Food and Agriculture Organization
of the United Nations

HACCP – STEP 10, PRINCIPLE 5

CORRECTIVE ACTIONS

FAO Good Hygiene Practices (GHP) and
Hazard Analysis and Critical Control Point
(HACCP) Toolbox for Food Safety

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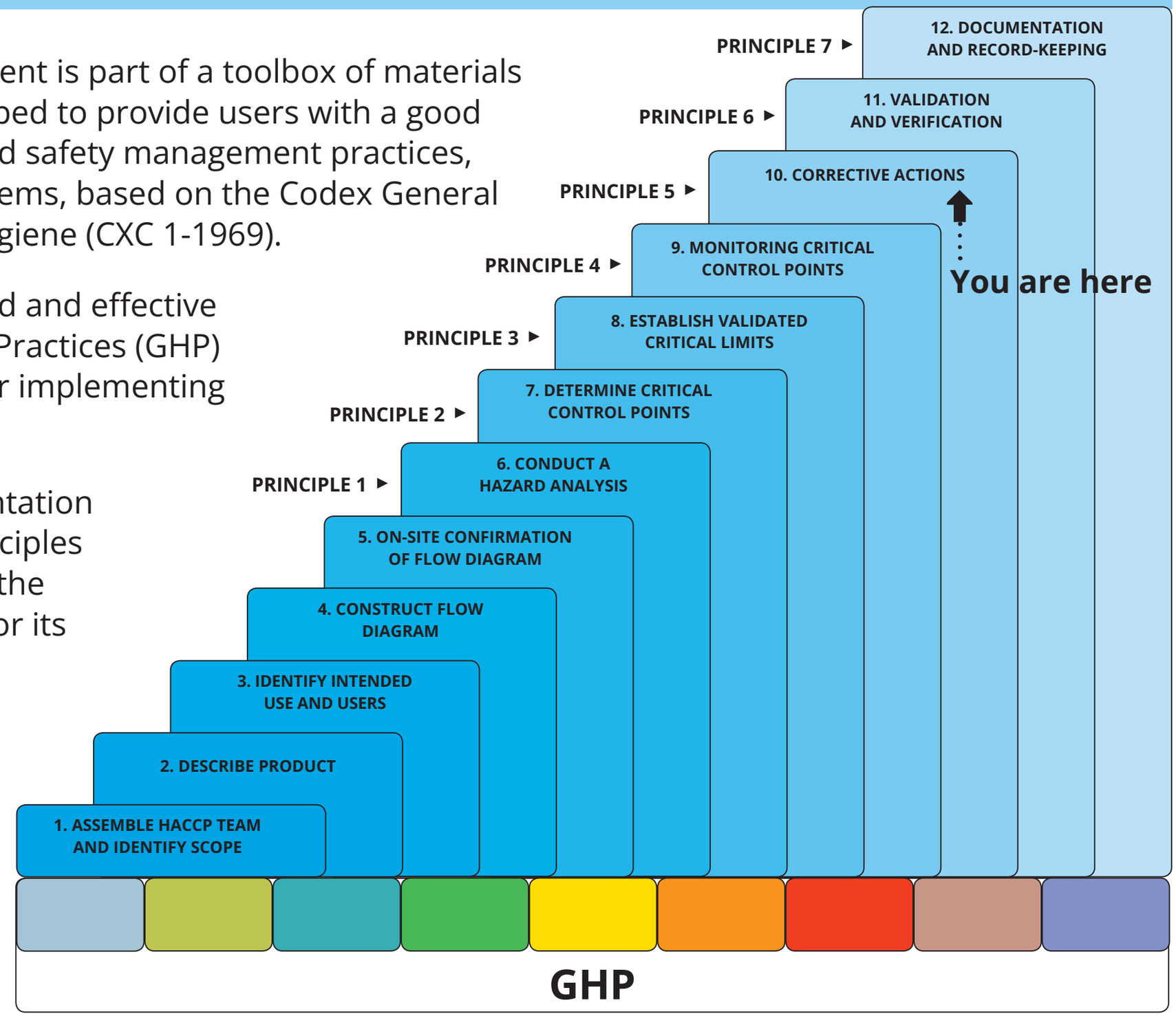
CORRECTIVE ACTIONS

INTRODUCTION

This guidance document is part of a toolbox of materials and has been developed to provide users with a good understanding of food safety management practices, including HACCP systems, based on the Codex General Principles of Food Hygiene (CXC 1-1969).

Well established and effective Good Hygiene Practices (GHP) set the foundation for implementing a HACCP system.

