

MEETING REPORT

**5th International Heads of Food
Agencies Forum Plenary Meeting**

17 April 2024, Singapore



Organised by:





**MEETING THEME:
FOOD SAFETY FOR A RESILIENT & SUSTAINABLE WORLD**

PARTICIPATING COUNTRIES & ORGANISATIONS



Australia

Food Standards Australia New Zealand (FSANZ)



Belgium

Federal Agency for the Safety of the Food Chain (FASFC)



Chile

Chilean Food Safety and Quality Agency (ACHIPIA)



China

China National Center for Food Safety Risk Assessment (CFSA)



Denmark

Danish Veterinary and Food Administration (DVFA)



Germany

Federal Office of Consumer Protection and Food Safety (BVL)
German Federal Institute for Risk Assessment (BfR)



Ireland

Food Safety Authority of Ireland (FSAI)



Japan

Food Safety Commission of Japan (FSCJ)



Kuwait

Public Authority for Food and Nutrition (PAFN)



Netherlands

Netherlands Food and Consumer Product Safety Authority (NVWA)



New Zealand

Ministry for Primary Industries (MPI)



Portugal

Portuguese Economic and Food Safety Authority (ASAE)



Saudi Arabia

Saudi Food and Drug Authority (SFDA)



Scotland

Food Standards Scotland (FSS)



Singapore

Singapore Food Agency (SFA)



Thailand*

National Bureau of Agricultural Commodity and Food Standards (ACFS)



United Kingdom

Food Standards Agency (FSA)



United States of America*

Center for Food Safety & Applied Nutrition (CFSAN)



CODEX Alimentarius Commission
(CODEX)



Food and Agriculture Organization
of the United Nations (FAO)



World Health Organization (WHO)

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INTRODUCTION

- Rapid population growth, longer and more complex food supply chains, scarcity of natural resources, climate change, and adverse environmental impacts are some challenges of our time that pose threat to food security. Hence, there is a move to transform food systems to become more sustainable and resilient in terms of production, consumption, loss, wastage prevention and environmental sustainability in an integrated manner. Food safety is both an essential component and outcome.
- The UN defines food sustainability as “the idea that something (e.g., agriculture, fishing or even preparation of food) is done in a way that is not wasteful of our natural resources and can be continued into the future without being detrimental to our environment or health.” Amidst a growing awareness of sustainability, the promotion of circular economy principles, decarbonization of the food chain and green practices have gained traction. While these efforts offer benefits, attention must be paid to the emergence of new potential food safety hazards. Will the drive for sustainability such as food waste valorization, recycling into new food contact materials, food waste and wastage reduction practices, food innovations, new circular food production systems and intensifications of existing food production systems introduce new food safety issues or even worsen existing food safety issues? It is, therefore, equally crucial to consider the impact of these developments on food safety and how we, as leaders of food agencies, can prepare and respond.
- Then there is the impact of climate change, which affects not just production and availability of food but food safety. The United Nations Food and Agriculture Organization (FAO) reported in 2020 on how climate change creates conditions that threaten the safety of our food. Changes in climate conditions can introduce harmful algae bloom, displacement of heavy metals from the soil by intense rainfall and accumulation in food, and emergence of foodborne pathogens due to warmer and wetter environments, to name a few.
- Lastly, the relationship between food security and food safety may increasingly be challenged, especially during times of food system stresses and shocks. Both are necessary and complementary components of a resilient food system to meet the needs of humankind. Balancing both is complex and challenging. For instance, how can we manage acceptable safety standards during times of food supply disruption? What then are the key issues in food security, food safety and sustainability that food agencies must consider now to better prepare us to navigate towards a sustainable and resilient world of the future?

WELCOME REMARKS

At the opening of the 5th IHFAF meeting, Dr Tan Lee Kim, Director-General (Food Administration) and Deputy Chief Executive Officer of the Singapore Food Agency welcomed the Executive Committee and Founding Members of IHFAF as well as all delegates to Singapore.

Dr Tan emphasized the critical role of IHFAF, where Heads of Food Agencies come together to advance dialogue on food safety issues of strategic importance such as climate change and sustainability developments, and to shape a collaborative agenda with a view to exploring how these challenges can be resolved.



Dr Tan Lee Kim, Director-General (Food Administration) and Deputy Chief Executive Officer, Singapore Food Agency

SESSION 1

CLIMATE RESILIENCE & FOOD SAFETY

Session Chair:

*Dr Sandra Cuthbert, IHFAF
Founding Member and Chief
Executive Officer, Food Standards
Australia New Zealand*



Climate change poses significant challenges to global food safety, but in-depth studies on its impact are lacking. The European Food Safety Authority's (EFSA) 2020 project on Climate Change and Emerging Risks for Food Safety (CLEFSA) has explored climate change as a driver of emerging risks for food and feed safety, plant, animal health and nutritional quality, and characterizes possible effects that climate change could have on a wide range of food-safety related issues.

