



**JOINT FAO/WHO PROGRAMME ON FOOD STANDARDS**  
**FAO/WHO COORDINATING COMMITTEE FOR LATIN AMERICA AND THE CARIBBEAN**

**Twenty-second virtual meeting**

**24-28 October 2022**

**KEYNOTE ADDRESS:**

**NEW TECHNOLOGIES IN THE AGRI-FOOD CHAIN**

Governments around the world are taking necessary action to adapt to the new challenges to food access we are facing. The Food and Agriculture Organization of the United Nations (FAO) believes that science, technology and innovation can accelerate the transformation of agri-food systems to be more efficient, inclusive, resilient and sustainable, so as to achieve better production, better nutrition, a better environment and a better life, while leaving no one behind<sup>1</sup>.

According to the Food and Agriculture Organization of the United Nations (FAO), the International Fund for Agricultural Development (IFAD), the World Health Organization of the United Nations (WHO), the World Food Programme (WFP) and the United Nations Children's Fund (UNICEF), almost 3.1 billion people could not afford a healthy diet in 2020<sup>2</sup>. This is 112 million more than in 2019, which reflects the inflation of consumer food prices arising from the economic repercussions of the COVID-19 pandemic and the measures taken to contain it. In addition, new cases of people contracting diseases from the consumption of food contaminated by microorganisms and/or toxic chemicals, which could cause death, are reported every day; foodborne diseases (FBD) caused by contaminants constitute a serious public health problem<sup>3</sup>.

In addition, food waste in households, retail establishments and the food service industry is estimated at 931 million tons each year. Of this amount, almost 570 million tons are generated in households<sup>4</sup>. The loss of food safety contributes significantly toward generating this waste.

Agri-food systems, food production and food sources are undergoing significant changes around the world. One of the main challenges is population growth and the exploration of new food sources to meet nutritional requirements and generate less waste, which in turn brings about changes in the eating habits of the population while maintaining their health, preventing FBD.

Innovation in food production and the search for new food sources, as well as alternatives to meet the nutritional requirements of vulnerable populations, are the challenges faced by scientists, the food processing industry, governmental and non-governmental institutions.

The industrial sector, constantly seeking to please consumers and find new markets, considers factors such as the basic cost of food, population growth and religion. In the coming decades, animal protein production will have to increase to meet the existing demand. It is estimated that 206 million tons per year will be required in the next 35 years<sup>5</sup>.

Currently, several countries already have the technology and sufficient financial backing to create new food sources or transform low-value foods into products with higher nutritional value. The main macronutrient is protein, and the sources considered as new alternatives are proteins of vegetable origin, microalgae, insects, fungi and by-products.

Among the foods that are involved in technological processes, microbial protein developed from precision fermentation has emerged, with a view to addressing the challenge of sustainability in the food industry; the latter is working with subsectors such as snacks, dairy or meat, among others<sup>6</sup>. Protein with high nutritional added value is generated through by-products and combining fermentation with Artificial Intelligence.

Organizations worldwide, whose mission is to create regulations and guidelines that protect the safety and fair trade of food, have already begun work at the highest levels due to the importance and exponential growth of new technologies in the preparation of food from its primary phase. In the *Codex Alimentarius*, on the part of the Executive Committee, these activities include the Regional Coordinators as the main actors since they are the ones who, through their various tasks, involve members so that the resulting regulations guarantee that

these new food sources are safe. That is why a joint effort with all regions and organizations worldwide, including the exchange of information, will be key in order to address the necessary regulatory initiatives.

Finally, in the Latin America and Caribbean region, with the guidance of experts in food production and processing, support will be given to the generation of these new technologies that are creating great expectations. Producers see these technologies as an alternative in the fight against hunger and malnutrition that affect millions of people around the world. With proper management and regulation, the new technologies in the agri-food chain could become a mechanism to consolidate the implementation of the Sustainable Development Goals set by the UN.

In this regard, CCLAC members are encouraged to share their views and experiences in addressing the following topics:

- i. The role of international standard-setting organizations, such as the Codex Alimentarius Commission, in the development of standards as well as guidance on new food sources and production systems;
- ii. New food sources and production systems of potential interest to the Latin America and Caribbean region and the resulting commercial and economic opportunities;
- iii. Investment in the generation and analysis of scientific data for the development of new technologies, with the necessary technical support;
- iv. Involvement of all stakeholders in the agri-food chain; and
- v. Future evolution of new technologies in food, so as to identify the challenges and opportunities- mainly for the Latin America and Caribbean region.

## REFERENCES

1 <https://www.fao.org/newsroom/detail/science-and-innovation-are-key-accelerators-for-transforming-agrifood-systems/en>

2 <https://www.ifad.org/en/web/latest/-/un-report-global-hunger-numbers-rose-to-as-many-as-828-million-in-2021-the-latest-state-of-food-security-and-nutrition-report-shows-the-world-is-moving-backwards-in-efforts-to-eliminate-hunger-and-malnutrition>

3 <https://www.paho.org/en/topics/food-safety>

4 <https://www.fao.org/newsroom/detail/science-and-innovation-are-key-accelerators-for-transforming-agrifood-systems/en>

5 <https://www.fao.org/science-technology-and-innovation/en>

6 Wu G, Fanzo J, Miller D, Pingali P, Post M, Steiner J, Thalacker-Mercer A. Production and supply of high- quality food protein for human consumption: sustainability, challenges, and innovations. *Ann N Y Acad Sci.* 2014;1321:1-19