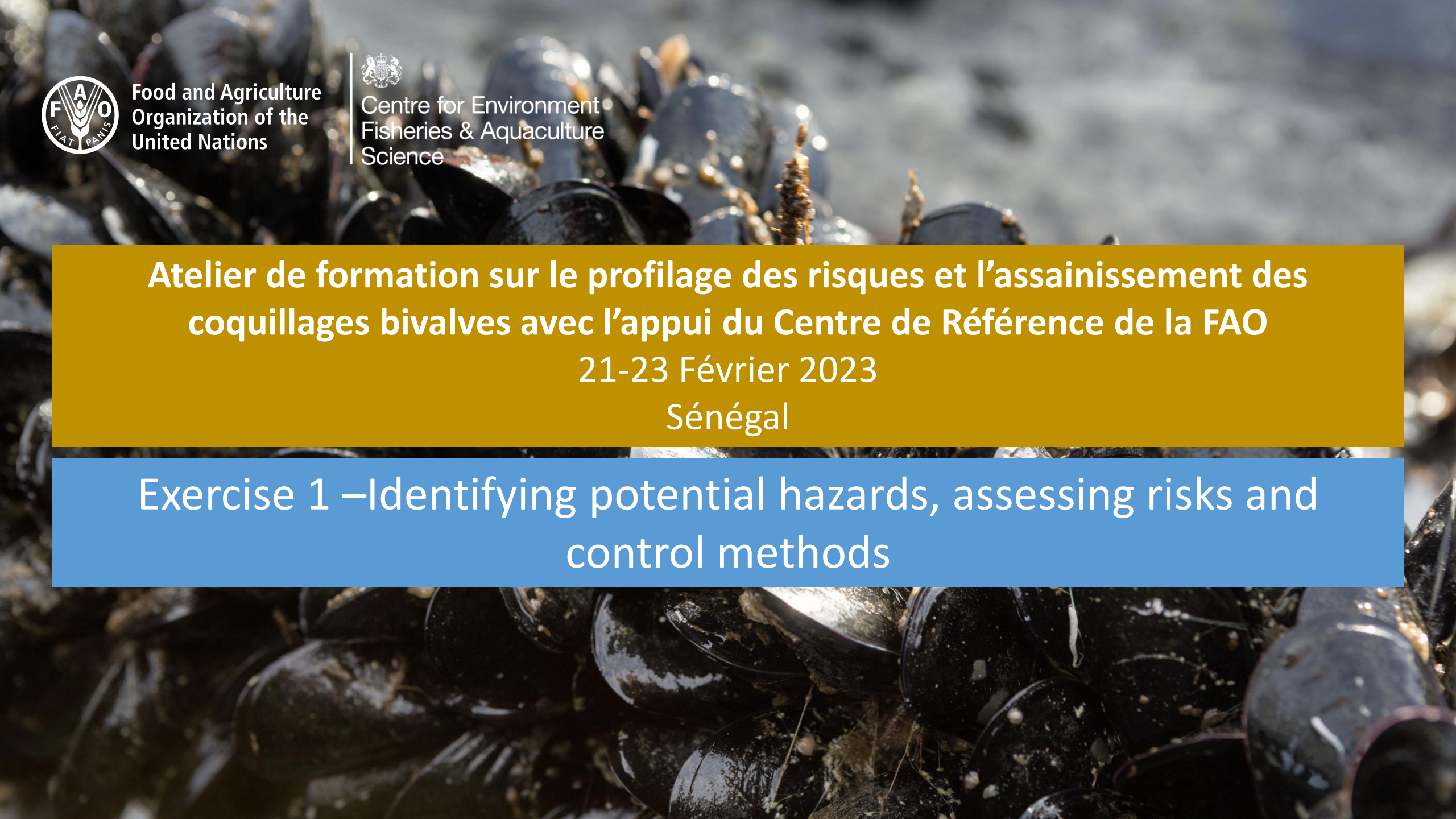

Food and Agriculture Organization of the United Nations

Centre for Environment Fisheries & Aquaculture Science

Atelier de formation sur le profilage des risques et l'assainissement des coquillages bivalves avec l'appui du Centre de Référence de la FAO