The complex web of dependencies within global supply chains means that food safety disruptions due to climate change can ultimately affect the availability of food. By identifying potential impacts early, food safety agencies can better anticipate threats and consider stronger international cooperation to reduce global burden of climate change consequences on food safety.

SESSION 1

Presentation by:

*Dr Simone Moraes Raszl, Scientist,
Multisectoral Action in Food Systems
(AFS), Department of Nutrition and
Food Safety, World Health Organisation*



“Detecting & Responding to Climate Change Impacts in the Burden of Foodborne Diseases”

Climate change could affect food safety through various ways such as increase in pathogenic contamination, mycotoxin contamination, zoonotic diseases, increase pesticide use, extreme weather events, environmental contaminants and chemical residues in food. Climate change could affect food safety, but production of food would also in turn affect climate change.

WHO updated on “Strategic Priority 2: Identifying and Responding to Food Safety Challenges Resulting from the Transformation and Global Changes in Food Safety System” of the WHO Global Strategy for Food Safety 2022-2030, and the new GSFS Assessment Tool jointly developed by WHO and International Finance Corporation (IFC). Early surveillance and monitoring would be required to identify emerging risk and for future risk management. There would be a need to improve data collection and strengthen evidence-based approach for development and implementation of food safety measures.

SESSION 1

DISCUSSIONS

Food sustainability, safety and security and climate change are inextricably linked. Food safety may not always be a first thought when formulating food security and sustainability strategies. For instance, new measures to address climate change (such as the use of environmental inhibitors to reduce GHG emissions) may not have considered food safety impacts. There is a need for concerted effort to include food safety in policy decisions to ensure a balance between food sustainability, security and safety.

While food safety has typically been considered non-negotiable, there is room to view food safety on a continuum scale, as an enabler for food security and sustainability.

In terms of addressing climate change impact from agricultural production, a multi-prong, One Health approach is needed to ensure production systems are both resilient and sustainable. A science-based, data-driven approach is useful for early identification of emerging risks, such as changing contamination trends (mycotoxins in dried figs, dioxins in freshwater crawfish, *Vibrio* spp in bivalves, etc.) Analysis of such trends would help agencies to decide on the need to review food safety policies in the context of climate change and develop mitigation measures.

Finally, an unintended consequence of climate change could potentially be increased food adulteration or fraud. Due to increasing commodity prices from poor harvests, there may be food adulteration/fraud (e.g. oil adulterated with additives to mimic olive oil). Food safety agencies would need to look beyond conventional microbiological and chemical contamination of food.



SESSION 2

SUSTAINABILITY & FOOD SAFETY



Sustainability is an important consideration in food systems. As food systems change to enable food production in a more sustainable manner, changes along the supply chain can have unexpected consequences on food safety. Consumers expect that the food they eat is safe, and sustainable food systems, by definition, must ensure food safety and public health is not compromised.

How can agencies and the food industry better prepare and respond to new and emerging food safety issues arising from sustainability efforts in food production and processing?

Session Chair:

Dr Tan Lee Kim, Director-General (Food Administration) and Deputy Chief Executive Officer, Singapore Food Agency



SESSION 2

“Food Safety in Changing Food Systems”

Ensuring food sustainability while protecting the environment would require a transition of our food system such as closing production systems which might affect food safety. For example, hazards might accumulate and recirculate in circular food production systems. Hence, a 5-question framework was developed to assess critical knowledge gaps and identify known hazards that appear in unexpected places. Various testing approaches (e.g. on-site analyses, bioassays, chemical methods) could be implemented but each method would have its own pros and cons. A combination of testing would therefore be the most optimal.

Developing models could help us to better understand the fate of hazards when the production loop is closed. Collectively, different testing approaches and modelling tools could provide information on occurrence of hazards, identify new and upcoming hazards. Prediction of the fate of hazards could aid in safety evaluation of the co-products of these hazards.



Presentation by:

*Prof. Ine van der Fels-Klerx,
Professor of Food Safety
Economics, Wageningen
University and Principal Scientist,
Wageningen Food Safety
Research*

SESSION 2

DISCUSSIONS

Discussions focused on the balance between food sustainability and safety. Currently, food safety was not a regular consideration in sustainability-related policies, as sustainability was not usually under food safety agencies' mandate. There is a need to create more awareness of the importance of food safety in sustainability efforts, especially at international fora. Thought would also need to be given on how to convey potential trade-offs between food safety and sustainability to consumers.

