This publication was produced for review by the United States Agency for International Development. It was prepared by the STOP AI Implementing Partners.
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ACKNOWLEDGEMENTS

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*Formation en biosécurité à Bamako (Mali) octobre 2008 (Agenda, v. 13 oct. 2008)*
# BIOSECURITY FOR FARMS AND MARKETS IN NIGERIA

## BLOCK SCHEDULE

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OBJECTIVES

By the end of the course, participants will be able to:

- Define avian influenza;
- Make a distinction between different avian influenza subtypes and pathogenic forms;
- Describe how the avian influenza virus is transmitted;
- Define the three principles of biosecurity: isolation, traffic control and sanitation;
- Identify potential biosecurity risks;
- Explain appropriate biosecurity measures for poultry farms (large scale and small holder);
- Explain appropriate biosecurity measures for poultry transport and those that are appropriate for Nigeria;
- Explain appropriate biosecurity measures for live bird markets (urban and rural) and those that are appropriate for Nigeria;
- Advise poultry growers, sellers, and live bird market administrators in developing a biosecurity plan;
- Transfer biosecurity concepts and techniques to various audiences.
The course will begin with an opening ceremony in which project stakeholders, dignitaries and guests are invited to address the participants and offer remarks about the STOP AI project and FAO and this one-week training course.

*Note:* each training team will need to plan this event and determine the guest list and length of time needed. Be sure to invite the media and make arrangements for a brief, private reception with the guests after the opening.

3. Begin the course by welcoming participants and introducing yourself and the training team.

4. Ask participants to:
   - Find a person you do not know.
   - Introduce yourself by sharing the following:
     - Name, where you work, your country of origin
     - Your expectations of this course
     - An item of personal information that may be interesting to the group
   - Be ready to present your new friend to the group (briefly)

5. Have each person present the person he/she just met, making sure to move things along so that this part does not take too much time
6 Review the purpose and objectives of the course.

**Purpose:**
The overall purpose of the course is to help veterinarians, poultry growers, sellers, and market administrators who are responsible for sharing biosecurity concepts, measures and techniques with various audiences.

The purpose of the training of trainer component is to familiarize participants with the contents of the course and to tools and techniques that will help them either conduct training sessions or sensitization sessions.

**Objectives:**
By the end of the course, participants will be able to:

- Define the three principles of biosecurity: isolation, traffic control and sanitation;
- Identify potential biosecurity risks;
- Explain appropriate biosecurity measures for poultry farms (large scale and small holder);
- Explain appropriate biosecurity measures for poultry transport and those that are appropriate for Nigeria;
- Explain appropriate biosecurity measures for live bird markets (urban and rural) and those that are appropriate for Nigeria;
- Advise poultry growers, sellers, and live bird market administrators in developing a biosecurity plan;
- Transfer biosecurity concepts and techniques to various audiences.

Be sure to **indicate** which of the participants' expectations will be addressed during the course and which might not. If appropriate, you can always discuss individuals' questions with them during breaks or lunch. Most important, you'll want to let people know if they have expectations that are totally beyond the scope of this course and help them identify how to get the information they want.

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**15 minutes**

**COURSE SCHEDULE, PARTICIPANT MANUAL AND LOGISTICS**

7 Have participants turn to the block schedule in their manuals and **review** how the objectives that will be addressed over the three days. Be sure to **cover** logistical details such as:

- lunch and break times and locations
- restroom locations
- time (follow clock in the room)
- hotel arrangements/rooms
- per diem
Pause and ask for participants’ reactions or questions, and ask whether they feel there is anything missing from this program.

8 Introduce the Participant Manual and describe how it will be used during the course. Highlight the following:

- The manual will be used to convey key concepts covered in the course.
- There is space to make notes as well as capture reflections.
- Reference materials are included for their use during and after the course.

Explain that participants will also receive the Trainer Guide and PowerPoint slides during the TOT portion (hard copy and on CD-ROM). Participants will have the opportunity to use these materials later in the course during their practice training.

9 Remind participants that they should pay attention to both the content and training methodology of the course because they will teach the course to their colleagues and others. Encourage them to take notes on how you deliver the course as well as on the technical points.

10 minutes GUIDELINES FOR WORKING TOGETHER

10 As in any course, having agreed-upon norms is helpful. Write the following guidelines on flipchart and review them with participants.

- Active participation
- Balance talking and listening
- Questions are welcome
- Respect each other’s points of
- Keep time (start on time, return from breaks on time, end on time)
- Switch mobile phones off or to “vibrate”

Ask the participants to decide:

- If there are any they would like to modify
- If any are missing.

Write any additional guidelines on the flipchart and check to see if everyone in the room can agree to the list. You can keep it light by asking them to simply nod their heads or raise their hands to signify agreement.

11 Warmly welcome the participants again and jump into the content of the course!
OVERVIEW OF BIOSECURITY RISKS AND PRINCIPLES

MODULE PURPOSE

To learn principles and methods for preventing an H5N1 HPAI outbreak, and to provide an overview of the natural history of AI, with particular emphasis on H5N1 Highly Pathogenic (HPAI) strain.

MODULE OBJECTIVES

At the conclusion of this module, participants will be able to:

• Define the three principles of biosecurity: isolation, traffic control, and sanitation.
• Identify potential biosecurity risks.

TIME

1 hour and 30 minutes (including break)

MATERIALS

• Trainer Guide
• Participant’s Manual
• Power Point slides
OVERVIEW OF BIOSECURITY RISKS AND PRINCIPLES

1 Welcome participants.

Explain that this module on biosecurity is the core of our training program. The term biosecurity means “protecting life.”

MODULE PURPOSE AND OBJECTIVES

2 Present the purpose of the module:

To learn principles and methods for preventing an H5N1 HPAI outbreak, and to provide an overview of the natural history of AI, with particular emphasis on H5N1 Highly Pathogenic (HPAI) strain.

Present the objectives of the module:

At the conclusion of this module, participants will be able to:

- Define the three principles of biosecurity: isolation, traffic control, and sanitation;
- Evaluate the biosecurity risks present on a farm or a live bird market.

INTRODUCTION TO BIOSECURITY RISKS AND PRINCIPLES

3 Show the graphic of disease spread. Discuss the common ways disease is spread between farms and markets – people, vehicles, birds/eggs, equipment.

Explain that we would like to explore in greater depth what specific conditions and behaviors they see in the regular course of their jobs that increase the risk of disease entering poultry farms and live bird markets. Give an example or two of what kinds of conditions and behaviors we’re talking about – e.g., a risky behavior is when people and vehicles allowed to enter and exit the farm freely, a risky condition is having standing body of water on the farm property.
Give the following table task:
- For the location assigned to your table, identify the common physical conditions and human behaviors that put poultry at risk of disease.
- Record as many as you can think of on the flip chart.
- Identify one person to present your list.
- Take about 10 minutes to create your list.

Clarify the kinds of conditions and behaviors we’re looking for:
- Conditions: poultry freely roaming about, mixing with other species and wild birds, farm/poultry houses located close to the road, etc.
- Behaviors: reusing paper egg flats that leave the farm, carcasses not removed from poultry houses regularly, etc.

Trainer note: see the Biosecurity Checklists in Appendix B and G for other examples of risk factors. Select from the checklist key risk factors to emphasize during the small group reports and discussion.

Assign one topic to each table: commercial farms, smallholder farms, dealers and transporters, live bird markets, consumers.

After the groups complete the task (or about 10 minutes has passed), ask the table that discussed the Commercial Farms to present their list. Invite the other tables to ask any clarifying questions. Ask the other tables if this list is similar to what they see on Commercial Farms. Note any additional important risk factors that haven’t been mentioned yet.

Repeat the process for the other groups highlighting new risk factors as they arise. Summarize the common risks or themes that seem to cross the different settings.

