Protein Transition in Flevoland

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During the past months, I embarked on a research journey about the Protein Transition in the province of Flevoland. While the transition is a complex process that involves many stakeholders, I focused on the ones directly involved in the supply chain – food production, processing, distribution, and consumption. After diving deep into these areas, I created suggested pathways for the province of Flevoland aimed at bridging the gap between farm-level efforts and consumer awareness. Grounded in the EAT Lancet framework and the principles of the right to food, my vision includes empowering local farmers through knowledge access and market and financial incentives, fostering inclusion of underrepresented immigrant groups, making culturally appropriate options available for consumers, and paving the way for local entrepreneurship and innovation.

Flevoland has one of the highest farm yields and turnover in the Netherlands, and 70% of its farms produce arable crops, making it a promising actor in the production of vegetable proteins. However, 80% of the production in Flevoland is destined for international markets, thus making a transition to vegetable protein production with a local focus requires a big shift. Through my research, I identified key barriers that farmers encounter when trying to shift to nature-inclusive production practices. Some of these barriers include the lack of financial and tax incentives and the absence of price premiums in the market for sustainable products. And while generally there is a lot of resistance from farmers to making a transition, examples of the young generation of farmers like De Nieuwe Melboer and Bio Romeo are a source of inspiration. These young farmers are pioneering the transition of their family farms to nature-inclusive agriculture, by upcycling of farm products to retail products, and by creating short food supply chains to reach consumers directly.

Short food supply chains have emerged as a powerful mechanism, not only benefiting farmers economically but also fostering social and community connections with consumers. However, challenges persist, especially regarding logistics, with many initiatives operating independently. Increasing the collaboration between short-chain actors holds the potential to improve the logistics challenges facing the numerous short-food supply chain initiatives in the province. Meanwhile, upcycling farm products presents a promising path for farmers to reduce farm-level food waste, boost profitability, and increase their market opportunities. However, farmers and processors are often unaware and unprepared for additional product creations and market developments. After analyzing the estimated prices that different processed products with fava beans could have, I stress the importance of assessing the processing and market potential of fava beans while involving local farmers and processors in this knowledge development to bridge the existing gaps.

All of the above efforts must be closely linked with the understanding of consumers. I came across very interesting research that identified consumers' perceptions of the various factors and actors influencing their decisions related to the protein transition. Non-

vegan consumers would generally be more likely to reduce their meat consumption due to health concerns rather than environmental or animal welfare concerns. And among all the different alternative proteins there are, the consumption of vegetable proteins such as beans and pulses is not determined by food neophobia, but by social norms and cultural attitudes.

To understand the Dutch consumers' perceptions towards bean consumption and compare them with international ones, we performed a focus group with Dutch and international students to share dishes, experiences and memories related to beans. We found that international students have very positive attitudes towards beans and they are generally perceived as normal in social environments. On the other hand, while Dutch consumers may not embrace beans in their cuisine since their perceptions and attitudes towards beans are highly negative, they show openness when they are presented as part of foreign dishes. 1 in 3 Dutch consumers like to add a foreign twist to their dishes, and almost 50% of them are interested in learning to cook international cuisines.

This holds a hidden potential in cities like Almere where 47% of the population have a non-western immigration background, and through the huge availability of beans in international supermarkets, we can conclude that these groups of immigrants already incorporate beans in their cuisines quite frequently, as confirmed by our focus group. Non-Western immigrant dietary traditions in the Netherlands offer the potential for normalizing bean consumption, the same way Dutch consumers have historically integrated foreign dishes into Dutch cuisine, such as sambal from Indonesia, broodje pom from Suriname, hummus from Morocco, and chili con carne from Mexico, suggesting that pulse-rich cuisines can contribute to the integration of pulses into the Dutch diet.Therefore, making culturally appropriate options available for Dutch consumers could be accomplished by getting inspiration from international cuisines.

The protein transition in the Netherlands presents numerous opportunities for companies, governments, and institutions to make an impact. However, I strongly advocate for ensuring that the transition is fair and just by including underrepresented groups of farmers and consumers, as they possess unique perspectives and potential to drive initiatives and innovation in ways that other actors cannot. Therefore, I propose the following pathways for the province:

Pathway #1

Sustainable Production

Improving current farming and production practices to make organic and sustainable options available for consumers and manufacturers, will not only benefit the consumers of today but also those of future generations.

Right to Food √
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Pathway #2

Research and innovation

Research and innovation can foster new income streams for farmers and can contribute to making more options available for consumers to make healthier and more sustainable choices.

Right to Food √
EAT Lancet √

Pathway #3

Inclusion and Cooperation

Encouraging inclusion empowers underrepresented groups to actively participate in the food system. By incentivizing collaboration among stakeholders, bottom-up initiatives and solutions can emerge, co-designed by those directly engaged with food system challenges related to the production or adoption of sustainable diets.

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Pathway #4

Education and Awareness

Education and awareness play key roles in fostering sustainable long-term changes in production practices and consumer behavior. Empowering individuals with knowledge about sustainable practices, products, cooking skills, and their own right to having access to better food choices can lead to healthier, more sustainable habits. As well as an increasing demand for improvement in product offering across all levels of the supply chain.

Right to Food √
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The province of Flevoland has been working on various initiatives to promote the protein transition. The collective engagement of farmers and stakeholders underscores a shared commitment to drive progress in this crucial endeavor. As this research illuminates, there are promising pathways forward, particularly in addressing various components of the supply chain. By aligning these actions with the values and principles of the EAT Lancet model and the Right to Food frameworks, the province can effectively confront the environmental and social challenges inherent in the protein transition. This research was a very insightful and interesting learning experience for me, and I am very grateful to the province of Flevoland for the support and the opportunity to work together in building this knowledge that I hope will be useful for them and other actors in the province in their future initiatives.