

Innovation Network Feeding Cities

Scoping paper on possible intervention strategies and approaches

1. Why an innovation network Feeding Cities?

The combined effect of rapid urbanisation and economic growth in emerging economies in Africa, Asia and Latin America results in a rising demand for more and better quality food. Urban food consumption already constitutes about two-thirds of the total food demand in Asia and more than half in Africa^[A]. Particularly the demand for processed food and fresh produce, such as meat, dairy products, fruits and vegetables, is on the rise. In Asian markets the diet diversification has progressed to the point where processed foods, animal proteins and fruit and vegetables, are the majority of the diet in value terms^[B].

The growth and transition of the urban food systems¹ in emerging economies provide opportunities for Dutch businesses in the agricultural and food sectors for co-investments or as a supplier of technologies, products and services. MVO Nederland and the Food & Business Knowledge Platform (F&BKP) had the

idea for the establishment of an Innovation Network Feeding Cities. They jointly organised two meetings with public and private stakeholders in 2017 and early 2018² to discuss how Dutch companies can better seize these opportunities. The conclusions of the meetings were that:

- Dutch businesses could increase their success rate if more integrated and demand-driven approaches were developed; this would require more information sharing, collaboration and formation of coalitions between businesses and between business and knowledge sector.
- Public sector organisations, development organisations and knowledge institutes facilitate and contribute to these processes and collaborative efforts; mutual learning, cooperation and working with private sector on specific cases could improve these support services.

The overall goal of this Innovation Network is to increase levels of commercial success for Dutch companies (particularly small and medium sized enterprises) involved in the development of sustainable food systems in rapidly urbanising regions in Africa, Asia and Latin America. To feed the discussion on the establishment of this Network this paper provides an overview of some of the available strategies and intervention approaches that can be used to contribute effectively to the overall goal of the proposed Innovation Network Feeding Cities.

This scoping paper is prepared by Frank Joosten, Director and Senior Business Advisor at Advance Consulting BV under assignment by the Food & Business Knowledge Platform (F&BKP). The findings and suggestions presented in this paper are those of the author and may not fully represent those of the F&BKP.

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For more information on the F&BKP, please refer to <http://knowledge4food.net/>



¹ A food system gathers all the elements (environment, people, processes, infrastructures, institutions, etc.) and activities that relate to the producing, processing, distribution, preparation and consumption of food and the outputs of these activities, including socio-economic and environmental outputs ^[C]

² <http://knowledge4food.net/increasing-investments-dutch-agri-food-sector-emerging-economies/>

2. What are key trends and developments of urban food systems in emerging economies?

An insight and understanding of the main trends and developments in different urban food systems around the world is the starting point for commercial involvement by Dutch companies. The pattern of growth and development of urban food systems in emerging economies is not the same as in Europe. It does therefore not work in many cases to transpose our technologies and strategies towards agricultural production, food processing and food supply (including food safety systems, waste management, recycling, logistical solutions, etc.) without adaptation or additions to Africa, Asia or Latin America.

So, what are some of the main trends and developments? And what are the main drivers behind the growing urban food systems in Africa, Asia and Latin America? This paper will not provide an exhaustive overview of the urban food systems' developments in emerging economies. Besides, there are too many regional and sectoral differences. However, some key features of urban food systems in emerging economies need to be mentioned and are listed as examples in box 1 below ^[A] ^[B] ^[D] ^[E].

Text box 1: key trends and characteristics of urban food systems in emerging economies

- ✓ Urban food systems largely depend on domestic and regional production systems for the main supplies. The growing urban demand provides incentives to farmers to intensify and increase (value-added) production.
- ✓ Informal rural-urban supply and trade linkages are resilient and adaptive and will continue to dominate urban food systems in emerging economies.
- ✓ The widespread accessibility of ICT-tools has reduced the transaction costs for sourcing raw materials, payments, deliveries, etc. and has facilitated new local food wholesale and retail businesses
- ✓ Imports are restricted to a limited number of food commodities such as livestock products (including dairy), rice and processed food. Import substitution receives much attention from local governments.
- ✓ The urban middle-class is growing rapidly, but is still very small, particularly in African cities. The 'Bottom-of-the-Pyramid' segment will remain the largest consumer segment in the coming decades.
- ✓ The impact of supermarkets and other well-structured and formalised supply chains on the urban food systems in emerging economies has been limited. Urban consumers continue to shop for their food products at the traditional wet markets.
- ✓ Food safety concerns increasingly impact on urban consumer behaviour.