4 Have participants turn to Appendix B in the Guide, where we have provided a sample Risk Assessment Checklist for Commercial Farms, and Appendix G – Checklist for Live Bird Markets

Acknowledge that the risks are significant and can seem overwhelming. But, these risks can be minimized by biosecurity.

5 Ask participants – How do you define biosecurity? Take a few examples from the group. Show the slide with our working definition of biosecurity.

Introduce the first lesson by asking, what is biosecurity? Get some ideas from the groups and then define it:
Bio = Life
Security = Protecting
Biosecurity = Protecting Life

- Biosecurity is a set of practices designed to prevent the spread of disease into a farm or market.

- It is the process of keeping germs away from poultry and poultry away from germs.

Present the principles of biosecurity, stating that biosecurity has three major components:
1. Isolation
2. Traffic Control
3. Sanitation

Explain that good animal husbandry and management is essential to maintaining effective biosecurity measures, which means that you must ensure the good health and maintenance of poultry. Provide some examples:

- Provide adequate feed, water, air
- Remove carcasses regularly
- Keep records of flock health

Show the slide on Animal Husbandry and Management and cover the following points:

- Before you can protect the health of a flock, you must have healthy poultry.
- Growers and sellers must ensure that the basic needs of poultry are met to ensure good health and natural resistance to disease.
- Discuss the example listed of good animal husbandry practices

Show the slide on Isolation. Point out the link between isolation and some of the risk factors identified in the small groups. For example – isolation measures minimize risk of direct transmission through contact with other poultry and wild birds, and minimizes the risk of indirect transmission through contact with contaminated pests and people.

Discuss the examples listed on the slide. As you discuss the examples, pause and ask participants how or why a specific example supports the principle.
Show the slide on Traffic Control. Point out the link between traffic control and some of the risk factors identified in the small groups. For example – traffic control limits risks associated with disease entering the farm or poultry house via contaminated vehicles, people, or equipment.

Discuss the examples listed. Choose one or two of the examples and ask why these measures are necessary.

Show the slide on Sanitation. Point out the link between sanitation and some of the risk factors identified in the small groups. For example – limits risks associated with pests, minimizes the risk of vehicles/people/equipment introducing disease, etc.

Discuss the examples listed. Choose one or two of the examples and ask why these measures are necessary.

Ask for any clarifying questions about the principles. Note that this is just the introduction to the principles with a few examples and we'll be talking much more about specific practices during the rest of this week.

Note that is requires work and sometimes resources to practice good biosecurity.

Ask participants – What do you tell growers and sellers to convince them that biosecurity is worth the investment? Take a few responses, reinforce the following points:

- Prevention of disease is always cheaper than treatment
- Healthy birds are more productive
- Protecting animal health protects human health

Show slide of poultry movement from farm to table. Ask participants how do you think the practice of biosecurity differs at different points along this chain? For example, how is traffic control different at a live bird market vs. a commercial farm? How are sanitation practices different for a smallholder farmer vs. a fowl dealer?

Just take some general answers, explain to participants that this is exactly what we’ll be focusing on for the next 2 days. We’ll be looking at specific settings and discussing how the principles apply. We’ll also be talking about the ideals of biosecurity vs. the practical realities, and how to help farmers/sellers understand and implement biosecurity practices.
11 If there is time ask participants to complete their Reflection Sheet.
BIOSECURITY PRACTICES TO PROTECT YOUR COMMERCIAL FARM FROM HPAI

MODULE PURPOSE

To learn principles and methods for preventing an H5N1 HPAI outbreak.

MODULE OBJECTIVES

At the conclusion of this module, participants will be able to:

- Explain appropriate biosecurity measures for commercial farms.

TIME

2 hours and 10 minutes (including break)

MATERIALS

- Trainer Guide
- Participant's Manual
- Power Point slides
Welcome participants.

Explain that this module on biosecurity will focus on principles, messages and measures for commercial farms.

2 Present the purpose of the module:

To learn principles and methods for preventing an H5N1 HPAI outbreak at commercial farms.

Present the objectives of the module:

At the conclusion of this module, participants will be able to:

- Explain appropriate biosecurity measures for commercial farms.

3 Present the following questions for large group discussion:

- How many of you work with commercial farms?
- Who do you work with on the farm?
- How would you describe their level of knowledge about poultry diseases? About biosecurity?
- In your experience, what biosecurity practices do most farms follow?
- What are the most common biosecurity risks you’ve seen on commercial farms?

Facilitate a brief discussion on the questions to ascertain the participants’ experience with biosecurity practices. Draw upon their experiences throughout the module.

4 Introduce the core biosecurity messages for commercial and smallholder farms:

1. Practice Good Animal Husbandry
2. Design and Maintain Your Farm to Keep Diseases Out
3. Control Entry to and Movement on Your Farm
4. Keep Your Farm Clean

Refer participants to the Participant Manual that cover in detail messages 1-4 above and walk through the highlights of the messages and pictures on the slides.

1. Practice Good Animal Husbandry

1. Provide adequate feed and water
2. Remove carcasses at least twice a day
3. Cull sick birds regularly
4. Monitor and Record Flock Health
5. Never Add New Poultry to a Flock
6. Do Not Keep Multiple Species of Poultry

2. Design and Maintain Your Farm to Keep Diseases Out

Restrict Access to the Entire Farm
• Fence and gate farm
• Fence poultry area
• No standing bodies of water on the farm

3. Control Entry to and Movement on Your Farm
(major headings are below; fill in with the details on the slides):

1. Entering the Farm
2. Movement within the Farm
3. Movement from the Farm
4. Conducting Farm Business

Precautions for People Who Move Between Farms
• Do not visit more than 2 farms per day
• Do not visit more than 1 farm where birds are sick, bathe and change clothes/shoes immediately after
• Park outside the farm gate
• Wash hands/feet and change clothes/shoes before entering and upon exiting

Trainer note: When you get to the section on footbaths have a brief discussion on the following question: Ask participants, “what do you think about putting sponges and sacks in footbaths? What are the advantages and disadvantages??
4. Keep Your Farm Clean

1. Clean and Disinfect Equipment Regularly
2. Feed Management
3. Litter Management
4. Clean Poultry Houses Between Flocks
5. Pest Control

Summarize with the following key points:

- Wear clean, protective clothing and footwear when working with poultry
- Keep dedicated clothing and footwear on the farm for workers and visitors
- Prevent poultry from mixing with wild birds, other animals, and pests
- Restrict the movement of poultry/eggs, animals, manure, equipment, and people between farms and markets
- Control the movement of poultry/eggs, animals, manure, equipment, and people on the farm
- Practice basic hygiene – regular hand washing and decontaminating footwear

Ask if there are any clarifying questions before we put some of our new knowledge to work. Then, tell participants that we will be doing a quick case study to put some of our new knowledge into practice.

Case Study Task: Commercial Farm

Split participants into small groups and then hand out the case study and give the following task.

- Read the case study individually.
- In your small groups,
  - Identify the biosecurity infractions seen in the picture of the problem farm provided in your participant’s manual.
  - Discuss what ideas you have for correcting the infractions. Be ready to share your ideas with the group.
- Take about 20 minutes.

Ask the groups to offer first, what they saw as a biosecurity infractions and record those on flipchart. Then, pick a few of the most important infractions identified and ask the groups to share their ideas for correcting the infractions. Solicit the groups reactions and added suggestions.

Say that we are going to continue our discussion of biosecurity tomorrow and Wednesday looking at smallholder farms, transportation, live bird markets and planning.
11 **Ask** participants to complete the Reflection Worksheet in their manual:

- What are **three things** you want to remember from this module?
- What additional information do you need on this module?

**Encourage** several participants to share their reflections.

**Ask** participants to share some of their needs for additional information on the module and be sure to **discuss** the ways in which you will be able to address their needs within the course (in other modules and activities, during optional evening sessions, through resources and references, etc.).
BIOSECURITY PRACTICES TO PROTECT YOUR SMALLHOLDER FARM FROM HPAI

MODULE PURPOSE

To learn the basics about biosecurity risks and principles for preventing an H5N1 HPAI outbreak.