Sustainability efforts may result in unexpected food safety risks. For instance, in circular food production systems: detection of chemical compounds such as solanidine and solanine in black soldier fly larvae fed with food waste; or mercury contamination in food crops grown in LED-assisted indoor vertical farming systems. Another example was the use of CO2 for prolonging durability and shelf-life, however it might also pose food safety risk. It would be useful to involve industry to consider emerging risks, implement appropriate measures, and potentially tap on industry's big data for analytics.

Another area brought up was the use of Artificial Intelligence (AI) and technology for regulatory purposes such as identification and prediction of risks. AI systems could provide observations and analysis. However, the analysis and recommendations from such AI systems should be carefully considered in terms of reliability.



SESSION 3A

NOVEL FOODS – SAFETY ASSESSMENT & REGULATORY FRAMEWORKS

Session Chair:

*Prof. Hisham S. Aljadhey, IHFAF
Founding Member and Chief
Executive, Saudi Food and Drug
Authority*



Novel foods can be newly developed, innovative food, food produced using new technologies and production processes, as well as food which has not traditionally been eaten relative to the context of individual countries. Such novel food has been considered by some to play a role in mitigating climate change and enhancing sustainability.

Food safety must be a principal consideration when developing novel food. To further advance the novel foods sector and maintain food safety, regulatory frameworks are essential.

SESSION 3A

“Advancements in the Cultivated Meat Industry”

Presentation by:

Prof. Mark Post, Chief Scientific Officer, Mosa Meat



Prof. Mark Post provided an overview of the different cultivated meat production processes. He also provided updates on the industry and regulatory landscape pertaining to cultivated meat companies, production facilities, and the countries that have approved cultivated meat.

Prof. Post highlighted the food safety risks associated with cultivated meat production and mitigation measures which can eliminate these risks. The biggest challenge for cultivated meat industry would be scaling up the production in a cost-effective manner. He also emphasized the importance of harmonizing regulatory approvals across countries though he acknowledges the difficulties in achieving it.

SESSION 3A

“Advancements in the Cultivated Meat Industry”

Question: When would cultivated meat be widely available commercially?

Response: Prof. Post shared that while prices had reduced significantly due to the switching of pharmaceutical-grade ingredients to food-grade, it would take 5-10 years to be cost competitive. He also highlighted that time would be required for production facilities to be built, which could affect the timeline for commercial availability.

Question: Would cultivated meat be considered as vegan or vegetarian?

Response: Prof. Post explained that cultivated meat might still contain animal components as the cells used are derived from an animal, hence would need to be labelled as such. The production of cultivated meat may cater to vegetarians who do not consume meat to avoid animal slaughter.



Question: How would the labelling of cultivated meat be like?

Response: Prof. Post shared that separate labelling would be required to differentiate from plant-based and regular meat as cultivated meat does not fall under either category.

SESSION 3A

DISCUSSIONS



Today, there is a growing interest in novel foods. We would need to develop a robust risk assessment and regulatory framework to govern the growing trend. While we balance between food safety and food security for novel foods, we should not create unnecessary barriers which may hinder the progress of having sustainable products into the market.

Although new food sources could address the food security concerns, the safety involved with the introduction of novel food should not be overlooked. We should also consider the method of production of these cultivated meat and its intended use when we look from the safety aspect.



One of the key challenges regulators face is on risk communication. There is still a large percentage of people who are unreceptive towards the consumption of cultivated meat. There are also concerns towards consumers' awareness and readiness in accepting certain level of risk involving the consumption of novel foods.

Last but not least, the challenge of defining novel foods is ongoing; some countries had considered insects and algae as traditional food with history of consumption.

In the discussion of what would constitute halal cultivated meat, the following points were briefly raised:

1. Cells obtained are not from a living animal
2. The production process does not involve the use of animal blood and its products
3. The ingredients used for production of these cultivated meat is halal
4. The consumption of the cultivated meat product is evaluated to be safe.
5. Whether there is a third-party Halal certification



SESSION 3B

NOVEL FOODS – RISK COMMUNICATIONS

There are also other challenges faced by the novel food industry. A key challenge is consumer acceptance, or the lack thereof, especially for cultivated proteins.

There are doubts raised about the nutritional aspects of novel food and whether novel foods could indeed be a sustainable food source. Novel food risk communication and consumer messages can help consumers to make informed decisions.

