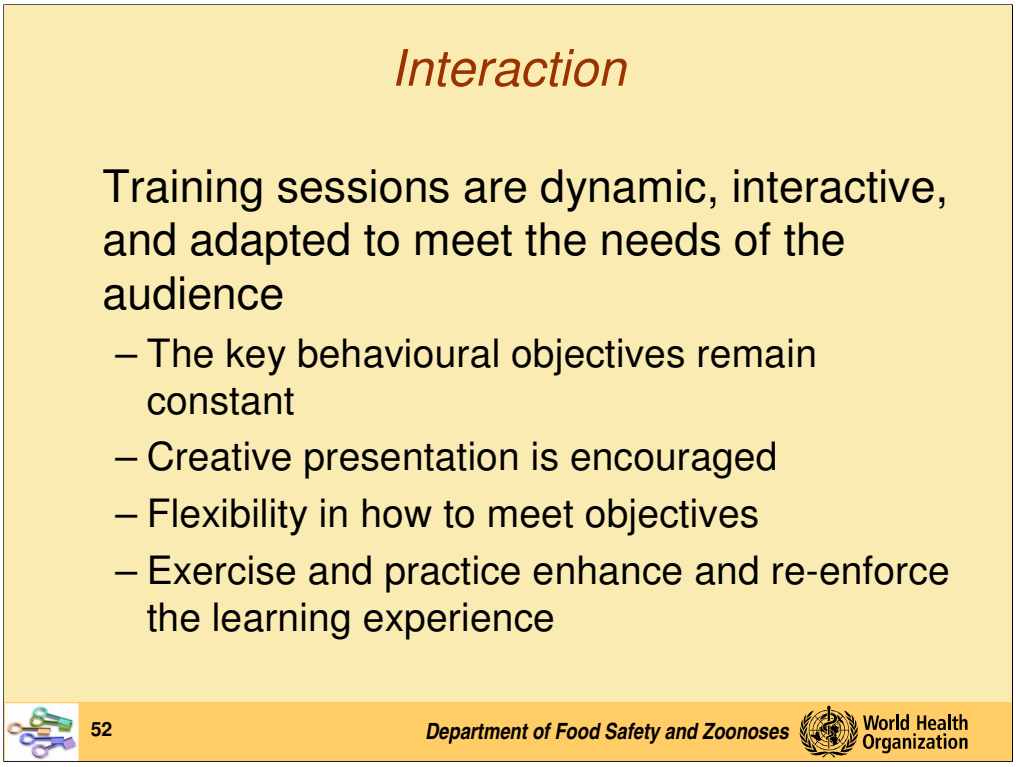
What is a training session?

Any opportunity to evaluate and teach safe food handling behaviours

- Formal training sessions
- Cooking demonstrations
- Group meal preparation
- Treatment of foodborne illness

Traditionally, food safety training programs focus on education, perhaps with one learning session which discusses proper food handling procedures and correct ways to perform the behaviour or with media educational campaigns. While these types of educational campaigns are important for consumer education, there are many opportunities for teaching safe food handling behaviours where the behaviours can be taught practiced and re-enforced, including formal training sessions, cooking demonstrations, group meal preparation, even when treating foodborne illness. The COMBI approach encourages using all of these opportunities to promote behavioural change.

Since habits are hard to change, one learning session or one educational campaign is usually not enough to produce and support behavioural change even in a motivated individual. The new behaviour must not only be learned but put into practice in real life and re-enforced. The process of teaching, promoting behavioural practice and re-enforcement is strengthened by counselling or peer support.



What makes a **training** session a **learning** session is the interaction between the participant and the educator. While the key behavioural objectives of the Five keys to safer food remain constant, there are different ways one can achieve each objective. Every session needs to be adapted to meet the needs of the audience. Providing a dynamic and interactive environment will help adult learners stay engaged. Several studies have shown that activity, for example, exercise and practice activities enhance and re-enforce the learning experience. Therefore, participants should be engaged in activity as much as possible. No matter what venue is used to present the information the educator and participants shape the session to meet their needs.

Practice the behaviours

Role play method

- Participants assume the role of another person and acts out the situation

Demonstration of acceptable practices

Cooking exercises

Since there are many different ways to achieve a behavioural objective, it is important that the behaviours be practiced as part of the behavioural evaluation. Since people often say the “correct” answer while “doing” something else, when possible it is good to observe the practiced behaviour in a “real-life situation".

Practice of the new behaviour during a learning session helps promote adoption. Hopefully, participants can see that the behaviours needed to prepare food safely are not difficult and can be readily incorporated into their current food preparation activities. The Five Keys to Safer Food Manual gives several examples of activities, including demonstration of acceptable practices and cooking exercises, that can be use to practice the safe food handling behaviours. If there are no facilities for actual food preparation, it is possible to role play a situation such that participants assume the role of another person and act out the situation.

Perform the behaviour in real-life

Repetition promotes habit formation

Safe food preparations must become the habit to be sustained

- Peer support
- Observation/Inspection

To sustain a safe food handling behaviour it must be repeated until it becomes the habit. Peer support and observation can help insure that the safe food handling behaviour is being practiced repeatedly.

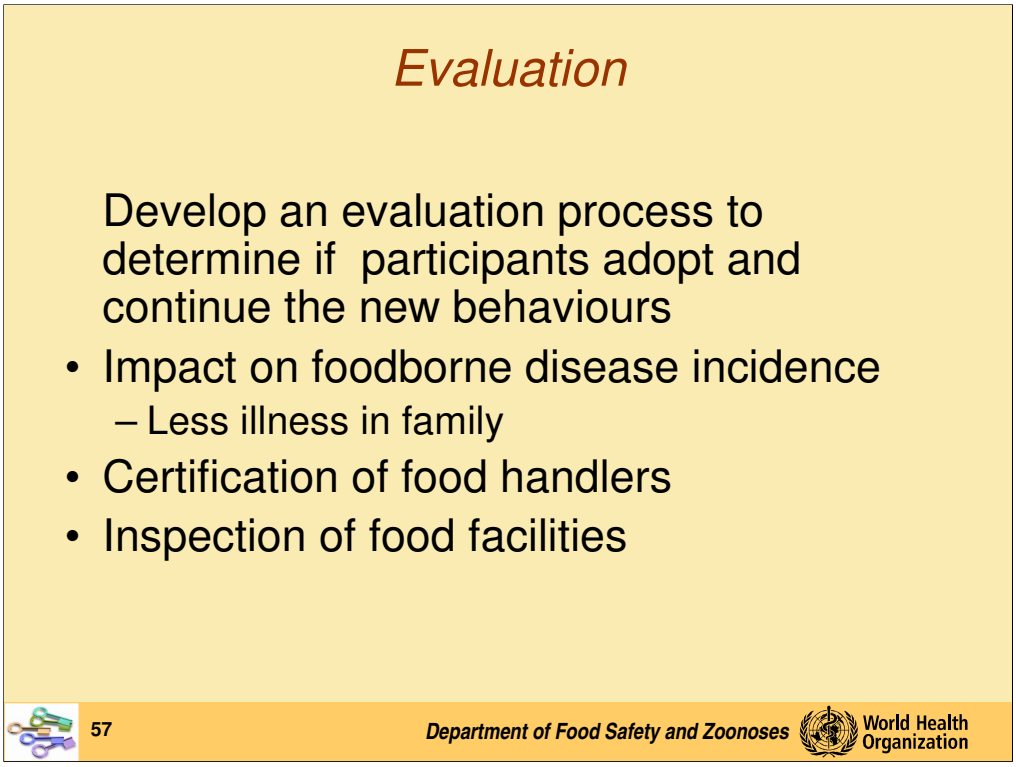
Re-enforcement of the messages

Positive re-enforcement promotes continuation by demonstrating the value of the new behaviour:

- reminder messages
- less illness in family
- financial benefit
- self-satisfaction

Positive re-enforcement promotes continuation of the behaviour. This re-enforcement can and should take many forms including reminder messages. It is important to help the women to recognize that their behaviour is leading to fewer illnesses in the family and the financial benefit of having fewer illnesses. All of these re-enforcement messages should increase the women's self-satisfaction in knowing she is preparing food properly.