MODULE OBJECTIVES

By the end of this module, participant will be able to:

- Explain appropriate biosecurity measures for smallholder poultry farms;
- Share experiences working with smallholder poultry in Nigeria.

TIME

1 hour and 45 minutes (including break)

MATERIALS

- Trainer Guide
- Participant’s Manual
- Power Point slides
1 hour and 45 minutes - BIOSECURITY MEASURES FOR SMALLHOLDER FARMS

1. **Welcome** participants.

   **Explain** that this module on biosecurity will focus on principles, messages and measures for smallholder farms.

5 minutes - MODULE PURPOSE AND OBJECTIVES

2. **Present** the purpose of the module:

   To learn principles and methods for preventing an H5N1 HPAI outbreak at smallholder farms.

   **Present** the objectives of the module:

   At the conclusion of this module, participants will be able to:

   - Explain appropriate biosecurity measures for smallholder poultry farms;
   - Share experiences working with smallholder poultry in Nigeria.

45 minutes - BIOSECURITY MEASURES FOR SMALLHOLDER FARMS

3. **Introduce** the next lesson first by **showing** the picture that illustrates a smallholder poultry farm.

   **Present** the following questions for large group discussion:

   - How many of you work with smallholder farms?
   - Who do you work with on the farm?
   - How would you describe their level of knowledge about poultry diseases? About biosecurity?
   - What is their level of literacy?

   **Facilitate** a brief discussion on the questions to ascertain the participants’ experience with biosecurity practices. **Draw** upon their experiences throughout the module. **Flipchart** their responses.
Ask, “In your experience, what biosecurity practices do most farms follow? What are the most common biosecurity risks you’ve seen on smallholder farms?”

Explain that we’re going to look at biosecurity practices for smallholder farms. The same principles will apply, but the application will be different given the smaller size of the farms and the fewer resources available to the farmers.

Ask the participants – In general, how do you think biosecurity practices need to be different on smallholder farms as compared to commercial poultry farms?

Emphasize that biosecurity practices for smallholders need to be simpler and cheaper than for commercial farms.

Have participants spend time individually reviewing the chapter on Biosecurity Practices to Protect Your Smallholder Farm from HPAI (Section 4). Many of the recommendations are essentially the same as for the commercial farms, but the language is simpler and more illustrations are used.

Ask participants to keep note of any questions they have about any of the recommendations in this section of the Guide. Also, say that as they are reading the material to think about the practices of smallholder farms in their country as we will be asking them to share.

Explain that when we come back we will spend some time discussing how to work with smallholders to adopt these recommendations.

Mix the participants into small groups. Then, give the following task:

In your small groups discuss the following questions:
- What are the biggest challenges to adopting biosecurity practices for smallholders?
- Which do you think are the most important practices?
- Which ones will be the easiest to adopt?
- What are some ideas about how to work with smallholders to get them to adopt some of these practices?
- Take about 20 minutes for your discussion.

Lead a discussion focusing on the questions in bold. Highlight any significant difference between what you would do in a smallholder setting versus a commercial farm setting. Summarize the discussion and say that we will be putting this knowledge to use in our next exercise.

30 minutes Problem Farm Exercise
6 **Give** the following instructions (participants should work individually, then compare answers with their table group):

Follow the steps in your *Participant Manual* to complete this exercise.

- Study the illustration of the farm.
- List the biosecurity infractions you can see in the illustration of the problem farm in your participant manual?
- Choose 1-2 of the infractions.
- What should be done to correct the infractions?
- Given the discussion on how to get smallholders to practice biosecurity, what would you propose to get them to adopt these practices?

Take 10 minutes and be prepared to share your answers with the group.

**HINT:** There are at least 10 infractions pictured.

When they have finished, **ask** each table group to contribute one risk that they identified. **Go around** to each table until you have a full list. Evident risks include:

1. Carcasses left outside
2. Poultry house is not secured (chickens are out in the open)
3. Gate is open
4. Feed bin is open
5. There is a pond on the farm
6. Mixed species are on the farm
7. The vehicles is parked in front of the poultry house
8. There are weeds around the house
9. There are stray cats and dogs
10. The signs are contradictory (No Entry sign, along with a sign that says that eggs sales are inside the farm)

**Note:** participants may come up with additional items, but the ten listed above are fairly comprehensive.

**Lead** a discussion with the group to identify those risks that they believe are the highest (groups have often identified the first five in the list as the greatest risks). **Ask** the groups to share how they would convince the farmer to adopt new practices.

---

7 **Ask** participants to complete the Reflection Worksheet in their manual:

- What are **three things** you will do differently in your work and in your life as a result of the knowledge you have gained on biosecurity?
• What additional information do you need on this module?

**Encourage** several participants to share their reflections.

**Ask** participants to share some of their needs for additional information on the module and be sure to **discuss** the ways in which you will be able to address their needs within the course (in other modules and activities, during optional evening sessions, through resources and references, etc.).
BIOSECURITY PRACTICES FOR TRANSPORTING TO MARKETS

MODULE PURPOSE
To learn the biosecurity principles and methods for preventing an H5N1 HPAI outbreak when transporting poultry to market.

MODULE OBJECTIVES
At the conclusion of this module, participants will be able to:

• Explain appropriate biosecurity measures for poultry transport;
• Discuss transport of poultry in the Nigerian context.

TIME
1.5 hours

MATERIALS

• Trainer Guide
• Participant’s Manual
• Power Point slides
Trainer Guide

45 minutes  BIOSECURITY PRACTICES FOR TRANSPORTING POULTRY TO MARKET

1 Welcome participants back from break and explain that for the remainder of the morning we will be discussing recommendations for moving live poultry from farm to market.

Share the objective of our discussion for the rest of the day.

At the conclusion of this module, participants will be able to:

- Explain appropriate biosecurity measures for poultry transport.
- Discuss transport of poultry in the Nigerian context

2 Then pose the following questions to the group to get the discussion started:

- Who moves poultry to market in Nigeria?
- How often do you interact with fowl dealers and transporters?
- What are the common practices around transporting poultry to market?
- What are the common biosecurity risks?

Ask participants to turn to a partner and discuss the questions for ten minutes. Have each group contribute some of their ideas (go table to table to get a variety of responses).

Lead a brief discussion on the local practices in Nigeria, comparing the differences between rural and urban areas. Determine what interaction the participants have with dealers and transporters and what biosecurity risks they have observed.

Show the photographs of typical ways that poultry is transported in Nigeria, and ask participants to describe what they see. Then, share, some more photos of transportation practices in Nigeria.

3 Introduce the core biosecurity messages for transporting live poultry from farm to market:

1. Start with Healthy Birds
2. Don’t Spread Disease
3. Keep It Clean
Refer to the Participant Manual that cover the messages in detail.

4 Briefly walk through highlights of the messages.

1. Start with Healthy Birds
   - Only buy birds from trusted producers
   - Do not accept sick birds (even at a reduced price)

2. Don’t Spread Disease
   - Avoid collecting birds from multiple farms in one day
   - Never bring dealer/transporter cages onto farms
   - Have easily identifiable cages
   - Do not enter poultry houses to pick up birds
   - Avoid carrying people and birds in the same vehicle at the same time
   - Also avoid carrying multiple species together
   - Respect poultry movement bands during outbreaks

3. Keep It Clean
   - Clean and disinfect vehicles before and immediately after transporting birds
   - Use cages made of plastic or metal
   - Frequently dispose of and replace cages made of wood (e.g., millet stalks, raffia, palm products, bamboo)

Show some photos/illustrations that show some examples of the above.

Point to a photo/illustration that shows a traditional cage. Ask the participants what the challenges are with keeping this kind of cage clean.