3. What are market entry points for Dutch agri-food businesses and partner organisations?

Increasing the level of commercial success by Dutch agri-food companies requires first of all a good understanding of the complexity of the different urban food systems developments and the diversity of local conditions and practices in the different emerging markets. This can form the basis for (a) facilitating the market entry for Dutch agri-food companies and (b) establishing a first connection with locally important stakeholders. Given the main trends and developments in urban food systems (see text box above) in Africa, Asia and Latin America a number of regularly occurring market entry points can be identified. Below some important entry points are given, along with examples to illustrate how businesses can use these for market entry:

- A. **Consumer preferences/requirements** are changing. For example, consumers in Dhaka, Bangladesh are losing trust in locally produced fruits and vegetables (processed and fresh) because of widely publicised food safety risks and are shifting towards imported products. To reverse this trend SNV Bangladesh has formed a consortium with the national Consumer Association and Food Processors Association and developed a EU-funded Switch Asia project.

Together with Bangladeshi processing companies and Dutch food safety experts the partners work on establishing certified safe production and processing practices.³

- B. **Legal / policy changes** are introduced that pose big challenges to producers, processors and retailers; for example, the local Government in Jakarta has banned the transport of live animals and slaughtering of chicken in the city itself for public health reasons. However, replacing the current slaughtering and supply systems with an economically and operationally viable alternative for the supply of affordable chicken meat to the urban consumers appears to be a challenge. Companies like Marel Stork, Rabobank and Sommen BV worked together with Indonesian SME's and national and local Government agencies. Supported by experts of Wageningen and with financial support from the Dutch Government several viable broiler production, slaughtering and supply options were piloted and demonstrated⁴.
- C. **Production and supply challenges**; creating scale and efficiency to meet the growing urban demand for safe and quality food products is becoming a big challenge for domestic food supply chain actors. This requires an integrated approach with attention for production, logistics, investments in transport and infrastructure, quality and safety systems, processing, etc. The Mexican National Agrologistics Programme⁵ is an example of how Dutch experts, national and international private sector and local authorities work together on the design and implementation of an integrated approach to bring scale to domestic agricultural production and supply.
- D. **Technological innovations**; ICT developments for sourcing produce, payment systems, information sharing, etc. are adopted by new domestic wholesale and retail food operators. Examples are Get It in Kigali, Rwanda and Twiga Foods in Nairobi, Kenya⁶. Backed by foreign and local investors these companies manage to connect smallholder growers with local vendors and consumers in a very efficient and effective way and are fast growing urban food enterprises.
- E. **From exporter to local supplier**; urbanisation and economic growth in emerging economies leads to increasing market demands for food products to a level that import substitution becomes a viable option. For example, Heineken opened already its third brewery in Ethiopia in order to meet domestic demand. De Heus recently started animal feed production in Myanmar⁷ to supply the growing poultry industry. Local production and supply chains have to be developed for sourcing quality ingredients, which requires investments in capacity building, inputs for farm production improvements, logistics and storage, etc.

4. How to develop appropriate responses and solutions to urban food system challenges?

The market entry-points identified along the lines described in the previous section can form the stepping-stone for setting an agenda for collaboration between Dutch agri-food companies and the main local stakeholders dealing with the different urban food system challenges. Where appropriate public sector partners, development organisations and knowledge institutes can facilitate the collaboration and support the cooperation with technical, financial and organisational support. A “coalition of willing” may be formed comprising Dutch and national partners. Together these partners will further articulate the demands and challenges of the partners in the respective urban food system and explore possible investment and strategies that address the food system's challenges and opportunities^[F]. Available Dutch co-funding instruments (e.g. DHI, PSD-apps, Impact Cluster) may be

³ <http://www.snv.org/project/sustainable-consumption-production-tomato-mango-products-bangladesh>

⁴ for details: www.difslive.com

⁵ for details: <https://www.wur.nl/en/project/National-Agrologistics-Program-Mexico-.htm>

⁶ for details refer to www.getitrwanda.com, respectively www.twigafoods.com

⁷ for details: <http://heinekenethiopia.com/sustainability/local-sourcing/>, respectively

<https://www.deheus.com/news/overview/de-heus-opens-feed-factory-in-myanmar-589>

used to lower the threshold for partnership formation leading to capacity building, pilots, demonstrations, investment planning, etc..

