FOOD SAFETY FOR SME FOOD BUSINESS ENTREPRENEURS
MODULES

This marks the beginning of training content. All the sessions, objectives, requisite material, activities, timelines, and facilitation steps that will be undertaken by participants are outlined below.

MODULE I: INTRODUCTION TO FOOD PROCESSING AND PRESERVATION

About the Module
This module is designed to teach fundamental principles and best practices and methodologies for starting and running a Food Processing and value addition business of high quality and safety. The module is highly experiential and action-based. The module covers six topics that give a general overview and a roundup of the basic principles and codes of practice of hygienic food processing and preservation. The participants will also explore basic principles of processing and preservation of basic commodities.

Sessions
- Session 1: General Introduction to Food Processing and Preservation
- Session 2: The concepts of food Safety and its applications
- Session 3: Good Agricultural Practices
- Session 4: Good Hygienic Practices-The Codex General Principles of Hygiene
- Session 5: Overview of Food Safety Systems
- Session 6: Food Quality Assurance
- Session 7: Q&A and Discussions.

Objectives
By the end of the session, the learner should be able to:

- Describe the basic principles and techniques of food preservation;
- Apply various food preservation & processing techniques;
- Comprehend the comparative advantages and efficiency of these techniques; and
- Understand the emerging trends in food processing and preservation.

Duration
- 4 hours 30 minutes
Material

- Flip charts
- Markers
- Signing sheet
- Sticky notes
- Printed module manual
- A few food samples preserved by the different techniques or chart of sample of food processing and preservation.

Advance Preparation

- Printing of the Chart of different foods processed and preserved by various means
- Printing pre- and post-tests

Facilitation Steps

1) Welcome participants to the Food Processing and Preservation module and give them a brief of what the module entails.

2) Ask participants: “What is food processing and preservation?” Write their answers on a flip chart or the board. Using the answers, come up with one definition together.

3) Ask participants: “What is the reason or advantage of food processing and preservation?” Write their answers on a flip chart or the board in a T-table format. Explain the reasons and advantages of food processing and preservation.

4) Inform the participants to brainstorm on the different food processing and preservation methods. You may also challenge the participants to name different foods and match them with a method of processing and preservation. Write the answers on a flip chart. Facilitate the correct matching.

5) With your guide, lead a discussion with examples of the following food processing and preservation techniques.

   - Thermal processing: (blanching, pasteurization and sterilization).
   - Drying/Dehydration (water activity)
   - Cooling and Freezing (maintaining the cold chain).
   - Chemical Preservation (salt and sugar) and other preservatives
   - Minimal processing of fresh foods
Emerging techniques in food preservation (modified atmosphere)

6) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

7) Let the participants exchange their papers to award scores for each other. Use the food processing and preservation chart as a guide to arrive at the answers.

For instance, explain to the participants: “Question one was to test your understanding of the difference the food processing and preservation. How many people scored on that by a show of hands.”

8) Explain to the participants the key methods used in food processing and preservation with relevant examples.

Inquire from the participants about business ownership and categorize them into three groups.

- Those with existing businesses dealing with food processing/preservation
- Those with business ideas that can be turned into food businesses
- Those pursuing career opportunities (employment) in the food processing industry.

9) From the established groups, ask the participants about the benefits of the different methods of food processing and preservation

10) In the groups that were previously formed ask the participants to spend 5 minutes to list down the signs of a good business idea then ask them to validate their answers. Afterward, write the four key signs of a good business idea for a food processing and preservation business on a flip chart.

11) Congratulate participants for completing the first unit of the Empowered Youth Program and their attentiveness and corporation.

12) Conduct a Q&A session and open discussions on the topic:

“Are food processing and preservation based opportunities rewarding or not?”
MODULE II: THE CONCEPTS OF FOOD SAFETY AND THEIR APPLICATIONS

About the Module

This module is designed to teach fundamental principles concept of food safety for application of SMEs to guarantee food product of high quality and safety. The module is highly experiential and action-based. The module covers five topics that give a general overview and a roundup of the basic principles and codes of practice of hygienic food processing and preservation. The participants will also explore basic principles of food safety and quality assurance for Food product SMEs.