30 minutes

TRANSPORTER ROLE PLAY EXERCISE

5 Give the following group exercise:

- Each table group will be assigned a biosecurity practice for transporting poultry to market to discuss with a transporter.

- With your group, decide how you will convince the transporter to adopt the practice. Develop a message you would deliver to him/her.

- Choose one person from your group to be the messenger and one to be the transporter. You will role-play the conversation.

- Take about 15-20 minutes to prepare.
Notes: Choose some practices to assign to the groups, such as those suggested below:

- Do not accept or purchase from flocks showing signs of disease.
- Avoid collecting birds from different farms on the same day
- Do not enter poultry houses to pick up birds.
- Clean and disinfect vehicles before and immediately after transporting birds
- Frequently replace (burn or bury) the traditional cages made from palm products or bamboo.

**Instruct** the groups to make the role-play brief and encourage the transporter to give some resistance. At the end of the role-plays, **ask** the group to make comments on the effectiveness of the message and the delivery.

Note: This exercise has worked very well and is a great way to end the day.

---

**REFLECTIONS**

6. **Ask** participants to take five minutes to complete the Reflection Worksheet in their manual:

- What are three points you want to remember from this module?
- What additional information do you need on this module?

**Encourage** several participants to share their reflections. **Ask** a few people to contribute one of the three key points from the module that they consider important and would like to remember.

---

1 hour **LUNCH**
BIOSECURITY PRACTICES FOR LIVE BIRD MARKETS

MODULE PURPOSE
To provide an overview of biosecurity practices specific to live bird markets.

MODULE OBJECTIVES
At the conclusion of this module, participants will be able to:

- Explain appropriate biosecurity measures for live bird markets (urban and rural);
- Share experiences from the different participating countries on how their markets are managed.

TIME
3.5 hours (including break)

MATERIALS
- Trainer Guide
- Participant Manual
- Power Point slides
BIOSECURITY PRACTICES FOR LIVE BIRD MARKETS

1. **Welcome** participants back from lunch.

2. **Present** the purpose of the module:
   
   To provide an overview of biosecurity practices for live bird markets.

   **Present** the objectives of the module:
   
   At the conclusion of this module, participants will be able to:
   
   - Explain appropriate biosecurity measures for live bird markets (urban and rural);
   - Share experiences from the different participating countries on how their markets are managed.

3. **Start this session by asking** a series of questions to get participants thinking about biosecurity in live bird markets:
   
   - What are the biosecurity challenges in live bird markets?
   - Who is responsible for improving biosecurity in live bird markets?

   Hopefully, the participants will name the municipal authorities that manage the markets and the sellers themselves (as well as vets, transporters, dealers, and farmers). If they don’t, then **introduce** municipal authorities as a key stakeholder.

   - What is the role of the municipal authorities?
   - What is under their control?
   - How would you describe their level of knowledge about poultry diseases?
   - About biosecurity?
• What's their level of literacy?

**Record** the main points on flipchart, we'll come back to this information later in the course.

**PPT 4-13**

4 **Direct** their attention to the *Participant Manual* section for live bird markets. **Explain** that this is written specifically for municipal authorities who manage urban live bird market. **Present** the key messages for municipal market managers, using the slides and manual:

- Locate markets away from food
- Control the flow of traffic in the market
- Provide for good sanitation
- Educate sellers about biosecurity practices
- Conduct regular disease surveillance

**Ask** for any questions of clarification.

**PPT 14**

5 **Have** participants discuss with a partner:

- What are the easiest recommendations to implement?
- Which are the hardest? What are the obstacles to adoption?
- How can you overcome these obstacles?

**Ask** partners to share the highlights of their discussion. **Take** a few responses for each question in turn, spend most of the time discussing the obstacles and ideas for overcoming them. **Explain** that next we will be discussing biosecurity for poultry sellers in live bird markets.

**45 minutes**

| LESSON 3 AND LESSON 4: BIOSECURITY FOR POULTRY SELLERS AND IN RURAL LIVE BIRD MARKETS |

**PPT 15**

6 **Ask**:

- What role do the poultry sellers in the market play in biosecurity?
- How would you describe their level of knowledge about poultry diseases?
- About biosecurity?

**Record** the key points on flipchart, we'll come back to these points on the last day of the course.
**Draw** their attention to the *Participant Manual* sections on poultry sellers and rural markets

**Present** the 2 most important points:
- Never buy or sell sick poultry
- Never sell carcasses of dead poultry

**Present** the key messages:
- Start with healthy birds
- Be alert for illness in your birds
- Keep it clean
- Do not mix different species of poultry
- Use well constructed cages that are easy to clean

**Highlight** the differences between the urban sellers and rural market messages – the rural market has one additional concept about Organizing the Market.

**Take** questions of clarification.

**Give** the following task:
At your table, discuss:
- Which recommendations are easiest to implement? Why?
- Which are hardest? Why?
- How best can you convey the messages?
- How can you encourage adoption of these practices?

**Have** each table present the highlights of their discussion.

**Ask:**
- What are you learning about how to encourage and support biosecurity in live bird markets?
- What ideas do you have about working with the municipal authorities and poultry sellers to increase biosecurity?

**Record** the main points on flipchart.
Lesson 5: Biosecurity Practices for Consumers

Ask:

- What do consumers need to know and do to be safe from H5N1 HPAI?
- How do you reach the consumers to communicate this information?
- What can poultry sellers do to promote safe poultry handling and preparation?
- What can municipal authorities do?
- What can you do?

Then, ask, “What do you think about the new trend of market processing? How safe is this practice?”

Then, highlight the safe cooking practices for consumers:

- Eat only healthy birds
- Wash your hands before cooking
- Chop raw vegetables first
- Prepare raw meat and eggs next
- Wash your hands after touching raw meat/eggs
- Clean all surfaces that touch raw meat/eggs
- Cook meat thoroughly
- Eat (or refrigerate) cooked foods within 2 hours

Take any questions of clarification. Say that we are now going to put some of this new knowledge to work for live bird markets with a new case study.

Case Study: Biosecurity Planning for Live Bird Markets

Welcome participants back. Explain that we want to spend some time assessing biosecurity risks in live bird markets.

Ask participants to individually complete the following exercise. Distribute the scenario.

Give them the following task:

- Read the live bird market scenario
• Identify the risks
• Be prepared to share your lists in plenary
• You have 10 minutes

Facilitate a brief report out asking participants to share one risk. Go around the room until you have a comprehensive list of risks.

NOTE: If you have time ask “what are the top 2-3 risks for the market?” Get some responses and check for group consensus. Then say “what recommendations would you provide to the committee for these top risks?”

Ask “What is one important idea that you’re taking away from this discussion about how to increase biosecurity in live bird markets?” Go around the room and get some responses. Note any themes.

Refer participants to Annex A (in the Biosecurity Practices for Live Bird Markets section) on cleaning and disinfection if they are interested in more information.

Show the safe travels slide and move to reflection.

5 minutes REFLECTION

23 Ask participants to take five minutes to complete the Reflection Worksheet in their manual:

• What are three points you want to remember from this module?
• What additional information do you need on this module?
CLEANING AND DISINFECTION PRINCIPLES

MODULE PURPOSE

To familiarize participants with the concepts of decontamination and decontamination procedures appropriate for use in a farm or market.

MODULE OBJECTIVES:

By the conclusion of this module, participants will be able to:

- Define cleaning and disinfection and explain what each accomplishes;
- Describe the safe use of disinfectants;
- Explain the importance of PPE use in cleaning and disinfection;
- Review the information on a disinfectant (chemical) label;
- Explain the process of selecting and preparing disinfectants;
- Describe how to carry out cleaning and disinfection in farms and in live bird markets.

TIME

2 hours, 15 minutes

MATERIALS

- Trainer Guide
- Participant Manual
- Power Point slides
- Tape measures
- Disinfectant labels
1 Welcome participants.

Make the point that decontamination is key to human and animal health.