While adopting all five key behaviours is optimal it may not be possible. Adopting any key behaviour will make a significant difference in the burden of foodborne disease. Forcing the adoption all five behaviours at once could limit success in adoption because it may seem overwhelming. Have the women set a realistic goal for the adoption of one or a couple of the key behaviours or make progress towards adoption and continued practice of these behaviours.



Evaluation of the course is necessary to determine the impact and to make improvements for the future. Several studies have shown that self report is not a very reliable means for determining the true behaviour. Fortunately, in the area of food safety there are other methods available to assess food safety behaviours. Measures that have been used successfully to determine the impact of a campaign on the adoption of good food handling behaviours include a decrease in the incidence of foodborne disease, fewer illnesses in the family, successful inspections of food handlers, and certification for food handling who practice safe food handling behaviours.

Evaluation forms are available in the Five Keys to Safer Food Manual. An additional form is attached to the document "Introduction to the Train the Trainer course and Guidance for Moderators".

When preparing the training session

- Keep the audience in mind
- Plan exercises to identify the current level of understanding
- Define a communication plan
- Prepare learning exercises
- Plan activities to analyse the situation (What are the current practices – What are the barriers)
- Plan activities to identify solutions
- Define how to evaluate the adoption of behaviour

Exercise 6

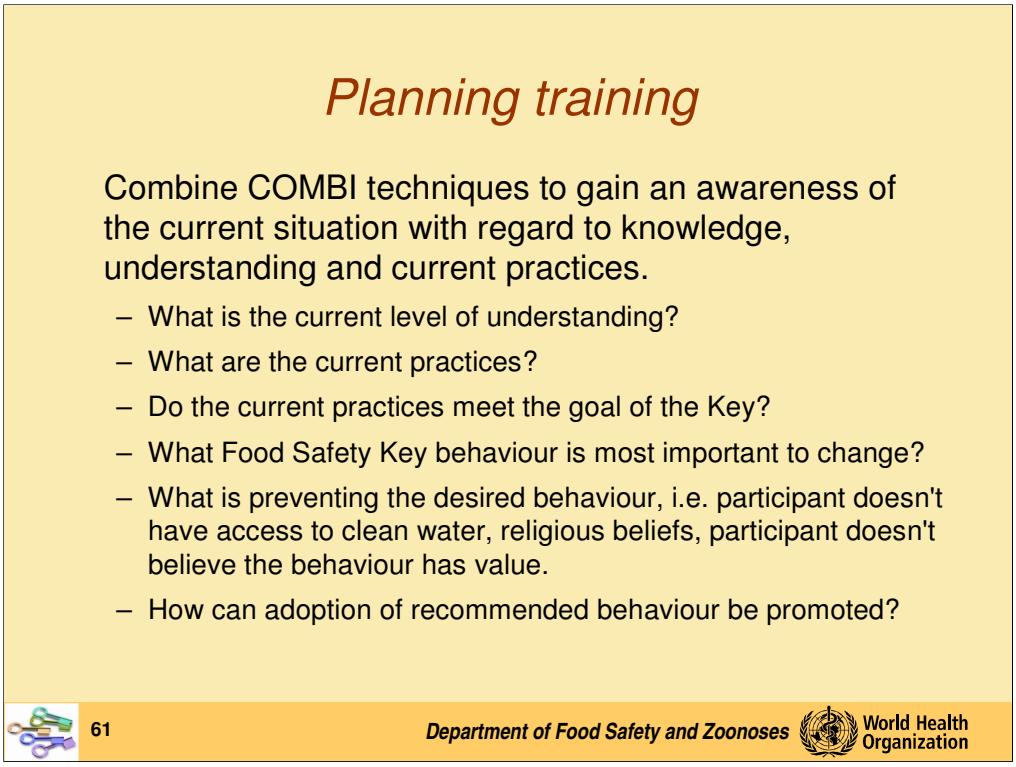
Planning a training session: 30 minutres

- **Objective: Promote adoption of safe food handling behaviours**
- **Activity:**
  - Choose a target audience
  - Choose one of the five keys
  - Develop a training programme that will promote behavioural adoption
  - One participant reports for the group

In this exercise, participants should work through the slides provided in Part 2 to plan a model training program for one audience. In the reports the moderators should emphasize that more than one learning opportunity will be needed to change behaviours.

PART 2

Template for planning, conducting and evaluating training



The goal of COMBI training will be to move the audience toward adopting/maintaining the desired behaviour. Unfortunately there is not one way to accomplish this. The trainer will need to used the COMBI techniques to understand the audience and design training activities that meets their needs. For example if the audience has no knowledge of safe food handling techniques, one will want to start with education. If the audience has knowledge and facilities and is currently practicing the behaviour training will focus on supporting these healthy behaviours by increasing their value. It is important to remember that behavioural solutions only work for behavioural problems. For example, if hand washing is not practiced because there is no water, trying a behavioural incentive will not work.

Key 1

Core Information	Why?
• Wash your hands before handling food and often during food preparation • Wash your hands after going to the toilet • Wash and sanitize all surfaces and equipment used for food preparation • Protect kitchen areas and food from insects, pests, and other animals	While most microorganisms do not cause disease, dangerous microorganisms are widely found in soil, water, animals, and people. These microorganisms are carried on hands, wiping cloths, and utensils, especially cutting boards, and the slightest contact can transfer them to food and cause foodborne diseases.

This slide presents Key 1 from the the Five Keys to Safer Food poster. The behavioural objective for Key 1 is “Keep Clean”. Since trainers need a good working knowledge of the food safety information in Key 1, it is important that the "core information" and "why?" be understood. Take the time to read over the material in Key 1 and discuss anything that is not clear.

Key 1 Facts

- Microorganisms and chemicals are too small to see
  - Even when something looks clean, harmful microorganisms and chemicals may be present.
- Cleaning removes but does not kill microorganisms
  - Water and cloths used for cleaning can become contaminated with microorganisms.
- Cleaning may not be sufficient to remove chemicals from food
- Cleaning hands with soap and warm running water is best

Since trainers will need to assess whether the current practices meet the behavioural objective, they must have knowledge upon which to base their assessments. Important information for Key 1 that may be helpful in assessing whether current practices meet the behavioural objective should be memorized. Important scientific information about Key 1 include:

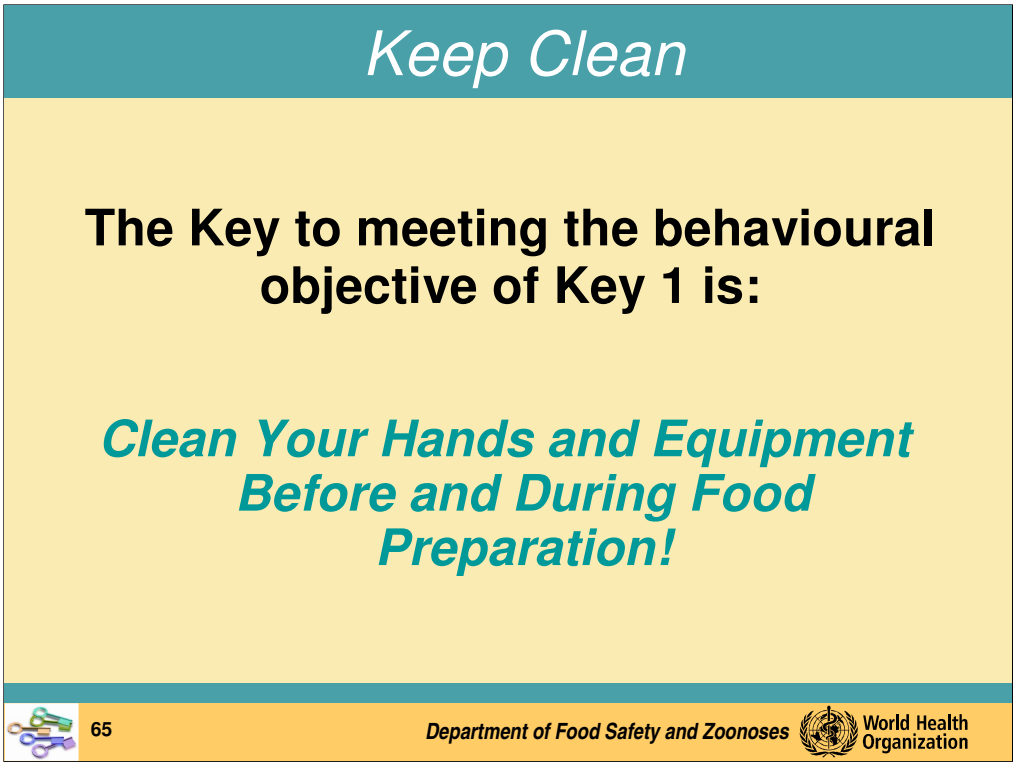
Many people believe that something must look spoiled or dirty to be harmful. However, since microorganisms and chemicals are too small to see even when something looks clean, harmful microorganisms and chemicals may still be present.