Sessions

- Session 1: Definition and historical basis for food safety
- Session 2: The value chain approach to food safety ‘farm to folk’
- Session 3: Food safety and food quality systems
- Session 4: The five keys to Food Safety and Quality Systems
- Session 5: Overview of Food Safe Systems
- Session 6: Food Quality Assurance
- Session 7: Q&A and Discussions.

Objectives

By the end of the session, the learner should be able to:

- Comprehend the Definitions and Historical basis of Food Safety
- Understand the FARM TO FOLK (plate) concept of food safety
- Comprehend basic Introduction to Food Safety and Quality Systems
- Understand the Five keys to safe foods.
- Understanding the concepts of Food quality Assurance

Duration

- 4 hours 30 minutes

Material
 Advance Preparation

- Printing of the samples of food safety and quality programs
- Printing pre-and post-tests

Facilitation Steps

13) Welcome participants to the ‘Food Safety and its applications’ module and give them a brief of what the module entails.

14) Ask participants: “What is food safety?” Write their answers on a flip chart or the board. Using the answers, come up with one definition together.

15) Ask participants: “What is food quality and how is it different from food safety?” Write their answers on a flip chart or the board in a T-table format. Explain the meaning of food safety by stating the benefits. Pull a few definitions from FAO, IFPRI, and ISO standards.

16) Request the participants to brainstorm on the Food Quality and Safety Systems. You may also challenge the participants to name any quality systems they may have heard of. Write the answers on a flip chart. Facilitate the correct matching. Provide a summary table of few examples of quality management systems (GMP, GHP, HACCP, and ISO 22000).

17) With your guide, lead a discussion with examples of the 5 keys to producing and supplying a safe food to consumers.

• #1-Keep Clean
• #2-Separate raw and cooked food
• #3-Cook thoroughly
• #4-Store Food at safe temperatures
• #5-Use safe water and raw materials.

18) Give out copies of infographics emphasizing the 5 keys to safe food. Discuss and ask the class to come up with infographic on PowerPoint to instill the 5 keys to safe food and discuss each participants’ infographics giving good feedback.

19) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.
20) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

For instance, explain to the participants: “Question one was to test your understanding of the term food safety. How many people scored on that by a show of hands.”

21) Explain to the participants the key principles of food safety and quality. Inquire from the participants about food business ownership and categorize them into three groups.

- Those with existing businesses dealing with food processing/preservation (get specific businesses)
- Those with business ideas that can be turned into food businesses (write down specific food businesses).
- Those pursuing career opportunities (employment) in the food processing industry (where possible write on the flip chart the specific food business).

22) From the established groups, ask the participants about the approach they will use to assure safety of the given food products from farm to folk.

23) In the groups that were previously formed ask the participants to spend 5 minutes to list down the major aspects of food safety and quality.

24) Congratulate participants for completing the second unit of the Empowered Youth Program and their attentiveness and corporation.

25) Conduct a Q&A session and open discussions on the topic of food quality and safety:

“Is food safety a mystery or a science?”
MODULE III: GOOD AGRICULTURAL PRACTICE

About the Module

This module is designed to teach the Basic concepts of GOOD Agricultural Practice as an initial step to food safety assurance based on the food value chain approach ‘from Farm to Folk’. The module will present the practices that ensure environmental, economical and social sustainability for on-farm practices and post-harvest practices resulting in safe and quality food. The GAP will emphasize practices that must be followed at the primary production to assure safe and wholesome food product whilst also minimizing the negative impact of these practices on workers health and on environment.

Sessions

- Session 1: Overview of GAP implementation points (Workers, Crop, land, water, Animals, harvest, traceability,
- Session 2: The Benefits of GAP
- Session 3: Implementing GAP (Work, conditions, worker protection, Amenities, worker hygiene)
- Session 4: Implementing GAP (Crops)
- Session 5: Implementing GAP (animals)
- Session 6: Standard operating Procedures (SOPs).
- Session 7: Q&A and Discussions.