2 Present the purpose of the module:

To familiarize participants with the concepts of cleaning and disinfection procedures appropriate for use live bird markets.

Present the specific objectives of the module:

By the conclusion of this module, participants will be able to:

- Define cleaning and disinfection and explain what each accomplishes;
- Describe the safe use of disinfectants;
- Explain the importance of PPE use in cleaning and disinfection;
- Review the information on a disinfectant (chemical) label;
- Explain the process of selecting and preparing disinfectants;
- Describe how to carry out cleaning and disinfection in live bird markets.

3 Begin by providing some introductory information on cleaning and disinfection (this material is largely contained on the Power Point slides).

Define decontamination as “removal or neutralization of disease organisms (or hazardous chemicals) through a process of cleaning and disinfection.”

4 Ask participants, “Why do we clean and disinfection in a live bird market?” and get some answers.

Show the slide that tells why we decontaminate:

- Destroy viruses and other disease organisms
- Prevent contamination of people
• Decontaminate vehicles used for transporting poultry
• Allow for safe repopulation of cages

Ask for a few brief examples of decontamination practices that are used in Nigeria.

5 Describe how long the avian influenza virus can survive and the agents that can deactivate it.

Virus can survive:
• Up to 4 days at 22°C
• 35 days at 4°C in poultry droppings
• >30 days at 0°C in water
• Virus can survive several days in carcasses at room temperature or up to 23 days if refrigerated

Show the photos and describe them: the bird on the left appears to have died very recently – there are no signs of decomposition. In high temperatures, birds decompose rapidly and the virus is destroyed in the process. The bird on the right is in a walk-in cooler/refrigerator. Then, state some of the ways the virus can be carried:
• Hands
• Skin
• Clothes
• Shoes
• Equipment
• Bedding
• Manure

Explain that live bird markets are a likely source of HPAI transmission. Show the three photos of scenes from live bird market: a storefront market, cages of birds in an outdoor market, and in an indoor market.

Ask the participants to comment on some of the obvious risks they see in the photos. Check to see if similar scenarios might be found in Nigeria and point to additional information in the Participant Manual.

Then describe some agents that deactivate AI:
• Some soaps when used with water
• Many household detergents / cleaners
• Disinfectants and chemicals
• Sunlight
• Heat

6 Present a definition:
Decontamination = Cleaning + Disinfection
1. Clean: remove organic material, dirt and grease
2. Disinfect: using an appropriate disinfectant for the job.

**Explain** that cleaning is a two-step process. **Describe** dry cleaning:

- Dry cleaning: Using a brush, a rag or tools such as blow dryers to remove dry organic material
- Dry cleaning should not be used for cleaning poultry houses which contained flocks infected with HPAI
- Dry cleaning may cause aerosolization of the virus and increase the risk of infection for humans

**Make** this point:
Virus is spread when virus-containing particles are stirred up into the air (aerosolization). An essential HPAI prevention tactic is to avoid actions that raise dust and to carefully wet the area down with disinfectant. The less chance the virus has to get into the air, the less chance it will be breathed in by humans or other birds!

Next, **define** wet cleaning:

- Wet cleaning: Using soap and water, soak the area and scrub to remove remaining organic material as well as dirt and grease
- Wet cleaning reduces the risk of aerosolization of virus

**Point out** that cleaning is improved with:

- Soaps
- Detergents
- Warm water
- Scrubbing
- Brushing
- Power washers

And then **give** an example of how to clean a live bird market:

- Remove manure down to bare concrete or wood
- If possible, use high-pressure spray to clean
- Disinfect

**Provide** some detail on soaps and detergents:

- Destroy the fat in the virus membrane, killing the virus
- Membrane is double outer and inner white layer in diagram and the dark outer ring in electron micrograph

**Present** some disinfection concepts:

- Disinfectants work by affecting the microbe’s cells by:
  - Disrupting the cell structure
- Blocking its ability to enter a new cell
- Stopping reproduction

- Disinfectants are divided into several groups based on their chemical structure
- Some of the more common disinfectants are:
  - Oxidizing agents such as hydrogen peroxide and Virkon
  - Alcohols such as ethanol
  - Halogens such as sodium hypochlorite or bleach

Ask about the common disinfectants available in Nigeria. Discuss the pros and cons of a few and show the list of common disinfectants in the participant manual.

Emphasize that disinfectants are chemicals and utmost care should be taken when using them. Many are skin, lung and eye irritants. Manufacturer’s directions should be always followed. Present the slides on proper personal protection.

Then, give a brief summary and a quick on the spot quiz if there is time.

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**Reading the Information on a Disinfectant Label and Selecting and Calculating the Right Disinfectant**

Say that we are going to spend some time on 2 practical application concepts – reading a chemical information label and calculating the amount of disinfectant.

Show a picture of a typical label and then highlight the importance of reading the chemical beforehand. Reemphasize the value of the information it provides.

Then, review the basic parts of the label and point participants to the appropriate pages in the Participant Manual for additional information.

Explain also the factors that one would consider in choosing the correct disinfectant.
Ask the participants how they would go about choosing the right disinfectant.
The choice of disinfectant will depend on the following:
- Cost
- How efficiently it destroys viruses and other organisms
- Temperature
- Activity with organic matter
- Toxicity - how safe is it for both animals and humans?
- Contact time and residual activity
- Effect on fabric and metal equipment
- Solubility (acidity, alkalinity, pH)
- Smell

Highlight some additional information on the concept of temperature before moving onto a summary of important disinfection concepts. Next, walk through the slides on disinfection concepts, highlighting the following.

- Disinfectants need to be mixed properly to be effective
- Check label for instructions on safe use
- As a safety measure, never mix disinfectants from the different chemical groups
- Organic material such as excrement or dirt absorbs disinfectants and makes them less effective: clean before you disinfect
- Rinsing with water is not enough – WATER CAN SPREAD THE VIRUS.
- Both detergents and disinfectants must be used
- Bird feces is the biggest danger for spreading the avian influenza virus
- Disinfect cages when moving birds
- Transmission of the virus has been strongly linked to transporting live birds, contaminated dead birds or litter in vehicles
- Be sure to decontaminate all vehicles and equipment!

Take five minutes and allow the participants to consider the information provided in the slides on cleaning and disinfection. Say that we are going to move onto some exercises that are essential to good disinfection.

Provide participants with common disinfectant labels and have them complete the following exercise individually:
- Using the label provided, answer the questions in your Participant Manual on p. 13.
- Be prepared to share in 10 minutes.
Discuss the answers with the group and highlight any parts that the group is struggling with. Say that we are going to come back to this again in our next exercise.

Say that we will now focus on how to calculate the spray mixing rate, the chemical dilution rate and the amount of chemical needed. Give the following scenario as an example to walkthrough:

- How much disinfectant do I need, using Virkon S powder as an example?

Show the slide on spray mixing rate for Virkon S and provide participants with the following formula for calculating floor area into room area:

Room area = Floor area × 2.5

So, 10m² of floor area = 25m² of room area

Say now that we have calculated the room area we need to figure out how much water to use. Review the formulas for floor area and room area and remind participants that we know from the slide before that we need 300ml per m².

Then, show the formula for calculating the amount of water to use and give an example. Have participants try calculating the amount of water before you give the answer. Check for understanding before moving onto the next formula.

Next, have participants look to the list of disinfectants and to find the dilution rate for Virkon S. Explain that 1:100 or a 1% dilution rate = 1 gram of chemical for every 100 ml of water or 10 grams of Virkon S for every 1 liter of water.

Note that most disinfectants are liquid so a 1% dilution = 1 ml of chemical for every 100ml of water. Then, check their knowledge with a quick quiz.

Note that the final formula we need to review is how to calculate the amount of chemical needed. Give the following question:

- If floor area is 40 m² and Virkon S powder is required to spray the floor, walls and ceilings at 1% dilution and sprayed at 300ml per sq. metre, how many grams of Virkon S powder are required?