Useful strategies for Dutch companies in the agri-food sector to become involved as co-investors or commercial suppliers of appropriate technologies, products and services fall into three different categories:

4.1 Creating the conditions for Dutch investments and sales

The main aim here is to create confidence and trust in the Dutch technologies and solutions. This is particularly relevant in the first three urban food system challenges (A, B and C) described in the previous section where there is also a strong public sector element. Making prudent use of the political dynamics and/or economic opportunities in a specific urban food system can greatly facilitate process. Particularly in sub-sectors where the Netherlands has a strong commercial position as a trade partner or technology provider, it is often not very difficult to mobilise the necessary support and buy-in of the relevant ministries, sector organisations and/or local knowledge partners. Tools that can be used include:

- *Round-table meetings and short workshops*; these can serve as an expert forum where representatives from public and private organisations share information and jointly assess technical solutions and investment opportunities. If time and resources allow, a short introductory paper by an independent expert can serve as a start for the meeting or workshop.
- *Short exploratory studies and missions* by leading Dutch businesses and experts can be used to further explore the selection of Dutch technologies and solutions and to ascertain whether there is a realistic potential for co-investments and cooperation with the local partners.
- *Support for enabling policies and regulations*; through Government-to-Government collaboration and support the conditions for market development, private sector investments and business can be enhanced. Directly or indirectly this will contribute to the improved conditions for Dutch agri-food companies to expand their market and investment opportunities. Examples of enabling policies and regulations include support for aligning national with international SPS regulations and capacities, enforcement of breeders' and other IP rights, etc.

Text box 2: Creating conditions for Dutch companies in the Myanmar vegetable sector

An example where the different tools described in this section were used is the Dutch public and private support for the Myanmar vegetable sector. Through the Agricultural Counsellor in Yangon several short studies into the needs and potentials for commercial vegetable production and supplies were initiated in 2014 and 2015. Coincidentally the Dutch public and private sector participated actively in the establishment of a national task force aimed at integrated sector development and the formulation of a white paper on sector development. This has been used as a stepping stone for different new initiatives, including the strengthening of the national seed law, support for the Myanmar phytosanitary services, strengthening of the horticultural extension services and a RVO-sponsored Impact Cluster project with six Dutch companies and Wageningen Plant Research.

<http://www.dutchvegsupportmyanmar.com/>

4.2 Co-creation of production and marketing strategies with local agri-food companies

The main aim is to develop, test and/or demonstrate the integrated solutions towards local urban food system constraints and challenges. These activities are driven and implemented by Dutch agri-food businesses together with their local clients. Where necessary Dutch and/or local knowledge institutes may provide expert advice and capacity building support. Approaches and tools that can be used for this include:

- *Demonstration and pilot projects*; the aim is to test and measure the effects of the new technical and/or operational changes under real-world situations. Based on the outcomes of the demonstrations and pilots, the proposed solutions may be modified and the local stakeholders can make informed investment decisions. An example is the High-Tech Demonstration zone of DongYing (China) where Ridder HortiMax and other Dutch horticultural companies demonstrate their new technologies and products for the cultivation of healthy, fresh and sustainable vegetables⁸.
- *Knowledge centres*; creating a knowledge centre that supports the respective food system with continuous R&D support and technical assistance is warranted in case the respective food system is sufficiently large. It can be a very strong tool to provide a sustained gateway for Dutch businesses in the agriculture and food sector to the respective markets. Financial sustainability of the knowledge centre can be a challenge. In Indonesia the Dutch Food Security Programme in the livestock sector addressed this challenge by working together with local and Dutch private sector. A model broiler demonstration and testing centre was established with support of the companies PT Medion and Sommen BV⁹. The companies are maintaining the infrastructure and cover the operational expenses. The food security programme was concluded by the end of 2017, but the facilities are still used for technology demonstrations, farmer training and testing of broiler farming innovations. Another example is the Netherlands Agro, Food & Technology Centre (NAFTC) in India which is based on a public-private partnership, representing the Dutch agro-food sector in India (focus on dairy and potato subs-sectors)¹⁰.
- *Living lab*; this is a user-centred approach whereby new applications, technical or organisational innovations and strategies are developed from the beginning onwards together with the local stakeholders in the food system. This approach can be particularly useful in the examples C and D described on page 3. The living lab methodology is amongst others applied in Indonesia by Dutch and Indonesian knowledge institutes and companies for the improvement of supply chain logistics. The specific cases and challenges of the companies were central to the interventions from the beginning up to the end of the experimentation and development process¹¹.

4.3 Strengthening of supporting markets for urban food system developments

Supporting markets provide products and/or services necessary by primary producers and other value chain actors and are essential to the sustained operations and upgrading of the individual companies as well as a better overall performance of a particular food system. A supporting market in the context of food systems include for example farm input suppliers, financial services, transport & logistic services and information technology providers. By strengthening the supporting markets in key urban food systems around the world, better conditions are created for the expansion for the Dutch supplies of technologies, equipment, advisory services, etc. Examples of such interventions are listed below:

- *Innovation services and technical support*; by providing support for innovations and technical services new business linkages can be created and market demand for the Dutch supply industry can be created. An example is the Kenya Market-led Dairy Programme coordinated by SNV and co-funded by the Dutch embassy in Nairobi¹². The programme manages an Innovation &

⁸ <http://www.internationaalondernemen.nl/sites/internationaalondernemen.nl/files/marktrapport/Agrarische%20high-tech%20Dongying.pdf>

⁹ <http://www.difslive.com/wp-content/uploads/2017/09/Farm-report-MBLC-in-Poultry-World.pdf>. and www.difslive.com

¹⁰ <https://www.naftc.nl/india-office/>

¹¹ <https://www.nuffic.nl/en/internationalisation/living-labs/living-lab-logistics-water-indonesia>

¹² <http://www.snv.org/project/kenya-market-led-dairy-programme-kmdp>

Investment Fund through which Dutch technologies and support services can be introduced on a cost-sharing basis.