Cleaning removes but does not kill microorganisms. Therefore the water and cloths used for cleaning can become contaminated with microorganisms. For hand-washing in particular it is important to use running water and not wash hands in a bowl of water. The microorganism that cause disease can survive in a bowl of water and even grow.

Cleaning or washing food can remove chemicals from the outside of the food. However, in some cases the chemicals are actually in the food (e.g., mercury in fish). In this case, the cleaning or washing of the food will not be sufficient to remove chemicals from food.

The importance of hand washing should be stressed. When cleaning hands it is best to use soap and warm running water.

The value of a behaviour is increased when one understands why it is important. A simple explanation of why the behavioural objective is important should be provided each time the key behaviour is presented. In Key 1, it should be explained that it is necessary to clean hands and equipment before and during food preparation because hands, wiping cloths, utensils, cutting boards and pests all carry dangerous microorganism. The value of “Keep Clean” is that proper cleaning removes microorganisms that cause disease.



In this slide, the information of Key 1 is simplified to its behavioural core, which is easy to understand and scientifically correct. The key or best way to meet the behavioural objective of “Keep Clean” is to "Clean Your Hands and Equipment Before and During Food Preparation“. This simple message should be repeated several times to promote learning.

Analysing the Situation

- What behaviours are currently being practiced?
- Do the current cleaning practices meet the behavioural objective of Key 1?

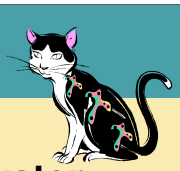
If so, discuss Key 2.

If not, ...

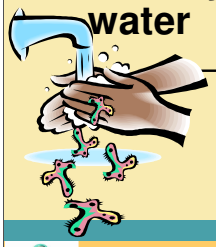
To assess if current practices meet the behavioural objective of Key 1, the current behavioural practices must be determined. The COMBI approach provides techniques and tools that can be used to elicit honest and open responses about current cleaning practices. Once the current cleaning practices have been described or observed, they must be analyzed to determine if they meet the behavioural objective. Remember that cleaning techniques remove microorganisms but does not usually kill them when accessing current practices.

If all the cleaning practices meet the behavioural objective of Key 1, quickly review the material but it is not necessary to spend additional time on this behavioural objective, move on to Key 2. If the cleaning practices do not meet the behavioural objective, it is important to review proper hand washing and cleaning behaviours and determine understand why they do not.

How?

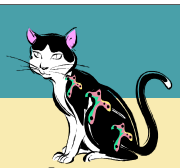


- **Wet your hands with warm running water**
- **Add soap, then rub your hands together for at least 20 seconds**
  - **making a soapy lather on both the front and back of your hands, as well as between your fingers and under your nails**
- **Rinse your hands well under warm running water**
  - **dry hands thoroughly with a clean towel. Then turn off the water with a clean paper towel and dispose in a proper receptacle**



If women are not familiar with proper hand washing technique, this procedure should be described and demonstrated. Be sure that hand washing is conducted long enough and that the entire hand and wrist is washed with soap.

When?

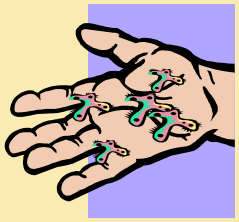


- **Before, after and frequently during food preparation**
- **Before eating**
- **After going to the toilet**
- **Whenever hands are soiled**
  - **After changing a diaper, blowing your nose, handling rubbish, handling chemicals, playing with pets, smoking**

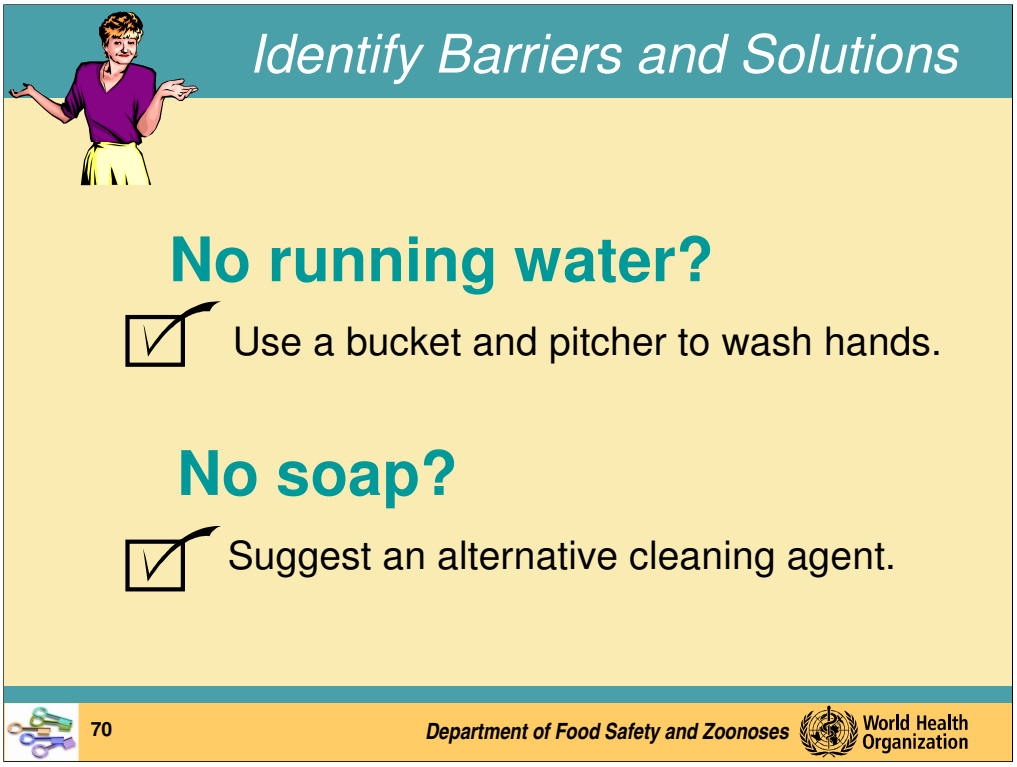
It may be necessary to remind the women that hands may contain dangerous microorganisms even if they do not appear dirty.

Learning Examples

Use glitter or ink to show how different hand washing techniques remove microorganisms from hands



Learning exercises and other activities help in understanding the value of the safe food handling behaviour. A learning exercise that demonstrates the benefits of cleaning one's hands can be conducted with glitter. The glitter can represent both microorganisms and chemicals. When the glitter is applied to damp hands, it sticks to the skin. By trying to remove the glitter with different cleaning techniques, it is possible to determine which techniques are most effective in removing the glitter (microorganisms and chemicals).