This graphic representation shows the seven principles of HACCP along with the 12 successive steps for its application.



CORRECTIVE ACTIONS

CONTEXT

Specific written **corrective actions** should be developed for each Critical Control Point (CCP) in the HACCP system in order to respond effectively to **deviations** when they occur. Products affected by a deviation are potentially unsafe. The corrective actions taken when a deviation occurs should ensure that control of the CCP and the process has been restored. The corrective action should address what happens to all potentially unsafe products (e.g. evaluated by experts, reprocessed, diverted to another use or possibly destroyed).

A root cause analysis should be conducted where possible to identify and correct the source of the deviation in order to minimize the possibility of such a deviation occurring again. Details of the corrective actions, including the cause of the deviation and the procedures to deal with the affected product, should be documented in the HACCP records and reviewed periodically to identify trends.

Learning objectives

This document provides guidance on how to:

- establish written corrective actions to address deviations in CCP and minimize recurrences;
- undertake periodic review of corrective actions to identify trends and ensure that corrective actions are effective; and
- **document this step as part of the HACCP plan.**

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Principle 5: Establish the corrective actions to be taken when monitoring indicates a deviation from a critical limit at a CCP has occurred

Codex definitions:

Corrective action: Any action taken when a deviation occurs in order to re-establish control, segregate and determine the disposition of the affected product, if any, and prevent or minimize the recurrence of the deviation.

Deviation: Failure to meet a critical limit or to follow a GHP procedure.

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Establish corrective actions

Corrective actions should:

- correct the cause of the deviation to ensure that the CCP is brought under control;
- control any products that may be unsafe; and
- be recorded (and the records should be maintained).

Predetermined corrective action procedures are needed for all CCPs. CCPs may have several possible deviations. As such, more than one corrective action may be necessary for each CCP. Establishing corrective actions will require careful planning by the HACCP team and may require expert advice.

Corrective actions at each CCP should be documented as part of the HACCP plan
(See Supporting documents for templates and examples).

Any deviations are most likely to be noticed during the routine monitoring of a CCP. It is important that operators be trained so they can implement the corrective actions correctly and as quickly as possible. This will ensure that the impact of the deviations is minimized (preventing unsafe food from reaching the market, reducing the contamination of the foods being produced and reducing financial losses).

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Deviations

A deviation has occurred when a critical limit at a CCP is not met, meaning that any product being produced at the time of the deviation is potentially unsafe.

The quantity of food product considered unsafe will depend on the type of monitoring carried out at the CCP (that is, continuous or at intervals) and the ability of staff to commence corrective actions.

Corrective actions have two parts

1. Identification: The operator or a monitoring instrument should recognize a deviation as such and as early as possible (this will depend on the frequency of the monitoring system). More frequent monitoring can reduce the quantity of product that needs to be isolated in the event of a deviation.

2. Taking action: Corrective action should be taken by the operator and others involved. (They should already be familiar with the corrective action. This will require proper training.)

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What should corrective actions achieve? (outcomes)

- bring the CCP back under control (for example, by altering temperature, timing or the concentration of cleaning detergents) or, potentially, halt the process if the CCP cannot be brought under control;
- identify and handle potentially affected food (potentially unsafe food should be properly identified and segregated);
- evaluate the safety of affected products and determine product disposition (that is, what is to be done with the affected product);
- include a root cause analysis (the cause of the deviation) and implement process changes to prevent recurrence;
- verify that the corrective action implemented is effective; and
- document in detail the cause of the deviation and the product disposition procedures.

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Product control

Product control includes proper identification and handling of the affected products.

Affected product could be:

- work-in-progress and not finished product;
- finished product that remains in the control of the food business; and
- finished product that does not remain in the control of the food business (that is, product in transit, in storage or on the market, in which case a recall may be needed).

When a deviation occurs, external experts may be needed to conduct evaluations regarding the safety or suitability of affected products.

Affected product may be:

a. reprocessed

b. relabelled

c. redirected to animal feed

d. destroyed or disposed of, etc.

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Conducting a root cause analysis

A root cause analysis should be conducted, where possible, to identify and correct the source of the deviation and minimize the potential for the deviation to recur. By identifying the reason for the deviation, a root cause analysis could indicate more clearly the amount of product impacted by a deviation.