Walk participants through the calculation. Ask what do we need to do first? Get some answers/share that you need to first calculate the room area.
40 m² (floor area) × 2.5 = 100 m²

Then, ask what do we do next, get some answers/share that we need to calculate the amount of water needed.

100 m² (room area) × 300 ml/m² (spray mixing rate) = 30 liters of water (3% additive)

Finally ask what is our final step, get some answers/share that we need to use the dilution rate to calculate the amount of Virkon S needed. Ask participants, what was the dilution rate for Virkon S? (A: 1%)

Then, show the final calculation:
30 liters × 10 grams/liter (dilution rate) = 300 grams Virkon S

Review any parts of the process that participants are having difficulty with. Then, say we are going to take some time to practice this in small groups.

Give the following task:
- Image this room is a live bird market space that you have been asked to disinfect. Using the chemicals on your table, calculate how many grams of chemical X would be needed to properly disinfect this room.
- We will provide you with a tape measure.

30 minutes

LESSON 2: APPLYING DISINFECTANTS AND CLEANING

10 Ask participants, what are some of the steps you go through to clean and disinfect farms and markets?

Present the steps for cleaning and disinfecting a farm or market. Answer any questions participants have about the contents.

Ask if there are any questions on the steps and move to a review of the concepts of disinfection.

11 Review the decontamination concepts presented in this module.

- Viruses can be killed by sunlight, heat, drying, and most disinfectants
- Organic material such as excrement or dirt absorbs disinfectants and makes them less effective: clean before you disinfect
- Rinsing with water is not enough--WATER CAN SPREAD THE VIRUS.
- Both detergents and disinfectants must be used
- Bird feces is the biggest danger for spreading the avian influenza virus
- Disinfect cages when moving birds
Transmission of the virus has been strongly linked to transporting live birds, contaminated dead birds or litter in vehicles.

Be sure to decontaminate all vehicles and equipment!

Discuss the following review questions:

- Why is the house washed with detergent before disinfectant?
- Why should poultry be removed from cages when cleaning?
- Why is the manure and litter taken a long way from the market?
- Why is the disinfectant left on a surface for at least one hour?
- How do you know which disinfectant to use?

Show the picture and ask what chemical handling problems they can identify. Evident risks include:

- Spraying birds with disinfectant DOES NOT cure disease.
- Man is not wearing protective clothing.
- No hat or gloves.
- Motorcycle rider is being sprayed with chemical.
- Wind is blowing spray over non target area.

Point participants to the Case Study Exercise on page 15 in the Participant Manual.

You are part of a team that has been asked to clean and disinfect (C&D) a poultry farm in Kwara State that was depopulated within the past 24 hours due to an outbreak of HPAI.

The poultry farm consists of one large building (35 x 300ft or 10.7m x 91.5m) and housed 20,000 4 week-old broilers. The farm owners attempted to do it with only one sprayer and using formalin as a disinfectant (see picture below).

The government of Kwara State has agreed to subsidize the decontamination costs for the farmer.

1. How can you help the farmer do a better C&D (refer to the picture) with the funds the government has allocated?

2. What do you see wrong with this picture?

3. What disinfectants will you recommend?

Take ten minutes for your discussion and choose a reporter.

Lead a whole group discussion on their answers, filling in information and providing suggestions along the way.
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<th>REFLECTION</th>
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1. **Ask** participants to complete the Reflection Worksheet in their *Participant Manual*:
   - What are two key decontamination procedures you will remember to apply in the event of an outbreak?
   - What additional information do you need on this module?

3. **Encourage** several participants to share their reflections. **Ask** participants to share some of their needs for additional information on the module and be sure to **discuss** the ways in which you will be able to address their needs within the course (in other modules and activities, through resources and references, etc.).

| 15 minutes | BREAK |
BIOSECURITY PLANNING FOR COMMERCIAL FARMS AND LIVE BIRD MARKET ADMINISTRATORS

MODULE PURPOSE

To provide an overview of biosecurity planning for commercial farms and live bird market administrators.

MODULE OBJECTIVES

At the conclusion of this module, participants will be able to:

• Assist poultry growers, sellers and live bird markets administrators in developing a biosecurity plan for their farm or market.

TIME

2 ½ hours

MATERIALS

• Trainer Guide
• Participant Manual
• Power Point slides
Welcome participants back.

Present the purpose of the module:

To provide an overview of biosecurity planning for commercial farms and live bird market administrators.

Present the objective of the module:

At the conclusion of this module, participants will be able to:

• Assist poultry growers, sellers and live bird markets administrators in developing a biosecurity plan for their farm or market.

Start this session by asking participants how familiar they are with biosecurity planning? What kinds of biosecurity planning do your countries practice for commercial farms? For live bird markets?

Then, ask “for those of you who have done biosecurity planning, what are some of the steps in the process?”

Get a few answers and then present the suggest process for developing a biosecurity plan.

• Define the objectives
• Assess risk
• Establish biosecurity procedures
• Train staff!
• Monitor the effectiveness of the biosecurity plan.

Explain to participants that we’re going to work with a case scenario this morning around biosecurity. They’ll work in groups to identify biosecurity risks
and then develop a biosecurity procedure to address that risk.

**Introduce** the case scenario of a live bird market with a brief overview. **Hand out** the scenario and give the participants time to read it.

**Give** the following task:

- At your table, identify the biosecurity risks on the farm.
- Prioritize the risks from greatest to lowest threat.
- Take about 15 minutes.

When the groups are ready (or 15 minutes have passed) **ask** each group to present their list. **Record** the risks on a flip chart.

**Select** the 4 or 5 greatest risks identified by the group as a whole. **Assign** one risk to each table and give them the following task:

- At your table, create a procedure the farm workers can take that will minimize the biosecurity risk assigned to you.
- The procedure should be clear, simple, and require as few additional resources as possible.
- Be clear about what will be done, by whom, where, and when. You can use the SOP template in your participant manual.
- Identify one person to present your SOP.
- Take about 30 minutes.

**Explain** to the participants that we will be taking a 15 minute break before the groups present their SOPs. They will have 30 minutes to complete the task and take a break, they can manage their time as they chose, but should be ready to present their SOP 30 minutes from now.

### 45 minutes

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### 15 minutes

**BREAK**
Explain that we want to spend some time thinking about how to do biosecurity planning in live bird markets.

Give them the following scenario:

- In this exercise, you will be evaluating the biosecurity efforts of a specific setting and creating a plan for improvements. With your group, choose the setting that you will use for this exercise: commercial farm, smallholder farm or live bird market.

Divide the participants into groups (about 4 groups).

Give the groups this task:

- Turn to page 7 your Participant Manual and follow the directions. Work with your group to complete the exercise.
- Choose a reporter and be prepared to share your answers with the group.
- You have 45 minutes for this exercise.

Have each group share their top three measures. Invite any questions of clarification from the other groups.

After each group has presented their SOP, ask the following question:

- What is one important idea that you’re taking away from this discussion about how to increase biosecurity in commercial farms and live bird markets?

Ask participants to take five minutes to complete the Reflection Worksheet in their manual:

- What are three points you want to remember from this module?
- What additional information do you need on this module?
FIELD VISIT OBSERVING BIOSECURITY

MODULE PURPOSE

To provide an opportunity to apply technical knowledge on biosecurity to a real world farm setting through farmer and market (municipal) administrator/seller interviews.

MODULE OBJECTIVES

At the conclusion of this module, participants will be able to:

• Complete a data collection and outbreak investigation form;

• Identify biosecurity infractions and recommend solutions for dealing with the infractions.

TIME

1 day (including debriefing)

MATERIALS

• Trainer Guide
• Participant Manual
• Commercial Farm Data Collection Sheet
• Commercial Farm Risk Assessment Checklist
• Commercial Hatchery Risk Assessment Checklist
• Feed Mill Risk Assessment Checklist
1 day  

FIELD VISIT OBSERVING BIOSECURITY

1. **Welcome** participants and brief them on the plans for the field visit.