Objectives

By the end of the session, the learner should be able to:

- Basic Principles and overview of Good Agricultural Practices (GAP)
- Understand and appreciate the benefits of GAP
- To Implementing GAP (Work, conditions, worker protection, Amenities, worker hygiene).
- Understanding Implementation of GAP (Crops)
- Understanding Implementation of GAP (Animals).
- Create and operate SOPs for a food processing Establishment.
- Understand the connection between GAP and food safety.

Duration

- 4 hours 30 minutes
Material

- Flip charts
- Markers
- Signing sheet
- Sticky notes
- Printed module manual
- A few samples: GAP for selected food crops and animals

Advance Preparation

- Printing of the samples of GAP for selected food crops and animals
- Printing pre-and post-tests.

Facilitation Steps

26) Welcome participants to the ‘Good Agricultural Practices’ module and give them a brief of what the module entails.

27) Ask participants: “What are GAPs?” Write their answers on a flip chart or the board. Using the answers, come up with one definition together.

28) Ask participants: “what are the needs for an establishment for GAPs?” Write their answers on a flip chart or the board in a T-table format. Explain the meaning of GAPs and enumerate the benefits. Share few examples.

29) Request the participants to brain storm on the Requirements for GAPs for the works conditions for both animal and plant-based foods. Challenge participants to think through GAPs required for specific animal and crop commodities. Write the answers on a flip chart. Facilitate the correct matching. Provide a summary table of few examples GAP requirements for the work conditions.

30) With your guide, lead a discussion with examples about the GAP requirements for workers under the following subheadings:
   - #1-Clean Work conditions, , ,
   - #2- Worker protection
   - #3- Amenities
   - #4- Worker hygiene.

31) With your guide, lead a discussion with examples about the GAP requirements Animals and Crops.
   - Animal requirements
• Harvesting
• Transportation
• Traceability (recording of information).

32) Give out copies of infographics emphasizing GAP requirements for workers. Discuss and ask the class by showing different info graphics and discussion the importance of the specific GAP depicted on the info-graphics.

33) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

34) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

For instance, explain to the participants: “Question one was to test your understanding of GAPs. How many people scored on that by a show of hands.”

35) Explain to the participants the key aspects of GAPs and the implications to food safety.

36) From the established groups, ask the participants to give input toward improvement of each of the group’s SOPs.

37) In the groups that were previously formed ask the participants to spend 10 minutes to list down and discuss the major aspects of GAP.

38) Congratulate participants for completing the third unit of the Empowered Youth Program and their attentiveness and corporation.

39) Conduct a Q&A session and open discussions on the topic of food quality and safety:

“Are GAPs a necessary evil”? 
MODULE IV: GOOD HYGIENIC PRACTICES (GHP)

About the Module

This module is designed to teach the Basic concepts of Good Hygienic Practices (General Principles of Food Hygiene) as an integral part of food safety assurance based on the food value chain approach ‘from Farm to Folk’. The GAP principles apply to the assurance of quality and safety at the farm level. The Good Manufacturing practices applies to production, control and presentation to the consumers. The principles of food Hygiene applies to both GAP and GMP. The GHP recommends Hazard Analysis and Critical Control Point Based (HACCP) based approach to reduce food safety risks and ensure high quality and safety food. This module teaches and illustrates the application of GHP principles to achieve food that is safe and of good quality to meet consumer and regulatory demands.

Sessions

- Session 1: Introduction to Good Hygienic Practice (GHP).
- Session 2: Building and Equipment (location of premise)
- Session 3: Design and Layout of Equipment.
- Session 4: Control of Operations (HACCP principles)…the football analogy.
- Session 5: Personal Hygiene
- Session 6: Cleaning and maintenance
- Session 7: Transportation, Product information and training
- Session 8: Q&A and Discussions.