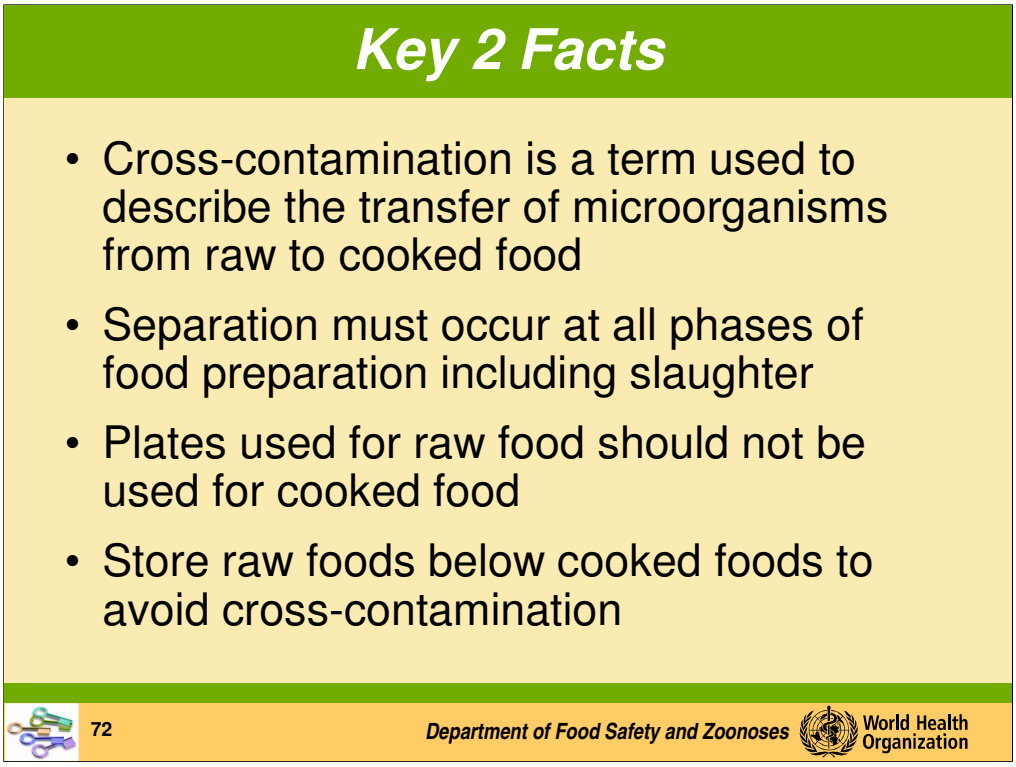


If the participants are not practicing proper hand washing and cleaning behaviours, it is important to determine the reason for this. This slide gives some examples of common barriers that prevent the adoption of the behaviour in Key 1 and some suggested solutions. These examples should help clarify what is meant by a barrier to adoption and provide ideas of solutions. Remember that not all barriers can be removed by “education”, in some cases the barriers may be beyond the person’s control. In these cases alterative action is required.

Key 2

Core Information	Why?
• Separate raw meat, poultry and seafood from other foods. • Use separate equipment and utensils such as knives and cutting boards for handling raw foods. • Store food in containers to avoid contact between raw and prepared foods	Raw food, especially meat, poultry and seafood and their juices, can contain dangerous microorganisms which may be transferred onto other foods during food preparation and storage.

This slide presents Key 2 from in the Five Keys to Safer Food poster. The behavioural objective for Key 2 is “Separate raw and cooked” foods. Since trainers need a good working knowledge of the food safety information in Key 2, it is important that the "core information" and "why?" be understood. Please take the time to read over the materials in Key 2. Discuss anything that is not clear.



Since the trainers will need to assess whether the current practices meet the behavioural objective, they must have knowledge upon which to base their assessments. Important information for Key 2 that may be helpful in assessing whether current practices meet the behavioural objective should be memorized. Important information that can help in assessing food safety behaviours includes:

Cross-contamination of foods occurs when the microorganisms from raw food are transferred to cooked foods.

Cross-contamination can occur at any time from slaughter until consumption. Separation of raw and cooked foods must occur throughout all phases of food preparation including slaughter to prevent dangerous microorganisms on raw foods from transferring to cooked foods.

It is important to remember that when a plate that has been used for raw food it should not be used again for cooked foods until it is washed with soap and water. For example, if you place raw meat onto a plate that same plate should not be used again for the cooked meat because the cooked meat will become contaminated with the juices of the raw meat.

To prevent the transfer of disease-causing microorganisms from raw foods to cook foods during storage, raw foods should be stored below cooked foods. The juices from the raw food can drip onto and contaminate the cooked food.

Why?

Raw meat, poultry, and seafood contain dangerous microorganisms

Keeping foods separate prevents the transfer of microorganisms

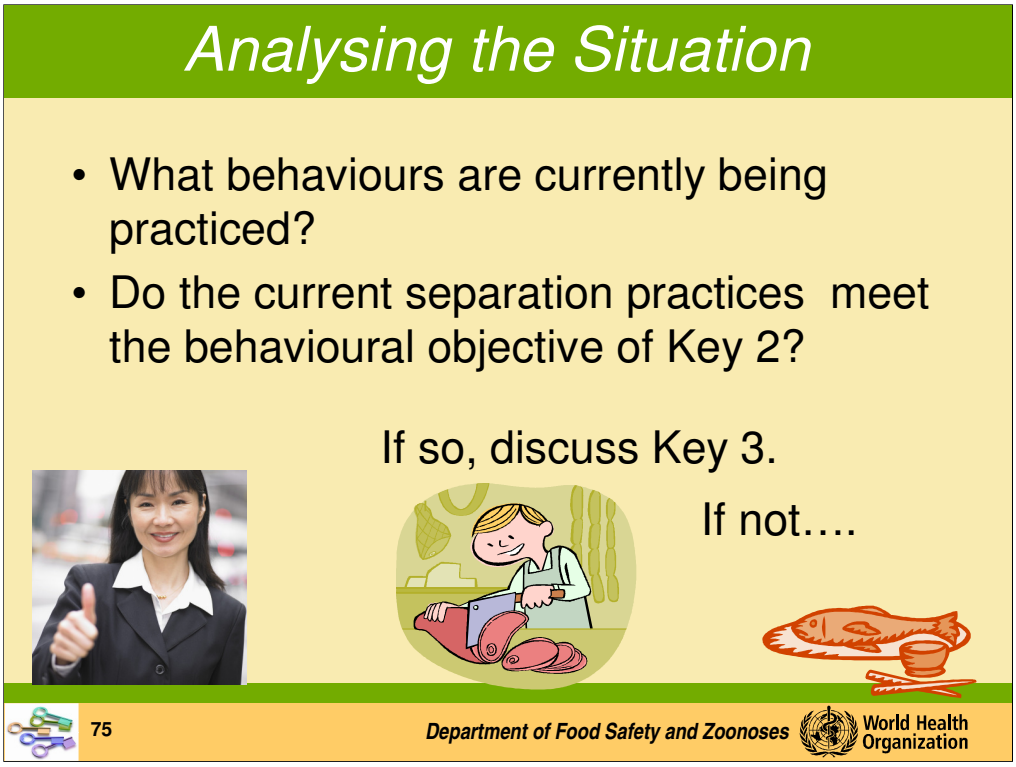
The value of a behaviour is increased when one understands why it is important. A simple explanation of why the behavioural objective is important should be provided each time the key behaviour is presented. For Key 2, it should be explained that it is necessary to keep raw meat, poultry, and seafood separate from other foods because raw meat, poultry, and seafood contain dangerous microorganisms. Keeping foods separate prevents the transfer of these dangerous microorganisms. Thus, the value of keeping foods separate is that this prevents the transfer of dangerous microorganisms.

Separate Raw and Cooked

The Key to meeting the behavioural objective in Key 2 is:

Keep Raw Meat, Poultry, and Seafood Separate From Other Foods!

In this slide, the information of Key 2 is simplified to its behavioural core, which is easy to understand and scientifically correct. The key or best way to meet the behavioural objective of “Separate Raw and Cooked” is to "Keep Raw Meat, Poultry, and Seafood Separate From Other Foods!“. This simple message should be repeated several times to promote learning.

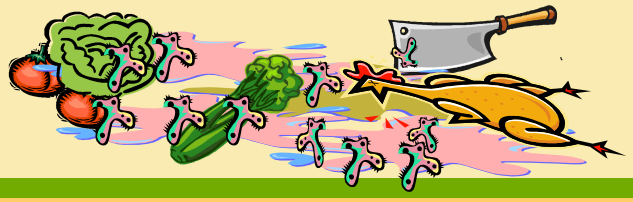


To assess if current practices meet the behavioural objective of Key 2, the current behavioural practices must be determined. The COMBI approach provides techniques and tools that can be used to elicit honest and open responses about current cleaning practices. Once the current separation practices have been described or observed, they must be analysed to determine if they meet the behavioural objective.