   *Note:* Do this the day before the field visit.

   The field visit will take about half a day. Activities will vary according to what is available; consider selecting a location that has a hatchery and feed mill in addition to a poultry farm.

5 minutes  

PURPOSE AND OBJECTIVES

2. **Review** the purpose of the module:

   To provide an opportunity to apply technical knowledge on biosecurity to a real-world farm setting through farmer and market (municipal) administrator/seller interviews.

   **Review** the objectives of the module:

   At the conclusion of this module, participants will be able to:

   - Complete a data collection and outbreak investigation form;
   - Identify biosecurity infractions on a farm or in a live bird market and recommend solutions for dealing with the infractions.

4-5 hours  

FIELD VISIT

3. **Explain** the plans for the field visit.

   Participants will be divided into five teams so that they can work together to complete the observation sheets and checklists (pre-assign the teams).

4. **Describe** the team task for the field visit:

   Team Task: Preparation
   - With your team, review the field visit forms and checklists that you will fill out. Plan how you will organize yourself in your teams (how you’ll use your time, share assignments to complete the forms, etc.).
   - Identify what you want to pay attention to and take note of at the various
sites.

- Identify what questions you want to ask the owner/manager and workers.
- Do not limit yourself to the checklist, ask additional questions that will help you assess the biosecurity situation of the farm or market.

Team Task: Onsite During the Interview

- Record biosecurity risks and strengths obtained from direct interviews
- Complete the checklists

Team Task: Debriefing the Field Visit

- Prioritize the biosecurity risks
- Develop recommendations to address the top risks
- Plan how you would communicate your findings and recommendations to the owners/managers and workers
- Be prepared to share your findings and recommendations with the group

Be sure to **clarify** the instructions and ensure that the group understands the plans!

5 **Share** information on the names and locations of the field visit sites, as well as logistics for the trip. **Answer** any questions the participants have.

6 **Conduct** the field visit. Facilitators should divide themselves among the groups and be available as a resource to participants if they need assistance in completing the activity.

**Remind** the participants that their role is to make observations and ask questions and not to criticize or judge the owners/managers of the sites.

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7 **Lead** the participants through a thorough debriefing of the visits. **Focus** on the participants’ application of technical knowledge on biosecurity and surveillance planning to real world settings.

**Draw** out the participants’ observations through this debriefing exercise:

With your team, discuss and record on flipchart paper:

- Some general observations and findings
- The top 3 biosecurity risks you observed
- Recommendations to address the 3 top risks
- Your communications approach for sharing your recommendations with the owners/managers and workers

- You have 1 hour to prepare. Each team will have 10 minutes to make a brief presentation on your findings.
Allow the groups to work together to plan for their presentations.

Encourage the teams to listen to each other’s presentations and give these guidelines:

As you listen to each group’s presentation, think about these questions:
- What did you like about their recommendations and/or approach?
- What advice would you give them about their recommendations and/or approach?

Lead the groups through their report outs and facilitate a discussion on their findings.

Summarize the field visit findings by asking the following questions:
- What are you noticing about the biggest biosecurity risks in the field?
- Does what you’re hearing confirm what you’ve observed in the past or does it surprise you?
- What are you learning about what it will take to address these risks?

10 minutes REFLECTION

Ask participants to complete the Reflection Worksheet in their manual:
- What new ideas are you taking away about communicating and working with different groups on biosecurity?
- What additional information do you need on this module?

Encourage several participants to share their reflections.

Ask participants to share some of their needs for additional information on the module and be sure to discuss the ways in which you will be able to address their needs within the course.

CLOSE
BIOSECURITY EXERCISE

MODULE PURPOSE

To provide an opportunity to apply technical knowledge on biosecurity and surveillance planning to a real world farm setting.

MODULE OBJECTIVES

At the conclusion of this module, participants will be able to:

- Complete a data collection and outbreak investigation form;
- Identify biosecurity infractions and recommend solutions for dealing with the infractions.

TIME

4 hours (including break)

MATERIALS

- Trainer Guide
- Participant Manual
- Commercial Farm Photos
- Commercial Farm Description
- Commercial Farm Case Study (If owner/manager cannot attend)
- Commercial Farm Data Collection Sheet
- Commercial Farm Risk Assessment Checklist
- Smallholder Farm Photos
- Smallholder Farm Description
- Smallholder Farm Case Study (If owner/manager cannot attend)
- Smallholder Farm Data Collection Sheet
- Smallholder Farm Risk Assessment Checklist
- Feed Mill Photos
- Feed Mill Description
- Feed Mill Case Study (If owner/manager cannot attend)
- Feed Mill Risk Assessment Checklist
- Feed Mill Data Collection Sheet
Welcome participants and brief them on the plans for the biosecurity exercise.

The exercise will take about half a day. Activities will vary according to what farms can be photographed and which owners/managers are available for interviews (or can be interviewed to develop case studies).

Review the purpose of the module:

To provide an opportunity to apply technical knowledge on biosecurity and surveillance planning to a real world farm setting.

Review the objectives of the module:

At the conclusion of this module, participants will be able to:

- Complete a data collection and outbreak investigation form;
- Identify biosecurity infractions.

The region of _____ has asked for your assistance in assessing the biosecurity risks and the development of recommendations to prevent the spread of HPAI H5N1 in three different settings:

- Commercial Farms
- Smallholder Farms
- Feed Mills

Given the current security situation we cannot go to the farms, but regional officials they have provided sample photos from each of these settings for your review.

In addition, some of the owners/managers have agreed to come to our site to be interviewed. Those who cannot join us have submitted written statements.
Participants will be divided into three teams so that they can work together to complete the observation sheets and checklists for their assigned location.

Describe the team task for the field visit:

Team Task: Preparation
- With your team, review the field visit forms and checklists that you will fill out. Plan how you will organize yourself in your teams (how you’ll use your time, share assignments to complete the forms, etc.)
- Identify what you want to pay attention to and take note of in the photos for your site
- Identify what questions you want to ask the owner/manager and/or workers

Team Task: Identifying Biosecurity Risks and Strengths
- Observe and record biosecurity risks and strengths you see in the photos provided
- Gather additional information about current practices by reading the case study and/or interviewing owners/managers
- Complete the forms and checklists

Team Task: Debriefing the Field Visit
- Prioritize the biosecurity risks
- Develop recommendations to address the top risks
- Plan how you would communicate your findings and recommendations to the owners/managers and workers

- Be prepared to share your findings and recommendations with the group

Be sure to clarify the instructions and ensure that the group understands the plans before you hand any of the exercise materials out.

Hand out the information packets to each group. In each packet there should be:
- A description of the site
- Photos of the site
- Checklists for each participant
- Data collection forms for each participant
- A case study from the owner/manager (if they cannot come to the training to be interviewed).

Also, if owners/managers can attend to be interview, tell participants how long they will be available to answer questions.

TRAINER NOTE: If you want to give participants the opportunity to practice interview skills and owners/managers cannot attend, another option is to have the trainers/facilitators play the role of a farm/mill manager owner. If you choose this option, do not include the case study in the group packets. Instead have the trainers/facilitators read the case study from the owner/manager to prepare for their role as well as to look over the photos and description of the site. Ideally, one trainer/facilitator would manage the activity while the other
Trainer/facilitator plays the roles so that the exercise continues smoothly. If there are not enough trainers/facilitators to play all parts, set up interview times with each group and have the trainer switch roles for each group.

6 Tell participants that they will have 1 hour to complete this portion of the biosecurity exercise and that they will have a 15 minute break before moving into the debriefing. Facilitators should divide themselves among the groups and be available as a resource to participants if they need assistance in completing the activity OR if you choose to roleplay the owners/managers, one facilitator should float among the groups.

Remind the participants that their role is to make observations and ask questions and not to criticize or judge the owners/managers of the sites.

