

## **Democratizing food safety – for everyone, everywhere**

An exclusive interview with Maame Ekuia Manful, food scientist, entrepreneur, and systems thinker at the intersection of nutrition and food safety.

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Michelle Müller, Marketing Assistant at NEMIS Technologies:

*It is a great pleasure to talk to you today, Maame! What is your background, and what has sparked your interest in food safety?*

I am Maame Ekuia Manful, a food scientist working at the intersection of nutrition and food safety. After my first two degrees in food science, I saw the need to specialize in food safety and quality, specifically in food quality management systems. I believe there is no value in consuming nutritional products if they are not also safe for human consumption. Currently, I am focusing my doctoral research on food safety and regulatory affairs of upcycled ingredients.

My passion for food safety sprung out of a personal experience fifteen years ago, when I got very sick as a result of eating food that was likely to be contaminated. After being wrongly diagnosed with Malaria, not knowing that I was actually suffering from Typhoid fever caused by Salmonella, I almost lost my life. This experience had a significant impact on me - my education, family, and whole life. Unfortunately, we forget to remember that when food safety incidences happen, it is not only about the patient, but also about the cascading effects they cause. So based on my personal story, I think that everyone, whether in the developed world or the developing world, should have the right to access safe food.

*Just like us, you were part of this year's UN Game Changers Lab – what was your role, and what did you want to achieve? Where do the biggest challenges lie in our current food system?*

The Food System Game Changers Lab supports this year's UN Food System Summit, where over 850 game changers were selected from 127 countries and were grouped into 24 cohorts. These 24 cohorts went through a 12-week Solution Acceleration Program. During this phase, the Food System Game Changers Lab enabled Cohorts to collaboratively develop what we call Action Agendas. I had the honor to guide cohort 24, whose focus was promoting food safety and traceability in the current food system.

Regarding the biggest challenge in our food system, I think it is food safety. So often, we only see a reactionary approach to food safety. Consumption of food comes with food safety issues which could be microbiological contamination, pesticide residues, allergens, endocrine disruptors, amongst others. While consequences of

malnutrition can partially be undone, food safety incidents are very hard to reverse and most of the time, the costs and implications are extremely expensive.

***Interconnectedness on a global scale has never been so prevalent as it has become during the Covid-19 pandemic. Multinational companies use economies of scale, and even the slightest error in their operations can considerably impact people, animals, and the environment. What is your take on this, and where do you see challenges but also opportunities?***

The challenge here is that, it is not only about feeding as many people as possible, but it is also about producing large quantities of safe food. Suppose we only concentrate on the fact that we have more mouths to feed and then deploy rapid food manufacturing methods, robots, AI etc., to produce more and more, we are prone to forget that food safety detection methods should also go along with the pace of rapid manufacturing systems.

We must come up with localized, democratized methods to ensure that people everywhere can be in control of the safety of their food. This means that we need to shift from traditional methods that are often laborious, resource intensive and time-consuming to safe, rapid, low-cost, easy-to-use test kits which can be used by everyone everywhere, where food safety must be ensured. With rapid food manufacturing systems, we need rapid food safety screening and detection systems - and this goes hand in hand with producing more food to ensure global food security.

***"The WHO estimates that 600 million people fall ill and 420,000 people die annually as a result of eating contaminated food. Most impacted are children under five years of age from low- and middle-income countries. The World Bank estimates that the socio-economic costs of foodborne illnesses exceed US\$110 billion." What potential do you see for a safe, on-site, low-cost, and portable solution in food safety?***

There is an unlevelled playing field, such that the more resources you have, the more you can stick to the traditional food safety detection methods. This does not always favor resource-constrained regions, such as low-income countries within the developing world. To level the playground, we need to make sure that we provide access to simple tools that can be used by everyone, whether rich or poor, to ensure that products coming from such regions to the market are safe. Because this is the caveat - we need to have safe food.

Therefore, I think that it is time for us to have simple, ready-to-use, low-cost, on-site testing, or screening methods, to screen products for food safety before taking them to the market. With this approach, I believe we will save a large chunk of the socio-economic costs of foodborne illnesses that currently exceed 110 billion USD. My desire is to live in a world where I trust that food is safe and where everyone can be in charge of their food safety.



Maame Ekuia Manful is a food scientist and engineer working at the intersection of nutrition and food safety. After two degrees in food science, she specialized in food quality and food safety. In her career, she has worked with start-ups as well as with established companies to help them establish food quality management systems. At university, she founded Sweetpot with her colleagues, addressing the vitamin A deficiency problem in sub-Saharan Africa. She is currently engaged in her doctoral research in food safety and regulatory affairs of upcycled ingredients. Maame led cohort 24 in this year's United Nations Food Systems Game Changers Lab, collaboratively finding solutions to promote food safety.