Objectives

By the end of the session, the learner should be able to:

- Understand Basic Principles GHP and relation to (GAP and GMP).
- Identify the factors to consider in the Choice of location for food business premise.
- Apply concept of equipment design and layout for a food business
- Understand and apply the control of operations of a food business
- Understand the personal hygiene in food production
- Establish and operate proper cleaning schedule for a food processing business.
- Understand the best practice in transportation, product information and training in food business.

Duration
● 4 hours 30 minutes

**Material**

- Flip charts
- Markers
- Signing sheet
- Sticky notes
- Printed module manual
- A few samples: GHP for an animal based and crop based food commodity.

**Advance Preparation**

- Printing of the samples of GHP for selected food crops and animals
- Printing pre-and post-tests.

**Facilitation Steps**

40) Welcome participants to the ‘Good Hygienic Practices’ module and give them a brief of what the module entails.

41) Ask participants: “What are GHPs?” Write their answers on a flip chart or the board. Using the answers, come up with one definition together. Also ask participants to relate GHP to GAPs.

42) Ask participants: “what are the needs for an establishment for GHPs?” Write their answers on a flip chart or the board in a T-table format. Explain the meaning of GAPs and enumerate the benefits. Share few examples.

43) Request the participants to brain storm on the Requirements for GHPs for both animal and plant-based foods. Challenge participants to think through GHPs required for specific animal and crop commodities. Write the answers on a flip chart. Facilitate the correct matching. Provide a summary table of few examples GHP requirements for food business.

44) With your guide, lead a discussion with examples about the GHP requirements for a food business.
   - #1-Building and equipment.
   - #2- Design and layout of equipment.
   - #3- Control of operations and HACCP principles.

45) Give out copies of infographics emphasizing GHP requirements for workers. Discuss and ask the class by showing different info graphics and discussion the importance of the specific GAP depicted on the info-graphics.
46) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

47) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

48) With your guide, lead a discussion with examples about the GHP requirements Animals and Crops.
   - Personel Hygiene
   - Cleaning and Maintenance
   - Transportation, product information and training.

49) Give out copies of infographics emphasizing GHP requirements for workers. Discuss and ask the class by showing different info graphics and discussion the importance of the specific GHP depicted on the info-graphics.

50) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

51) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

For instance, explain to the participants: “Question one was to test your understanding of GHPs”. How many people scored on that by a show of hands.”

52) Explain to the participants the key aspects of GHPs and the implications to food safety.
   - Based on the groups previously selected based on the areas of interest for participants, facilitate the workers in creating sample GHP standard operating procedure for a selected food commodity.

53) From the established groups, ask the participants to give input toward improvement of each of the group’s GHP’s SOPs.

54) In the groups that were previously formed ask the participants to spend 10 minutes to list down and discuss the major aspects of GHP.

55) Congratulate participants for completing the third unit of the Empowered Youth Program and their attentiveness and corporation.

56) Conduct a Q&A session and open discussions on the topic of Good Hygienic Practices

“Cleanliness is next to Godliness, is this applicable to a food business”?
MODULE V: OVERVIEW OF FOOD SAFETY SYSTEMS

About the Module

This module is designed to teach an overview of the food Safety Systems. The GHP and GAP provide foundations for ensuring food safety. However, a sound food safety and quality system is what allows a food business to provide confidence to consumers about the food safety, prevents and eliminates errors and risks and all this through a proactive approach. This chapter will teach the designing of a well-designed, documented program that is properly implemented and maintained to reduce the chances of company recalls or have their products implicated in causing illnesses and diseases. Through the last modules on GAP and GMP the requirements for pre-requisite programs, were learned. This module will describe in slight detail the HACCP, ISO 22000 and BRC/IFS requirements.

Sessions

● Session 1: Introduction to Food Safety Systems.
● Session 2: Hazard Analysis and Critical Control Points (HACCP)
● Session 3: HACCP key terms
● Session 4: Steps in Implementing HACCP principles
● Session 5: HACCP decision Tree Matric
● Session 6: ISO 22000 Food Safety Management System.
● Session 7: British retail Consortium Standard.
● Session 8: Q&A and Discussions.