Session Chair:

*Prof. Hisham S. Aljadhey, IHFAF
Founding Member and Chief Executive,
Saudi Food and Drug Authority*



SESSION 3B

“Risk Perception and Communication about Cultivated Meat”

Prof. Chong provided a summary of the public’s perceived risks and benefits associated with cultivated meat based on the surveys conducted on consumers in Singapore. He emphasized that the perceived risks are mainly associated with personal risks, while perceived benefits are focused on societal benefits. He also highlighted drivers of consumer acceptance, including nomenclature and how cultivated meat is presented to consumers. The drivers of repeat consumption of cultivated meat include the taste of cultivated meat products and the opportunity for consumers to try such products.

Prof. Chong stressed the importance of understanding the perception about risk and benefits associated with cultivated meats as it can influence novel food acceptance and rejection. He shared the importance of risk benefit communication with consumers, underscoring the need to emphasize the benefits of cultivated meat and provide consumers with the opportunity to try it in social settings, while ensuring that it tastes good for repeated consumption.



Presentation by:

*Prof. Mark Chong, Professor of
Communication Management
(Practice), Singapore
Management University*

SESSION 3B

“Risk Perception and Communication about Cultivated Meat”

Question: Was it the industries or regulators’ responsibility to address perceived risk and benefits of consuming novel foods?

Response: Prof. Chong suggested that food safety concerns should be addressed by regulators, but other points should be addressed by cultivated meat companies.

Question: Would the studies outcome differ if the participant demographics were to change?

Response: Prof. Chong shared that many of the studies were conducted in western countries, while nomenclature framing, tastiness and product trials were done on Singapore consumers. However, he agreed that the conclusions would likely change depending on demographics of the participants in the study.



SESSION 3B

DISCUSSIONS

Earlier on Session 3A, we have discussed a little on the risk communication for novel foods. Risk communication is an important aspect for novel foods and its fundamental principle should be that it must be safe for consumption! Consumers must be convinced that our approaches towards novel food evaluation does not differ from all other foods.

Indeed, novel foods had very much changed the notion of what constituted a food. Downstream communication was often overlooked when the perception of a food item changed. Agencies could consider working collaboratively with novel food companies, e.g. on their marketing material, to facilitate sharing of accurate food information with consumers. However, a balance for such communication work has to be strike to prevent over-promotion of any particular novel foods.

While it is crucial to provide clear and accessible information to consumers and a need to emphasize transparent communication, we should also weigh considerations towards the provision of extended information on new food products produced using new technologies. There might be limited acceptance towards novel foods, genetically modified foods and food additives. We could however consider approaching such challenge with the introduction of consumers' survey on their receptiveness towards new foods before any major releases, and such focus must come from the perspective of the consumers, focusing on what they would want us to share rather than what we thought we should share. Such consumers engagement would make them feel involved in the risk assessment process, and may in turn, positively attune their pre-perceptions towards novel foods.



CLOSING REMARKS

System thinking is needed when we look at sustainable food systems. Food safety is an integral part of this system. However, from experiences shared, food safety seems to be frequently operating outside of this system approach. This is followed by discussion about reframing food safety narratives and changing the food regulators mindset from one of compliance and destabilizing climate change mitigations to one that makes food safety an enabler.

An added layer of complexity is that food agencies have to grapple with expectations to give the same priority to both sustainability and food safety. This is not aligned with the reality where there are trade-offs. Questions identified for further consideration by food agencies include: (1) How food agencies manage these trade-off? (2) Is it the role of food agencies to balance the trade off? (3) If there are trade-offs, how would food agencies work out the risks and benefits to consumers at a system level?

Novel food was an example which food agencies have to consider the nexus of food safety, food security and sustainability. Such food can offer benefits, but the food safety risks need to be considered. But as novel food regulations is nascent and varied, there is opportunity for food agencies to work together on risk assessments and harmonizing standards. The community needs to better contextualize and communicate the risks and benefits to consumers.

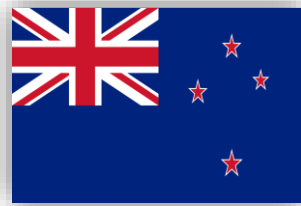


FUTURE IHFAF HOSTS

These are the list of future IHFAF meeting hosts:

- Santiago, Chile (2025)
- New Zealand (2026)
- United Kingdom (2027)

Host countries from the past, present and future meetings will be invited to join the Executive Committee.



CONCLUSION

The meeting was concluded by Prof. Hisham S. Aljadhey with appreciation to delegates for a successful and productive meeting.

The meeting had not only provided great opportunities for information sharing, but also strengthen existing relationships that is critical to building trust so that agencies will have appropriate responses in times of global crisis.