15 minutes BREAK

1 hour, 50 minutes DEBRIEFING

7 Lead the participants through a thorough debriefing of the exercise. Focus on the participants’ application of technical knowledge on biosecurity and surveillance planning to real world settings.

Draw out the participants’ observations through this debriefing exercise:

With your team, discuss and record on flipchart paper:

- Some general observations and findings
- The top 3 biosecurity risks you observed
- Recommendations to address the 3 top risks
- Your communications approach for sharing your recommendations with the owners/managers and workers

- You have 1 hour to prepare. Each team will have 15 minutes to make a brief presentation on your findings. Tell the team to include a brief description of their site.

Allow the groups to work together to plan for their presentations.

8 Encourage the teams to listen to each other’s presentations and give these guidelines:

As you listen to each group’s presentation, think about these questions:

- What did you like about their recommendations and/or approach?
- What advice would you give them about their recommendations and/or
Lead the groups through their report outs and facilitate a discussion on their findings.

9 Summarize the field visit findings by asking the following questions:

- What are you noticing about the biggest biosecurity risks in the field?
- Does what you’re hearing confirm what you’ve observed in the past or does it surprise you?
- What are you learning about what it will take to address these risks?

10 minutes REFLECTION

10 Ask participants to complete the Reflection Worksheet in their manual:

- What new ideas are you taking away about communicating and working with different groups on biosecurity?
- What additional information do you need on this module?

Encourage several participants to share their reflections.

Ask participants to share some of their needs for additional information on the module and be sure to discuss the ways in which you will be able to address their needs within the course.
TAKING THE LEARNING HOME

MODULE PURPOSE

To provide participants with an overview on what it takes to change behavior and how to transfer the knowledge and techniques from this course to other audiences.

MODULE OBJECTIVES

At the conclusion of this module, participants will be able to:

• Transfer these concepts and techniques to various audiences (poultry transporters, consumers, sellers, and market administrators).

TIME

8 hours (including break and lunch)

MATERIALS

• Trainer Guide
• Participant Manual
• Power Point slides
• Flipcharts
• Markers
• Certificates
• Evaluations
1. **Welcome** participants back for the final day, explain that we are going to spend today focusing on how we can bring the information from this course to others and plan how we might apply this new knowledge beyond the course.

2. **Introduce** the idea that adopting biosecurity requires behavior change. Their role as veterinarians is to encourage and support behavior change.

   **Ask** participants to think of a time when they personally wanted to change their behavior – a habit that they had. Maybe it was quitting smoking, for instance.

   **Ask** them to make some notes for themselves about:
   - What was hard about changing your behavior?
   - What helped you change?
   - What got in the way?

   Give participants about 3-5 minutes to complete the task.

   **Take some responses and summarize** any common themes.

   **Present** the slide on behavior change. **Make the following points:**
   - In order for people to be motivated to change their behavior, they must know why changing their behavior is in their interest. “What’s in it for me?” is the question we all naturally ask ourselves.
   - People are motivated to change by risk, return, or a combination of both. To encourage behavior change you need to clearly communicate both.
   - Return on changing behavior is some sort of benefit or gain from the change.
   - Risk is some consequence that the person could or will face if they don’t change.
   - It’s particularly helpful if the risk of not changing behavior is greater than the return gained by changing.
   - So what does that mean? What do you need to do as trainers/coaches to
get farmers/sellers to adopt biosecurity practices? What can you do?

- You can recognize and articulate the positive return if behavior is changed. For example – the return on biosecurity is that healthy chickens are more productive (more eggs, longer life, greater weight).

- You can articulate the risks associated with not changing behavior. For example - the risk of not adopting biosecurity practices is that H5N1 HPAI could enter your farm and wipe out your entire flock, and could sicken or kill you, your family, or your workers.

- It is also helpful to be able to counter the concerns and fears of farmers around behavior change with concrete examples and stories of the benefits gained from implementing specific biosecurity practices.

**Explain** that we’re going to spend the rest of the day practicing how to do those things.

<table>
<thead>
<tr>
<th>45 minutes</th>
<th>TARGET AUDIENCE ANALYSIS</th>
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<tbody>
<tr>
<td>PPT 5-6</td>
<td>3</td>
</tr>
</tbody>
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*Say* that we are going to start off by looking indepth at who our audiences might be.

*Divide* the participants into 4 groups. *Assign* each group a target audience to focus on:

1. Poultry dealers and transporters
2. Municipal Market Authorities
3. Live Bird Market Sellers
4. Commercial farmers/workers
5. Smallholder farmers/workers/family

*Provide* each group with the flipcharts generated for their audience about their level of experience, resources, and what’s important to them. (Note: You can create these yourselves or have the participants define them as part of their task).

*Assign* the following task:

- Choose one biosecurity concept to educate your target audience about (e.g., how to clean and disinfect vehicles).

- Identify your target group’s general characteristics, experience with biosecurity/poultry diseases, education/literacy level, interests, risks and returns.
• Choose the best method and setting for teaching your audience — one-on-one, formal classroom instruction, storytelling, posters, in person visit, phone calls, etc.

• You have 30 minutes.

While the groups are working, walk around and monitor their progress. If they seem to be heading in the wrong direction (e.g., selecting too broad a concept to work with), provide them with some guidance.

Ask each group to present their chosen concept and audience analysis.

15 minutes  BREAK

2 hours  DEMONSTRATION PREPARATION

PPT 7  Explain to the participants that now that they’ve conducted an analysis of their target audience, the next step is to plan how to teach them the concept you have identified.

Give the groups the following task:

• Prepare a short (10 min) demonstration of how you would teach your selected topic to your target audience. Feel free to use the tools in the manual (posters, etc.).

• Be prepared to conduct the demonstration with the rest of the class acting as your target audience in the setting you’ve specified.

Explain to participants that they’ll have 2 hours to prepare. The lunch break will fall in the middle of that. Announce when it is time to go to lunch, and be sure to tell them how much time they will have when they return.

1 hour  LUNCH

PPT 8  Have each group conduct their demonstration. Take about 30 minutes for each group to present and get feedback from the group.

Ask the other groups to pay attention to and give feedback in the following areas:

• How effective were they?
• What advice would you give?
If any key biosecurity concept is missing from the demonstrations as a whole, take the opportunity at the end of all the demonstrations to discuss it further with the group. Try to find out why the groups didn’t choose that topic. The groups may not have picked the topic because they weren’t clear about it or didn’t think it was important.

<table>
<thead>
<tr>
<th>30 minutes</th>
<th>APPLICATION PLANNING</th>
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<tbody>
<tr>
<td><strong>PPT 9-10</strong></td>
<td><strong>Explain</strong> to participants that planning how they will use what they’ve learned in this course is a critical step to success. In fact, research has shown that if you don’t use new skills acquired in training within two weeks, that learning is lost.</td>
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<tr>
<td><strong>Ask</strong> them to individually complete the worksheet in their binder.</td>
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<tr>
<td><strong>Ask</strong> participants to share their responses in pairs.</td>
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<td><strong>Take a few examples</strong> of key learnings, actions, and expected obstacles.</td>
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<tr>
<td><strong>Hand out</strong> the Course Evaluations and ask participants to complete them.</td>
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<tr>
<th>15 minutes</th>
<th>CLOSING</th>
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<tr>
<td><strong>PPT 12-13</strong></td>
<td>Closing ceremonies are conducted in different ways in different countries so you will need to inquire about the local custom. You may wish to invite a senior person or dignitary to make some congratulatory remarks or you might wish to ask a participant to say a few words on behalf of the class. In either case it is good to plan this in advance.</td>
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<td>Regardless of whomever else might speak, you or one of the trainer team should say a few words – thanking participants for their time and attention, wishing them well etc.</td>
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<td>As part of the closing ceremonies, <strong>hand out</strong> the certificates to participants.</td>
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<td><strong>Adjourn</strong> the course.</td>
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