Objectives

By the end of the session, the learner should be able to:

● Understand the Food Safety Management Systems.
● Understand the key terms used in HACCP.
● Implement Principles of HACCP
● Apply concept of HACCP decision tree to a food business.
● To understand the requirements for implementation of ISO 22000
● Understand the requirements for the implementation of BRC in a food business.

Duration

● 4 hours 30 minutes
Material

- Flip charts
- Markers
- Signing sheet
- Sticky notes
- Printed module manual
- A few samples: HACCP for an animal based and crop-based food commodity.
- Provide HACCP decision matrix figures.

Advance Preparation

- Printing of the samples of HACCP and HACCP decision trees for selected food crops and animals
- Printing pre- and post-tests.

Facilitation Steps

57) Welcome participants to the ‘Food Safety Systems module and give them a brief of what the module entails.

58) Ask participants: “What Food Safety Systems are and to give a few examples they have heard about” Write their answers on a flip chart or the board. Using the answers, come up with one definition together.

59) Ask participants: “What is the meaning of HACCP?” Write their answers on a flip chart or the board in a T-table format. Explain the meaning of HACCP and enumerate the benefits. Share the brief History of the HACCP and its use in the food industry.

60) Request the participants to brainstorm on the meaning of HACCP key terms. Challenge participants to think through previous GAP and GHP modules. Write the answers on a flip chart. Facilitate the correct matching. Provide a summary table of few examples GHP requirements for food business.

61) With your guide, lead a discussion with examples about the 7 Principles of HACCP for a food business.
- #1- Conduct hazard analysis.
- #2- Determine Critical Control Points.
- #3- Establish Critical Limits (make use of HACCP).

62) Give out copies of infographics and templates emphasizing the 1st 3 principles of HACCP for food business. Discuss and ask the class by showing different info
graphics of critical limits for chosen food products the considerations for establishment of a critical limit.

63) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

64) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

65) With your guide, lead a discussion with examples about the next 4 principles of HACCP for a food business.

- #4-Establish systems to monitor control points.
- #5-Establish corrective action when monitoring results indicate that a particular CCP is not under control.
- #6-Establish verification procedures to confirm that the HACCP is working effectively.
- #7-Establish documentation on all procedures and records.

66) Give out copies of infographics emphasizing HACCP principles for the last HACCP Principles. Discuss and ask the class by showing different info-graphics and discussion the importance of the specific GHP depicted on the info-graphics.

67) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

68) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

For instance, explain to the participants: “Question one was to test your understanding of key terms used in HACCP system”. How many people scored on that by a show of hands.”

69) Explain to the participants the key aspects of ISO 22000 and BRC and the major introductions to HACCP.

- Based on the groups previously selected based on the areas of interest for participants, facilitate use of Decision Tree in Designing a HACCP program for a select food.

70) From the established groups, ask the participants to give input toward improvement of each of the group’s HACCP plans.

71) In the groups that were previously formed ask the participants to spend 10 minutes to list down and discuss the major steps involved in HACCP principles implementation.

72) Congratulate participants for completing the fifth unit of the Empowered Youth Program and their attentiveness and corporation.

73) Conduct a Q&A session and open discussions on the topic of Food Safety Systems.

“There is no such thing as a hazard for one man’s meat is another man’s poison”? 
MODULE VI: FOOD QUALITY ASSURANCE

About the Module
This module is aimed to teach an overview of Food Quality Assurance in a food business. It will teach the definition of food quality and emphasize the role of customer in quality determination. It will also teach quality of design and conformance food business and the need for a food business to strive to achieve the quality of design. For a food business to be successful, the food business must offer to the customer a high-quality product that meets customer expectations all the time, this can only be achieved through quality control and quality evaluation methods—including laboratory quality management. From time to time the food business will be required by law or to a certain quality to conduct sampling and sample management based on reference standards, this module will therefore also teach these aspects of food quality assurance for a food business. Finally, the module will teach objective evaluation; sensory evaluation of food—perception of sensory evaluation, discriminative tests, descriptive tests, affective tests.