If all the separation practices meet the behavioural objective of Key 2, the trainer will not need to spend additional time on this behavioural objective, but should move on to Key 3. If the separation practices do not meet the behavioural objective, it is important to determine and understand why they do not.

How?

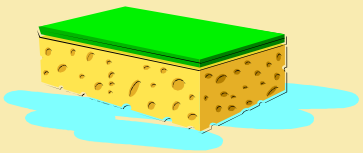
- When shopping, keep fresh foods away from uncooked meat, poultry and fish
- Store meat, poultry and fish below fresh and ready to eat foods
- Store food in containers
- Use clean plate for cooked foods



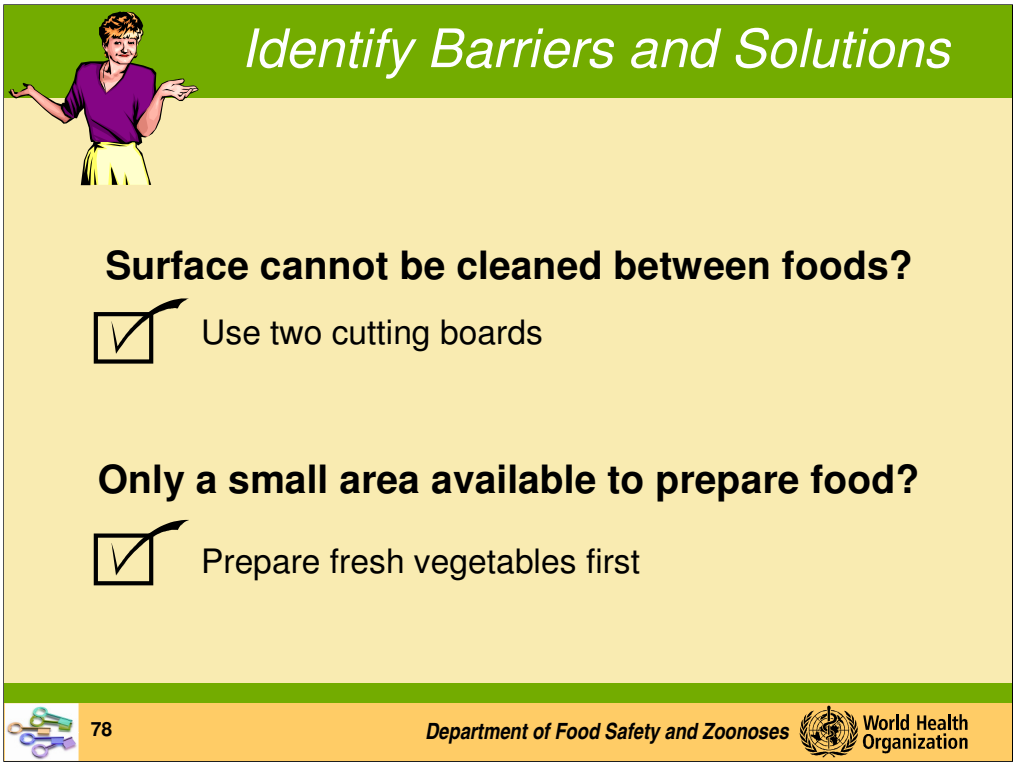
If women are not familiar with separation techniques they should be reviewed.

Learning Exercises

Use a damp sponge and place it onto a cutting board. Then gently squeeze to see how the liquid go onto the cutting board. Observe that the ink remains on the cutting board and can contaminate another damp sponge.

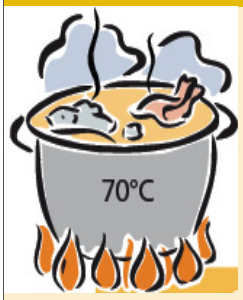


Learning exercises and other activities help in understanding the value of the safe food handling behaviour. A learning exercise that demonstrates cross-contamination can be conducted with a damp sponge and ink. The sponge represents a piece of food and the ink represents juices of the food containing microorganisms. A sponge with ink can be placed onto a cutting board. By gently squeezing the sponge, participants can see how meat juices are transferred onto the surface of the cutting board. Removing the sponge and then placing another sponge onto the cutting board demonstrates how the juices with the microorganisms are transferred from the cutting board to other foods.



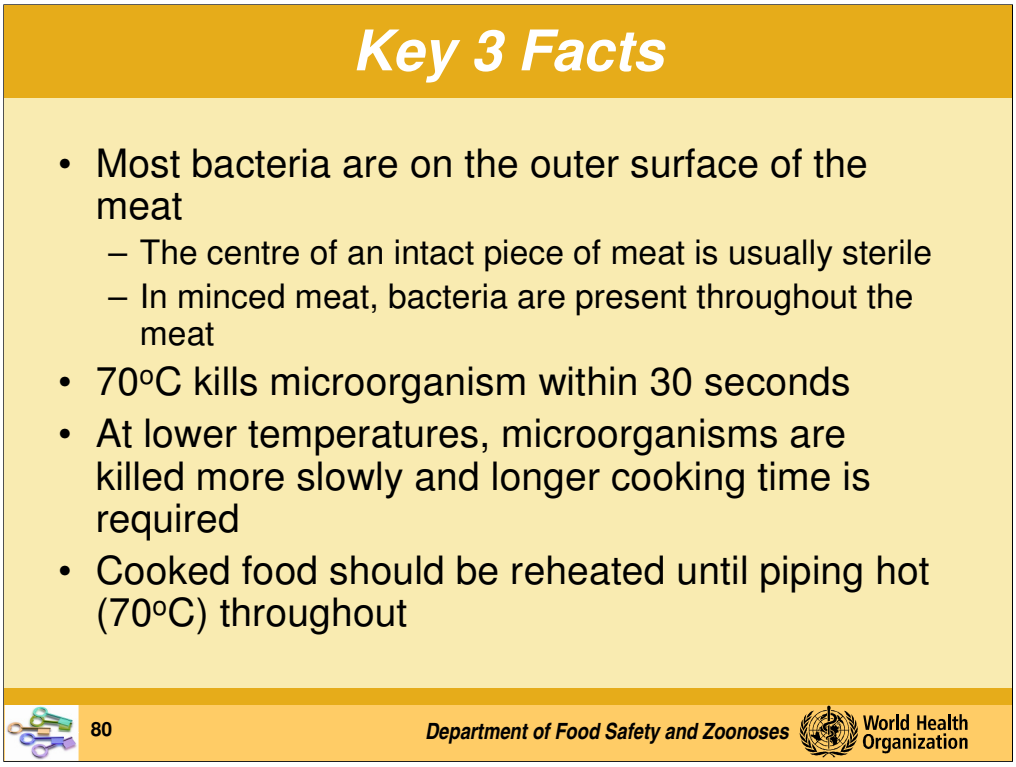
This slide gives some examples of common barriers that prevent the adoption of the behaviour in Key 2 and suggests some solutions. These ideas should help clarify what is meant by a barrier to adoption and provide ideas of solutions.

Key 3



Core Information	Why?
• Cook food thoroughly, especially meat, poultry, eggs, and seafood • Bring foods like soups and stews to boiling to make sure that they have reached 70 °C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer • Reheat cooked food thoroughly	Proper cooking can kill almost all dangerous microorganisms. Studies have shown that cooking food to a temperature of 70 °C can help ensure it is safe for consumption. Foods that require special attention include minced meats, rolled roasts, large joints of meat and whole poultry.

This slide presents Key 3 from the Five Keys to Safer Food poster. The behavioural objective for Key 3 is “Cook Thoroughly”. Since trainers need a good working knowledge of the food safety information in Key 3, it is important that the "core information" and "why?" be understood. Please take the time to read over the material in Key 3. Discuss anything that is not clear.