- *Information systems*; new ICT applications and the rapid expansion of mobile phone connectivity throughout Africa, Asia and Latin America makes it possible to reach increasing numbers of producers and consumers with information products. This can range from market information services to production-related data services. Examples are the Geo-data for Agriculture and Water (G4AW) funded projects coordinated by the Netherlands Space Office¹³. The G4AW projects are implemented by public-private partnerships to develop and operate commercially viable information services for customised and timely agricultural advice to producers and other supply chain partners.
- *Mobile financial services*; there are over 255 formal mobile money services in 89 countries. It is now available to 61 percent of developing markets. Mobile money continues to transform the way people – urban consumers, retailers, commodity traders, farmers – access financial services. The use of mobile money will continue to expand across the developing world, yielding better access to savings, insurance, lending, and payment products. In particular small scale farmers and informal businesses will reap a number of benefits from the use of this technology, which will allow them to engage in new markets, make better production decisions, and access financial services ^[6]. Rabobank together with its partner bank Banque Populaire du Rwanda has developed the successful IZI Cash mobile banking system¹⁴. This includes basic credit and savings services for Rwandan smallholder farmers and opens up opportunities for commercial input supplies, investments in farm equipment, etc.
- *Transport and logistics*; improved infrastructure – roads, dry and wet ports, distribution centres, etc. – as well as improved logistical systems can greatly increase the agricultural and food distribution systems. The effects in terms of reduced food wastage and transport costs can be very significant and pave the way for competitive developments of the urban food systems. To achieve significant impact integrated solutions to transport and logistical challenges are required. The 'Flying Swans'¹⁵ is a new approach for Dutch companies to jointly operate on a global scale with integrated cross-sector logistical solutions, including finance. The Flying Swans Consortium is made up of representatives from the Dutch fresh produce sector, logistics, the maritime industry and FMO. Another example of multi-modal and integrated logistical improvements is the Mexican National Agrollogistics Programme referred to already on page 3 above.

5. What could be the next steps?

In the sections above the two main functions of the proposed Innovation Network Feeding Cities have been described as:

- a) creating awareness on trends in urban food systems in emerging economies, identifying opportunities for Dutch agri-food companies and introducing Dutch agri-food companies to a recognised opportunity;
- b) facilitating the step from identification of opportunities to concerted action and investments in Dutch products and services.

¹³ <https://g4aw.spaceoffice.nl/en/projects/G4AW-projects>

¹⁴ <https://www.rabobank.com/en/about-rabobank/background-stories/rabo-development-stories/rwanda-leader-in-mobile-payments.html>

¹⁵ www.flyingswans.nl and <http://www.freshplaza.com/article/149868/The-Netherlands-and-South-Africa-to-work-together-on-logistics>

Before decisions are made on the actual structure and operations of the Innovation Network it is essential that these two main functions are further defined and where necessary further specified. From the examples in the previous sections and the presentations at the two meetings organised by MVO and F&BKP it is also clear that the Ministries of Foreign Affairs and Agriculture, Nature & Food Quality, embassies, sector organisations and RVO are already providing a lot of support. The added value of the Innovation Network Feeding Cities may be realised only if it further aligns the various services and stimulates further cooperation based on a division of responsibilities between different existing organisations in the network. Involved organisations may include for example:

- ✓ The F&BKP may mobilise the required expertise from its knowledge partners and companies on how to identify specify market entry points for Dutch companies. In addition F&BKP may have an important role to play in monitoring and documenting integrated urban food system development strategies and approaches;
- ✓ Dutch embassies in countries with rapidly growing urban food systems may look for specific opportunities based on the entry points and facilitate the creation of conditions for Dutch private sector investments and sales;
- ✓ RVO staff can assist the co-creation processes by making the existing financial instruments for private sector development available; the same may apply for Embassies with funds for a food security programme;
- ✓ Dutch sector organisations have an important role to play in information dissemination and mobilising their private sector membership base around specific urban food system challenges and opportunities.

The establishment of an Innovation Network Feeding Cities may commence with the establishment of a common agenda and an agreement on a division of responsibilities along the lines described above.

Annex A: References

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