Sessions
- Session 1: Introduction to Food Quality Assurance
- Session 2: Quality of Design and Conformance
- Session 3: Quality Control and quality Evaluation methods
- Session 4: Laboratory Quality Management
- Session 5: Sampling and sample management and reference standards.
- Session 6: Objective and Sensory Evaluation
- Session 8: Q&A and Discussions.

Objectives
By the end of the session, the learner should be able to:
- Understand and Food quality assurance in Food Business
- Differentiate between quality of Design and Quality of Conformance for a food business.
- Implement Principles of Quality Control and quality evaluation for a chosen food business
- Understand laboratory quality management
- To manage a sampling pan for a food business based on requisite reference standards
- Understand the performance of objective and sensory evaluation for a food business.

Duration
- 4 hours 30 minutes

**Material**

- Flip charts
- Markers
- Signing sheet
- Sticky notes
- Printed module manual
- A few samples: KEBS, reference standards; List of key terms used in quality assurance.
- Provide Sensory evaluation data collection templates.

**Advance Preparation**

- Printing of the samples of KEBS reference standards and list of Key terms used in Food Quality Assurance
- Printing pre-and post-tests.

**Facilitation Steps**

74) Welcome participants to the ‘Food Quality Assurance” module and give them a brief of what the module entails.

75) Ask participants: “What is Food Quality” are and to give a few examples they have heard about” Write their answers on a flip chart or the board. Using the answers, come up with one definition together.

76) Ask participants: “What is the meaning of Food Quality Assurance?” Write their answers on a flip chart or on the board in a T-table format. Explain the meaning of Food Quality Assurance and the difference from Quality Control. Share the major considerations in Food Quality Control.

77) Request the participants to brain storm on the meaning of Food Quality Assurance key terms. Challenge participants to think through previous GAP and GHP modules, Food Safety Systems. Write the answers on a flip chart. Facilitate the correct matching. Provide a summary list of key terms in food quality assurance.

78) With your guide, lead a discussion with examples about the 7 Principles of HACCP for a food business.
- #1-Quality of Design and Quality of Conformance for a Food Business.
- #2- Quality Control and Quality Evaluation for a food business
- #3- Laboratory Quality Management.

79) Give out copies of infographics and templates emphasizing the difference between quality of design and quality of conformance. Discuss and ask the class by showing different info graphics of quality control & laboratory report charts for chosen food products.

80) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

81) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

82) With your guide, lead a discussion with examples about the next the following aspects of Food Quality Assurance.
   - Sampling and Sampling plans for a food business.
   - Reference standards (KEBs) and CODEX Alimentarius standards.
   - Objective food quality evaluation practice for a food business.
   - Sensory food quality Evaluation practice for a food business.

83) Give out copies of infographics emphasizing Sampling designs templates from various food businesses. Discuss and ask the class by showing different info graphics and examples of codex and KEBs reference standards.

84) Conduct a simple sensory evaluation test procedure (consumer sensory evaluation) based on juice, fruit or cake samples.

85) Give out copies of the test to each participant and read through explaining each question as they mark on appropriate choices.

86) Let the participants exchange their papers to award scores for each other. Use food quality system templates to help participants arrive at correct answers.

For instance, explain to the participants: “Question one was to test your understanding of the difference between quality assurance and quality control”. How many people scored on that by a show of hands.”

87) Explain to the participants the key aspects of sensory evaluation.
   - Based on the groups previously selected based on the areas of interest for participants, facilitate the use of sensory evaluation tools to help a business improve quality of a given food product.

88) From the established groups, ask the participants to give input toward improvement of each of the group’s sensory quality program.

89) In the groups that were previously formed ask the participants to spend 10 minutes to list down and discuss the major aspects that constitute food quality.

90) Congratulate participants for completing the fifth unit of the Empowered Youth Program and their attentiveness and corporation.

91) Conduct a Q&A session and open discussions on the topic of Food Quality
Assurance.

“In food Quality Assurance ;What You Promise Customers is what they get”?

THE END