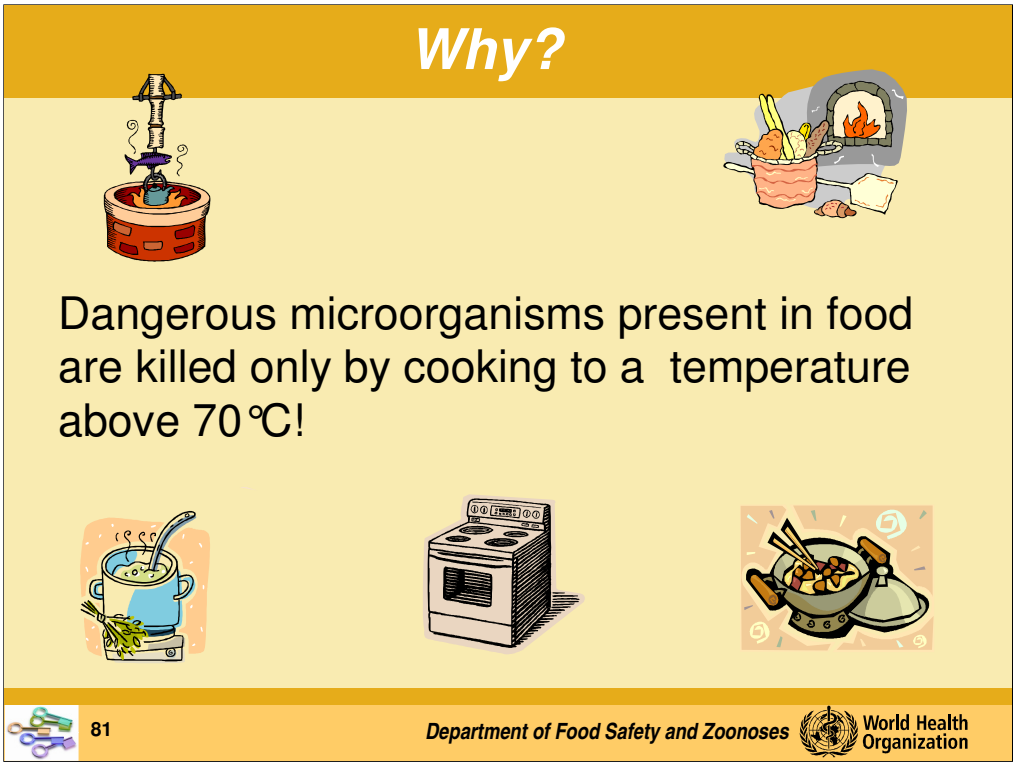
Since the trainers will need to assess whether the current practices meet the behavioural objective, they must have knowledge upon which to base their assessments. Important information for Key 3 that may be helpful in assessing whether current practices meet the behavioural objective should be memorized.

Since bacteria are found on the outer surface of meat, the centre of an intact piece of meat is usually sterile and safe from bacteria. However, when meat is minced or ground, the bacteria on the outside are mixed into the meat and thus are present throughout the meat. It is important to cook these food until the centre reaches a temperature of 70 °C.

Cooking foods to a temperature above 70 °C kills microorganisms on foods within 30 seconds.

If a food must be prepared at lower temperatures, a longer cooking time is needed because the microorganisms are being killed at a slower rate and more time is needed to ensure they are killed.

When reheating already cooked foods, they should be reheated until piping hot (70 °C) throughout the entire food. The middle of the food should not still be cool.



The value of a behaviour is increased when one understands why it is important. A simple explanation of why the behavioural objective is important should be provided each time the key behaviour is presented. In Key 3, it should be explained that it is necessary to cook foods to a temperature above 70 °C because microorganisms in food cannot survive at these temperatures and are killed. Thus, the value of cooking foods above 70 °C is that this kills dangerous microorganisms in foods.

Cook Thoroughly

The Key to meeting the behavioural objective in Key 3 is:

Cook food to a temperature above 70°C !

In this slide, the information of Key 3 is simplified to its behavioural core that is easy to understand and scientifically correct. The key or best way to meet the behavioural objective of “Cook Thoroughly” is to "Cook Food to a Temperature Above 70 °C!“. This simple message should be repeated several times to promote learning.

Analysing the Situation

- What behaviours are currently being practiced?
- Do the current cooking practices meet the behavioural objective of Key 3?

If so, discuss Key 4.

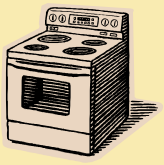
If not,…

To assess if current practices meet the behavioural objective of Key 3, the current behavioural practices must be determined. The COMBI approach provides techniques and tools that can be used to elicit honest and open responses about current cleaning practices. Once the current cooking practices have been described or observed, they must be analysed to determine if they meet the behavioural objective. It is important to remember that bacterial contamination occurs throughout some meat products not just on the surface, therefore products must to cooked so that they are piping hot throughout.

If all the cooking practices meet the behavioural objective of Key 3, the trainer will not need to spend additional time on this behavioural objective, but should move on to Key 4. If the cooking practices do not meet the behavioural objective, it is important to determine and understand why they do not.

How?

- **Use a clean meat thermometer**
  - ***place in the centre of thickest part of meat not touching the bone or container side***
- **Cook poultry until juices are clear**
- **Cook eggs and seafood until piping hot**
- **Bring liquids to a boil for at least 1 minute**

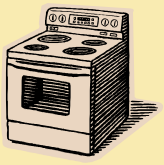



If a meat thermometer is available, the proper use (describe above) should be demonstrated. If a thermometer is not available, use the information described above to teach cooking to a proper temperature.

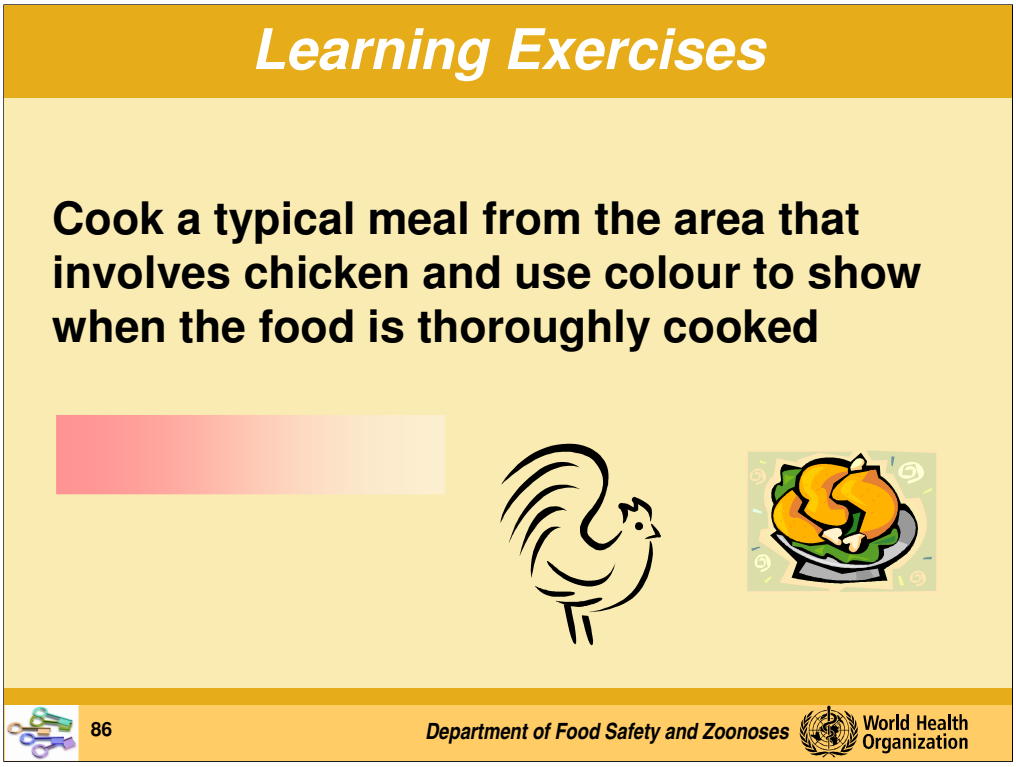
When?