21-23 Février 2023

Sénégal

Exercise 1 –Identifying potential hazards, assessing risks and control methods

Exercise 1 – Part 1 – Hazard identification and risk assessment

- In the previous presentations you have seen some of the **potential risks** that **consumption** of **bivalve molluscs** can pose to the **consumer**
- International **Sanitary and Phytosanitary Standards**, **codes of practice** e.g. **Codex Alimentarius** are in place to **control** these risks for bivalves traded live or raw
- **Legislation** is in place in **major bivalve producing countries** or **trading blocs** which **prescribes controls** to **protect** the **consumer** from these risks
- Potential controls can be applied in **primary production** and/or to **end product** and rely on **monitoring**, **harvesting restrictions**, and **post harvest processing**
- **Identifying hazards** and **assessing specific risks** in a **growing area** help **target controls** to produce a safer product

Exercise 1 – Part 1 – Hazard identification and risk assessment

- In this exercise we use a very simple **quantitative risk assessment tool** to measure the relative potential **impact** of hazards in a growing area
- In each group with a **Cefas facilitator** you have 10 cards, on each card is a hazard that could potentially be a risk to consumers of bivalve shellfish – each card has information on:
  - The source of the hazard
  - The impact of the hazard
  - The likelihood of the presence of the hazard (occurrence in the context of Senegal, if known)
- **You also have a large master sheet which lists the hazards and a marker pen!**
- In part 1 of this exercise, **read** the **information** on the **hazard** and in your groups **discuss and agree** the relative **risks** associated with severity and likelihood
- In your discussions consider your own **expertise and experience** to make the **best assessment**
- Use the definitions table to **score** severity and likelihood and write the information on the sheet

Exercise 1 – Part 1 – Hazard identification and risk assessment Definitions Table

SEVERITY if present and uncontrolled relative to the ability to harvest, process or trade, or the health or survival of human consumers	Score		LIKELIHOOD of occurrence	Score		IMPACT
Negligible – no known or expected impacts on consumer health or trade	1	X	Negligible - No expectation of occurrence of hazard	1	=	1
Very low – any impact considered to be minimal and transitory	2	X	Very low - isolated evidence of hazard occurrence	2	=	4
Low – impact on consumer health or trade minimal, transitory but notable	3	X	Low – some spatial or temporal discrete evidence of hazard occurrence	3	=	9
Medium - impact on consumer health or trade notable and sustained	4	X	Medium – considerable spatial and/or temporal evidence of hazard occurrence	4	=	16
High - impact on consumer health or trade sustained and persistent	5	X	High – widespread spatial and/or temporal evidence of hazard occurrence	5	=	25
Very high – serious public health consequences that may prevent trade	6	X	Very high – extensive evidence spatially and temporally of hazard occurrence	6	=	36

Record your assessment on the sheet and calculate the IMPACT by multiplying the SEVERITY and LIKELIHOOD scores together

Exercise 1 – Part 2 – Hazard identification and risk assessment Interventions

- When you have recorded the impact score look at the green intervention cards, these identify different types of controls that can be applied

Cold chain – keeping harvested product at refrigerated temperatures helps to prevent the growth of bacteria that may cause human illness or spoilage

Cooking – raising the internal temperature of bivalves to at least 90°C for 90 mins inactivates microbiological pathogens

Relaying – moving bivalves to defined areas of very clean water and holding for extended periods before harvest allows them to purge contaminants naturally

Depuration – a process that purifies bivalves by holding them in clean water and allowing them to purge contaminants naturally

Monitoring & Harvesting restrictions – for hazards or indicators informs the level of post harvest treatment, including temporary restrictions on harvest

High pressure processing - innovative techniques such as applying high pressure (circa 400 – 600MPa) post harvest will inactivate microbiological pathogens

Exercise 1 – Part 2 – Hazard identification and risk assessment Interventions

- Working in your groups think about which **interventions** may be effective against **each hazard**, and how much each intervention may **reduce the likelihood and impact** of the hazard
- **Agree** an intervention (or interventions) that would be **most effective** for each hazard and **attach the green cards** to the master sheet
- **Reassess** the **LIKELIHOOD** score and **recalculate** the **IMPACT** post intervention(s)
- If you have time and access to a laptop, enter your scores into the spreadsheet entitled 'EXERCISE_1riskscoring' to generate a graphic displaying your results, your Cefas facilitator can assist you with this
- In the feedback session after the break each group will explain their results