Some tools that are useful in identifying the root cause of a deviation are the following:

- Pareto charts
- the 5 Whys
- fishbone diagrams

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Documenting corrective actions

Details of the corrective actions, along with the cause of the deviation and the product disposition procedures that were implemented, should be documented in dedicated monitoring records for deviations and corrective actions. Documentation should include the following:

- a description of the situation (what happened, including how the deviation was identified);
- the action that was taken and by whom;
- the root cause;
- preventative action taken (action that should be taken to prevent the deviation from recurring); and
- verification that preventative action was effectively implemented.

It is important to review corrective actions with an established frequency. Efforts should be made to identify trends, if any, and to ensure that corrective actions are effective.

A corrective action should address the root cause of the deviation and prevent recurrence of the deviation. (See Supporting documents for templates and examples).

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Effective CCPs are based on a reliable monitoring system; a system whereby someone notices or a warning is sent and whoever notices the deviation can take action (and inform superior or line manager). Whoever takes action should understand the food safety hazard and risk and know how the loss of control affects the safety of the product.

Developing a culture of open communication

One of the main challenges in food businesses is the reluctance of staff to inform superiors when things have gone wrong. In order to avoid this and provide conditions in which the HACCP system can function effectively, with the detection and reporting of deviations at CCPs, it is important to build a culture of open communication. This may involve praising those who admit to having made a mistake. Building such a culture is difficult and requires managerial commitment.

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Examples of deviations and possible corrective actions

The following examples examine scenarios in very simple operations in order to illustrate the principle of corrective actions. In more complex processes (such as a continuous, fully automated pasteurization system), establishing corrective actions will require more effort and specialized expertise.

For additional information, please consult the **Further reading** section accessible from the **SECTION LANDING PAGE**.

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Deviation	Corrective action(s)
A line manager notices that the temperature of a refrigerated storage area for ingredients that should be chilled below 4 °C for food safety purposes (CCP) has risen to 20 °C overnight because of an interruption in the supply of electricity.	• Identify and isolate all affected ingredients. The product should be put on hold pending a decision and measures should be taken to ensure that the product is not accidentally used or released. • Measure the temperature of the stored ingredients and determine the time of the last satisfactory temperature check for the storage area. This information will be needed to evaluate the safety and disposition of the affected ingredients (for example, destruction or reprocessing). This decision will require an understanding of the biological hazards. • Restore electricity to the storage area. • The event should be documented and reviewed by those responsible. • Conduct further investigation to determine the cause of the electrical problem (the root cause). • Arrange for a meeting with the line manager and the HACCP team to assess the probability of recurrence and determine what process changes should be implemented to ensure that the CCP operates safely at all times.

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Deviation	Corrective action(s)
Temperature of water bath used to maintain ready-to-eat foods at the required temperature is below the operational critical limit. This deviation was noticed because a customer complained that the food was not hot enough, (Alternatively, the person in charge may notice that the temperature on the display is below the critical limit.)	• Stop serving and isolate all affected foods in a manner that ensures that they will not accidentally be served again prior to being evaluated for safety. • Correct the temperature of the water bath or stop using it if it is not working as intended. • The person in charge should evaluate the safety of the affected foods and decide what is to be done with them. This will require knowing how long the food was possibly held at a low temperature (last satisfactory water bath check) and being aware of the possible microbiological hazards for each type of foods, as well as measuring the temperature of the foods with a calibrated thermometer). • If food is considered unsafe, it should be discarded. Recooking or reheating is not a safe option, because pathogenic bacteria may have produced heat-resistant toxins. • The event should be documented and reviewed by those responsible. • The caterer should determine why the water bath was not at the required operational temperature (whether it was a technological issue or an oversight on the part of staff). • To prevent recurrence, staff should be retrained (which should also be documented) or the chafing dishes should be replaced.

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EXERCISE: FOOD SAFETY FOR THOUGHT

This is the little “game” we created. This will apply to all HACCP steps, except the intro.

10. CORRECTIVE ACTIONS

GHP are fundamental to the sucessful application of HACCP.

Think of a food operation that you are familiar with, and select those GHP elements that you feel are most relevant for the application of HACCP step 10.

GHP PROGRAMMES	✓
1. INTRODUCTION AND CONTROL OF FOOD HAZARDS	☐
2. PRIMARY PRODUCTION	☐
3. ESTABLISHMENT - DESIGN OF FACILITIES AND EQUIPMENT	☐
4. TRAINING AND COMPETENCE	☐
5. ESTABLISHMENT MAINTENANCE, DISINFECTION, AND PEST CONTROL	☐
6. PERSONAL HYGIENE	☐
7. CONTROL OF OPERATION	☐
8. PRODUCT INFORMATION AND CONSUMER AWARENESS	☐
9. TRANSPORTATION	☐

Please explain your choices.