Minced meat has bacteria throughout and must be cook both inside and out

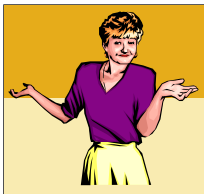
Reheat cook food until piping hot throughout

This slide re-enforces the idea that cooking of minced meat is important. Also it is important to thoroughly reheat foods.



Learning exercises and other activities help participants understand and adopt good food safety behaviours. A learning exercise that demonstrates cooking thoroughly may involve the preparation of a dish with meat. This provides an opportunity to see the colour of the meat when it is cooked thoroughly and safe to eat. For example, the colour of small pieces of chicken will change from pink to white when the chicken is thoroughly cooked.



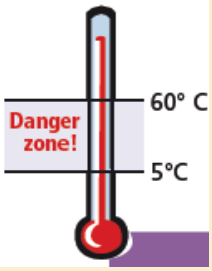
Identify Barriers and Solutions

No way to determine temperature?

- ☑ Use color to judge if food is cooked thoroughly.
- ☑ Use meat juices to judge if food is cooked thoroughly
- ☑ Boil liquid based foods for at least 1 minute.

This slide gives some examples of common barriers that prevent the adoption of the behaviour in Key 3 and some suggested solutions. These ideas should help clarify what is meant by a barrier to adoption and provide ideas of solutions.

Key 4



Core Information	Why?
• Do not leave cooked food at room temperature for more than 2 hours • Refrigerate promptly all cooked and perishable food (preferably below 5 °C • Keep cooked food piping hot (more than 60 °C) prior to serving • Do not store food too long even in the refrigerator • Do not than frozen food at room temperature	Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5 °C or above 60 °C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms still grow below 5 °C.

This slide presents Key 4 from the Five Keys to Safer Food poster. Since trainers need a good working knowledge of the food safety information in Key 4, it is important that the "core information" and "why?" be understood. Please take the time to read over the material in Key 4. Discuss anything that is not clear.

Key 4 Facts

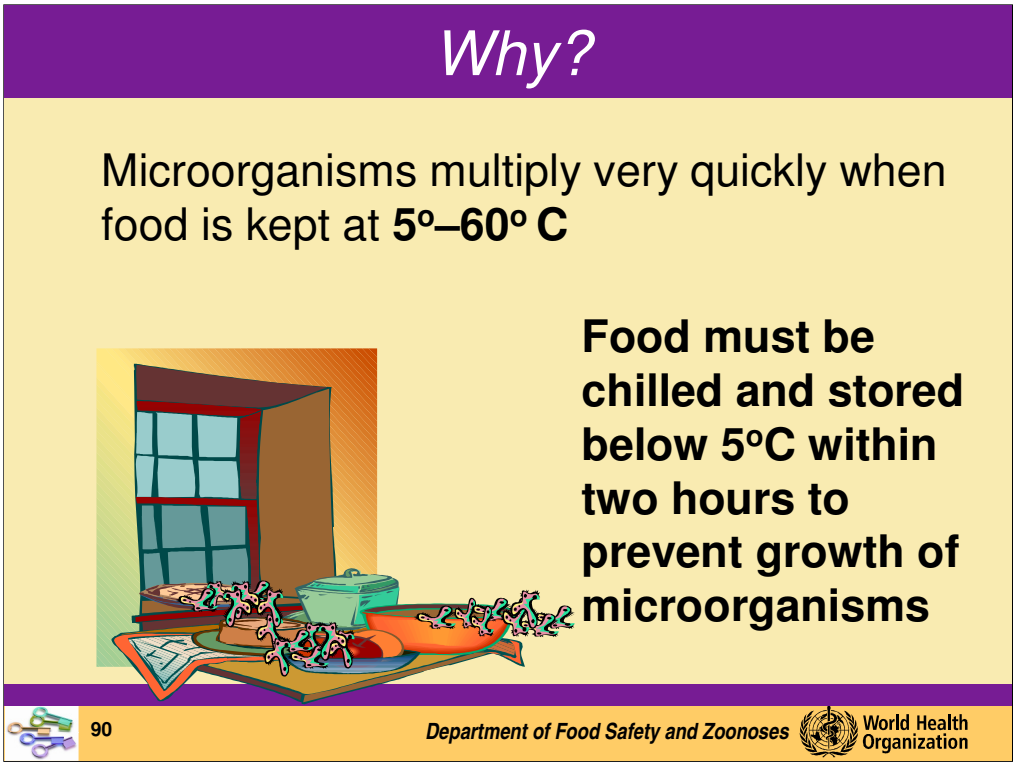
- Microorganisms grow very quick in the danger zone (between 5°C and 60°C)
- Chilling and freezing does not kill microorganisms but limits growth
- Options for storing goods below 5°C include ice boxes, cold water, and digging a hole
- If storage below 5°C is not possible, obtain fresh food and use it quickly

Since the trainers will need to assess whether the current practices meet the behavioural objective, they must have knowledge upon which to base their assessments. Important information for Key 4 that may be helpful in assessing whether current practices meet the behavioural objective should be memorized.

Between a temperature range of 5°C-60°C, microorganisms grow very quickly.

While chilling and freezing does not kill microorganisms, it does slow the growth rate and keeps foods safe for a longer period of time.

There are options besides refrigerators for storing foods below 5 °C. These include ice boxes/coolers, cold water, pantries built over streams, and digging a hole. If storing foods below 5 °C is not possible, it might be reasonable to obtain fresh foods and use them quickly.



The value of a behaviour is increased when one understands why it is important. A simple explanation of why the behavioural objective is important should be provided each time the key behaviour is presented. In Key 4, it should be explained that it is necessary to chill and store foods below a temperature of 5ºC within two hours to prevent the growth of microorganisms. Microorganisms multiply rapidly when food is stored in the temperature range of 5ºC-60ºC (danger zone). Thus, the value of chilling and storing foods below a temperature of 5 ºC is that it slows growth of microorganisms in foods.

Keep foods at safe temperatures

The Key to meeting the behavioural objective in Key 4 is:

Chill and store foods below 5°C!

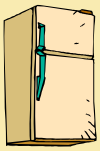
In this slide, the information of Key 4 is simplified to its behavioural core that is easy to understand and scientifically correct. The key or best way to meet the behavioural objective of “Keep Foods at Safe Temperatures” is to "Chill and Store Foods Below 5 °C!“. This simple message should be repeated several times to promote learning.

Analyzing the Situation

- What behaviours are currently being practiced?
- Do the current chilling and storage practices meet the behavioural objective of Key 4?

If so, discuss Key 5

If not,…



To assess if current practices meet the behavioural objective of Key 4, the current behavioural practices must be determined. The COMBI approach provides techniques and tools that can be used to elicit honest and open responses about current cleaning practices. Once the current chilling and storage practices have been described or observed, they must be analyzed to determine if they meet the behavioural objective.

A good way to determine if the cooling and storage temperature is adequate is to use a thermometer.

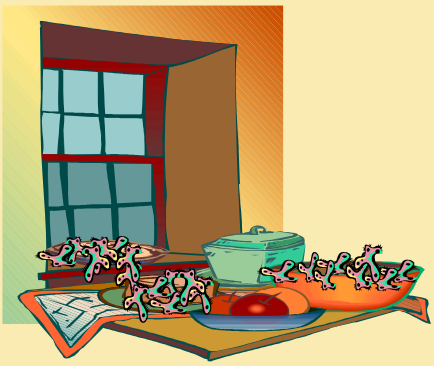
If all the chilling and storage practices meet the behavioural objective of Key 4, the trainer will not need to spend additional time on this behavioural objective, but should move on to Key 5. If the chilling and storage practices do not meet the behavioural objective, it is important to determine and understand why they do not.

How?

