

Webinar series: Putting Food System Thinking to Sector Practice

Webinar 4: Protein Transition

The role of insects in food system transformation – from niche to mainstream

Date: Thursday 21 April 2022

Time: 13:00-15:00 CEST

Zoom link: <https://us02web.zoom.us/j/85936351653?pwd=L3cwaEJ5dEJzY2wyUnlsYzhxM2ZwQT09>

Webinar Programme Outline

Time	Activity
13:00	Start webinar and general introduction Facilitation by Nicole Metz - Netherlands Food Partnership
13.05	How is the protein transition, specifically the role of insects in food system transformation positioned within the food system framework? How can the framework help to analyse its complexity? Introduction by Walter de Boef (Wageningen CDI)
13.15	From Niche to mainstream, the journey of Ynsect Netherlands (former Protifarm) in producing, processing and marketing insects for human consumption. Interview with Tom Mohrmann , general manager Ynsect Netherlands Q&A via chat with the audience
13.40	Nutritious crickets for delicious food security. Lessons learned from the Flying Food Partnership in Africa Interview with Mathilde Miedema (programme director TNO) Q&A via chat with the audience
14.00	Short break
14.10	A consumer's perspective on insect consumption – how to change behaviours? Interview with Marleen Onwezen (researcher WEcR) Q&A via chat with the audience
14.30	Panel discussion with speakers mentioned above Synthesis and final remarks
15:00	Closure



The protein transition: the role of insects in food system transformation – from niche to mainstream

Case brief

This case brief is intended for participants of the fourth session in the webinar series ‘Putting food systems thinking into practice’, a joint collaboration between the Netherlands Food Partnership and Wageningen Centre for Development Innovation. This session takes place on **April 21** (13:00-15:00 CEST) and discusses the role of insects in the protein transition.

Why we need insects as protein source

With a rising world population and a growing middle class, there is an increased demand for meat and dairy products. But there is a problem: agricultural land is becoming scarce and with more than two thirds of agricultural land being used to feed and accommodate livestock that could be partially used for direct human consumption, a change is needed to reduce the competition for land.

Human consumption of plant protein has other environmental concerns. Soybean, for example, is mainly produced in environmentally harmful monocropping practices and in many cases on deforested land, with a devastating environmental impact as a result: from increasing global greenhouse gases, to polluting groundwater, reducing biodiversity, stimulating erosion and more.

There is a clear need for more environmentally friendly alternatives to the current monocrop production of soy (of which 77% is used as feed for livestock) and animals as a source of protein, such as insects, algae and others, to make the food system more sustainable.

Changing our diets to alternative proteins can have a big impact on our production landscapes. As insects could be grown in vertical layers and in some places where agricultural production is not feasible, they create a good addition or even replacement as protein sources to feed livestock and humans. Insects such as the black soldier fly or mealworms can also be fed from waste streams, to make the production cycle more circular and sustainable. However, the production of insects also comes with its challenges: the starting costs are high, mass insect rearing needs high energy consumption and there is still low consumer demand for the consumption of insects, both direct and processed in foods.

Many environmental drivers and the need for a more sustainable food system stimulate the production of protein through insects as one possible pathway for change. With the socio-economic barriers hindering the uptake of some alternative protein such as insects, it is clear that possible leverage points for change can be in all different elements of the food system. This can create synergies (e.g. reducing deforestation, reduction of agricultural lands for livestock) but also some remarkable trade-offs (e.g. high energy consumption, high starting costs) that need to be taken into account before deciding on an intervention.

From innovation to practice

Currently, there are two types of players in the insects market. On the one hand, there are large companies investing in production where there is already a significant demand for the product (e.g. specific animal feed). On the other hand, there are smaller start-ups that try to find niches in the market (e.g. insect for direct consumption or as protein source for other products). In this webinar we will focus on insects as food for human consumption. The smaller companies often face the problem of the still relatively low demand for insect consumption. In general, it has proven difficult to reach a behavioral change of consumers towards lower meat consumption or alternative protein sources.

It takes time for pioneering niches to break through and become part of the current regime. Protein transition through insect production from waste streams, used in both human and livestock consumption is currently in a pivot point of breaking through to the big mass. Although sensitization is needed to change consumer preferences and break cultural preconceived notions on the consumption of insects. Many pioneers go through the same struggles. In the case of insect production and consumption, for example, food safety and sanitary guidelines are often lacking or insufficient.

In this webinar, we will use the food system framework to look at the business- and consumer side of insects as protein. What hurdles did innovators in the sector have to overcome to stand where they are today? What lessons can be learned from this, and how could we translate this to other regions? How can consumer preferences be nudged to stimulate more demand and uptake of insects as a new sustainable protein source? What has to be done in the coming years to stimulate insect consumption and to create a policy-friendly environment for production, processing and consumption?

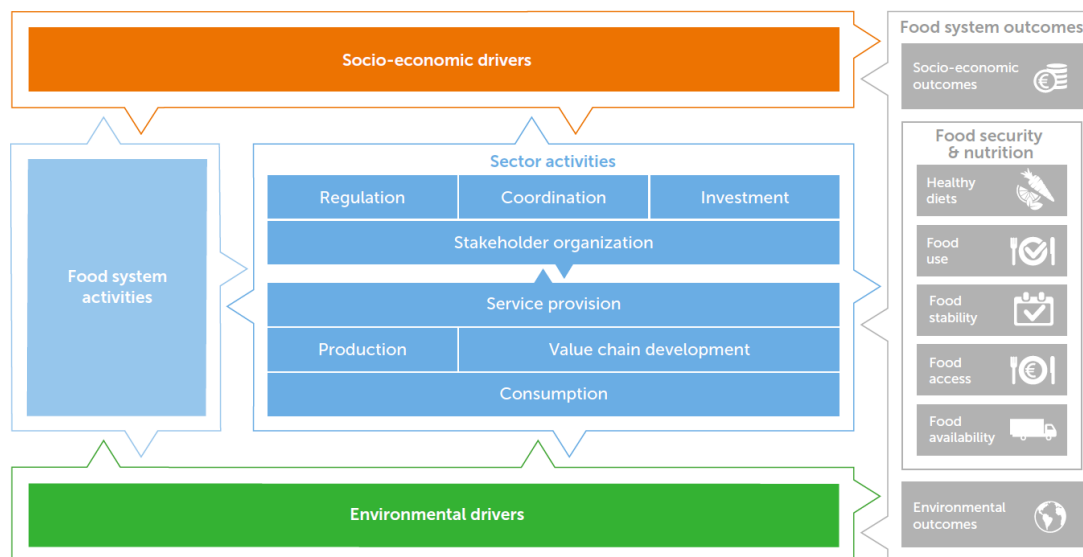


Figure 1: The integrated sector and food systems framework (Borman et al., 2022.)¹

¹ <https://doi.org/10.1016/j.gfs.2021.100591>