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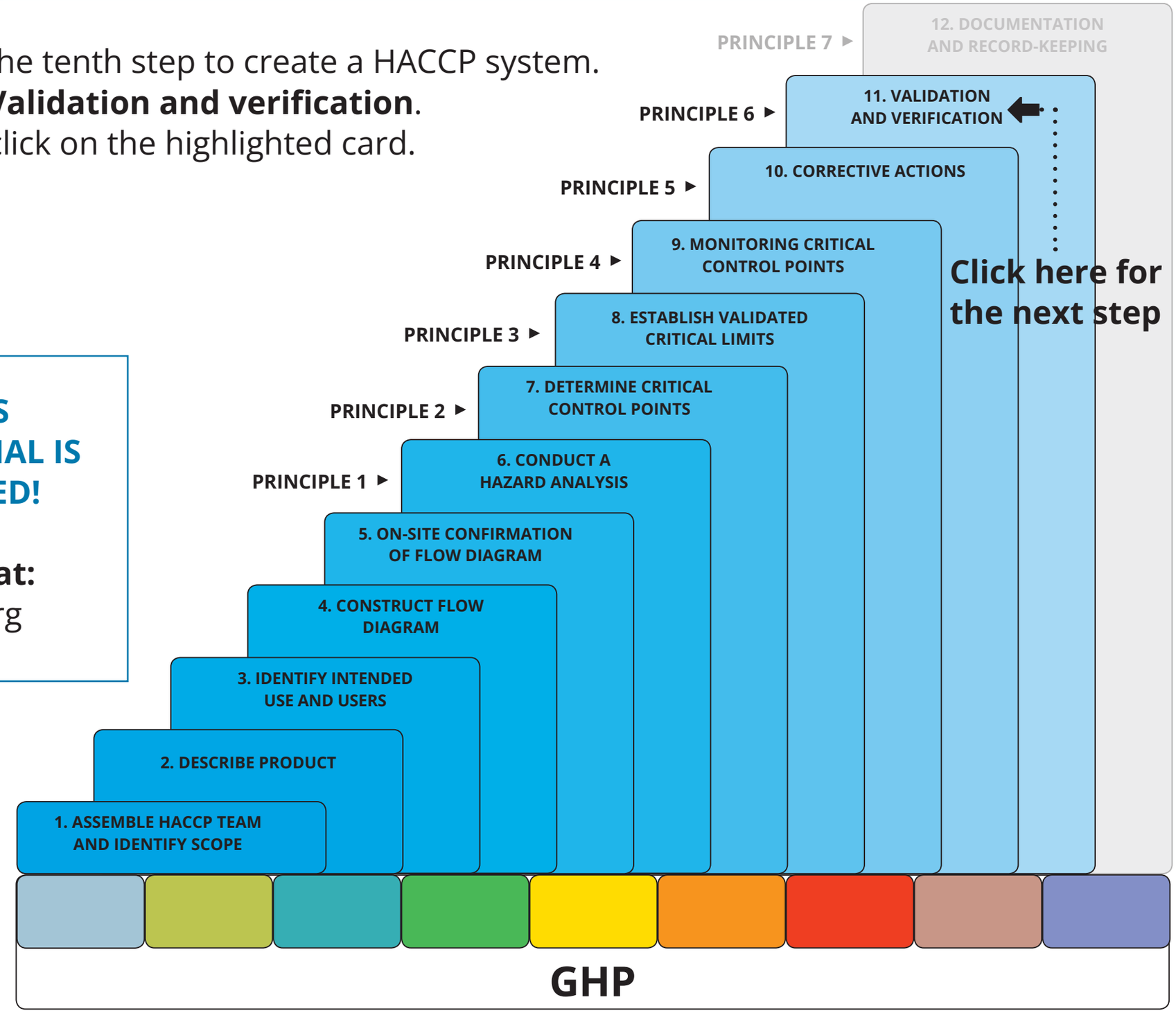
KEEP READING

You have completed the tenth step to create a HACCP system.
The next step will be **Validation and verification**.
To continue reading, click on the highlighted card.

FEEDBACK ON THIS GUIDANCE MATERIAL IS ALWAYS WELCOMED!

Please contact us at:
food-quality@fao.org



KEEP READING

GHP and HACCP Toolbox for Food Safety
www.fao.org/good-hygiene-practices-haccp-toolbox

FOOD SYSTEMS AND FOOD SAFETY –
ECONOMIC AND SOCIAL DEVELOPMENT
www.fao.org/food-safety

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME, ITALY

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