- **Promptly cool and store leftovers**
- **Prepare food in small amounts to reduce leftovers**
- **Stored leftover for less than 3 days**
- **Reheat leftovers only once**
- **Thaw food in the refrigerator or other cool locations**

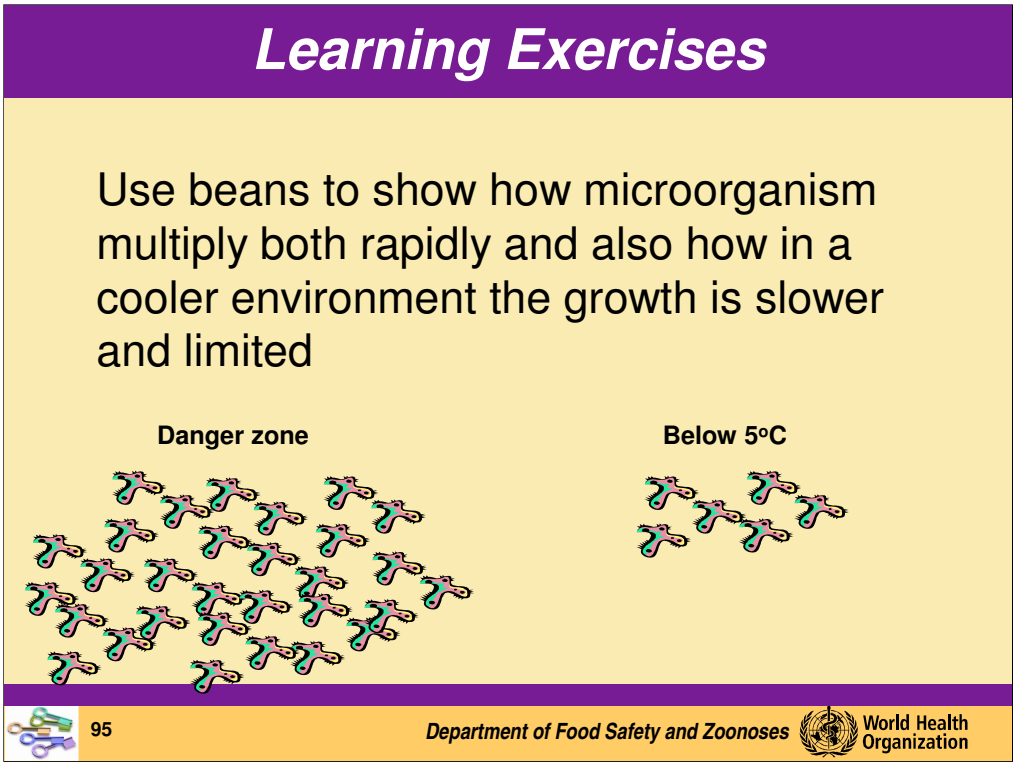
This slide reviews important information on how to keep foods are correct temperatures.

When?



Food must be chilled and stored below 5°C within two hours to prevent growth of microorganisms

This slide provides information on when to keep foods at safe temperatures.



Learning exercises and other activities help participants understand and adopt good food safety behaviours. A learning exercise that demonstrates how microorganisms multiply at different temperatures can be conducted with beans. Begin with two beans and every ten seconds double the amount of beans for one minute. This shows how microorganisms rapidly multiply on foods stored in the danger zone. Then begin with two beans again and this time double the amount of beans every thirty seconds for a minute. This shows how microorganisms multiply when chilled and stored below 5 °C.

This slide gives some examples of common barriers that prevent the adoption of the behaviour in Key 4 and some suggested solutions. These examples should help clarify what is meant by a barrier to adoption and provide ideas of solutions.

Key 5

Core Information	Why?
• Use safe water or treat it to make it safe • Select fresh and wholesome foods • Choose foods processed for safety, such as pasteurized milk • Wash fruits and vegetables, especially if eaten raw • Do not use food beyond its expiry date	Raw materials, including water and ice, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be formed in damaged and mouldy foods. Care in selection of raw materials and simple measures such as washing and peeling may reduce risk.

This slide presents Key 5 from the Five Keys to Safer Food poster. The behavioural objective for Key 5 is “Use Safe Water and Raw Materials”. Since trainers need a good working knowledge of the food safety information in Key 5, it is important that the "core information" and "why?" be presented and understood. Please take the time to read over the material in Key 3. Discuss anything that is not clear.

Key 5 Facts

- Rainwater collected in a clean tank is safe
- Water from canals and rivers contain micro-organisms and is unsafe
- Unsafe water can be treated to inactivate micro-organisms by a rolling boil, 3–5 drops of chlorine per litre, and filtration
- Wash all fruits and vegetables with clean, safe water
- Peeling fresh fruits and vegetables may remove chemicals found on the outside of the fruit or vegetable (e.g. pesticides)

Since the trainers will need to assess whether the current practices meet the behavioural objective, they must have knowledge upon which to base their assessments. Important information for Key 5 that may be helpful in assessing whether current practices meet the behavioural objective should be memorized.

Rainwater that is collected in a tank is safe as long as the tank is clean and has not been used for anything else. Water from canals and rivers are not safe because they contain microorganisms and have not been treated. However, this unsafe water can be treated to kill microorganisms by bringing the water to a rolling boil, adding 3-5 drops of chlorine per litre, and filtration.

Wash all fruits and vegetable with clean, safe water. Peeling fresh fruits and vegetables can remove chemicals and microorganisms from the outside surface of the fruit or vegetable.

The value of a behaviour is increased when one understands why it is important. A simple explanation of why the behavioural objective is important should be provided each time the key behaviour is presented. In Key 5, it should be explained that it is necessary to treat water and raw materials to remove harmful contaminants because raw materials such as water and ice may be contaminated with dangerous microorganisms and chemicals. Thus, the value of choosing safe water and raw materials or treating them to make them safe is that it can remove harmful contaminants.

In this slide, the information of Key 5 is simplified to its behavioural core that is easy to understand and scientifically correct. The key or best way to meet the behavioural objective of “Use Safe Water and Raw Materials” is to "Choose Safe Water and Raw Materials or Treat to Make Safe!“. This a simple message that should be repeated several times to promote learning.

Analysing the Situation

- What behaviours are currently being practiced?
- Do the current choosing and treatment practices meet the behavioural objective of Key 5?

If not, then….

To assess if current practices meet the behavioural objective of Key 5, the current behavioural practices must be determined. The COMBI approach provides techniques and tools that can be used to elicit honest and open responses about current cleaning practices. Once the current choosing and treatment practices have been described or observed, they must be analysed to determine if they meet the behavioural objective.

If all the choosing and treatment practices meet the behavioural objective of Key 5, the trainer will not need to spend additional time on this behavioural objective. If the choosing and treatment practices do not meet the behavioural objective, it is important to determine understand why they do not.

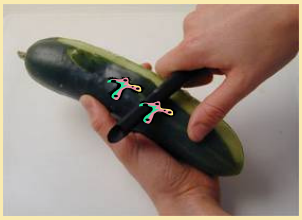
How?

- **Select fresh and wholesome food**
- **Avoid damaged foods**
- **Use food processed for safety**
- **Wash fruits and vegetables with safe water**
- **Do not use past expiry date**
- **Throw away smashed, swollen and oxidized cans**
- **Choose ready-to-eat or perishable foods that are stored correctly**

This slide reviews important information on how to use safe water and raw materials.

Learning Exercises

An activity that can be used is placing glitter onto a vegetable and by using safe water and washing off the glitter and peeling the skin off the vegetable is safe to eat



Learning exercises and other activities help participants understand and adopt good food safety behaviours. A learning exercise that demonstrates how to treat foods to make them safe to eat can be conducted with a vegetable and some glitter or ink. The glitter or ink represents microorganisms/chemicals on the outside of food. Place the glitter or ink onto a vegetable that can be peeled such as a potato or cucumber. First try using safe water to wash all the glitter/ink (microorganisms/chemicals) off. Then show how peeling the skin off removes the microorganisms/chemicals, and makes the food safe to eat.

Note: Peeling of fruits and vegetables only removes microorganisms/chemicals contamination that is on the surface of the product.

This slide gives some examples of common barriers that prevent the adoption of the behaviour in Key 5 and some suggested solutions. These examples should help clarify what is meant by a barrier to adoption and provide ideas of solutions. It should be recognized that it is not always possible for a consumer to tell if a product is contaminated with microorganisms or chemicals, but using the techniques taught in Key 5 will help the consumer avoid food borne disease.

Department of Food Safety and Zoonoses

www.who.int/foodsafety

World Health Organization