


# From trader to forerunner



Rethinking the international  
positioning of the  
Dutch agrofood sector

Petra Berkhout, Siemen van Berkum and Ruerd Ruben



**WAGENINGEN**  
UNIVERSITY & RESEARCH



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# Preface

The International agreement on the *Sustainable Development Goals* (SDGs) and the signing of the *Climate Agreement* in Paris clearly show that fighting poverty, hunger and malnutrition, facilitating sustainable production and consumption and dealing with climate change are being given priority by international government officials. Wageningen University & Research aims to play a catalytic role in the analysis of critical issues facing global society and to simultaneously support and strengthen the informed national and international dialogue in these areas.

A major challenge for the Netherlands is the future development of the Dutch agrosector and the contribution that this sector can make to meeting major social challenges. The international playing field surrounding the international agrofood trade is subject to large changes. The existing multilateral framework



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for trade agreements (WTO, GATT) is under pressure and has difficulty accommodating issues such as climate change and healthy nutrition. The United States is currently emphasising the advantages of trade for its own economy, and the United Kingdom is preparing to exit the European Union (Brexit). Both of these developments can have a major impact on the – traditionally strongly exporting – Dutch agrosector.

During the Agro Debate 2018 we analysed the traditional role of the Dutch agrosector and explored new opportunities for the sector in a quickly changing international playing field. Although the Netherlands is an important player in agricultural trade, it strongly depends on a few markets and a limited number of products. Changes in the international market offer new opportunities.

This position paper by Petra Berkhout, Siemen van Berkum and Ruerd Ruben at Wageningen Economic Research examines the question of how the agrosector can respond to this new international context. How can trade contribute to solving social challenges? And how can the Dutch agrosector – given its strong position in the global market – play a leading role in this?

Drawing from the Agro Debate, a literature study, data and expertise, this paper sketches a number of options for a new approach to the Dutch position in the global market.

Jack van der Vorst

A handwritten signature in black ink, appearing to be 'J. van der Vorst', written over a horizontal line.

General Director Social Sciences Group  
Wageningen University & Research

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A close-up photograph of a conveyor belt system used for sorting or processing potatoes. The potatoes are small, light-colored, and oval-shaped, scattered across the dark, ribbed rollers of the belt. A large, white, stylized number '1' is overlaid in the upper-left quadrant of the image, enclosed within a thin white circular border. The background shows the wooden frame of the conveyor system and a metal blade on the right side.

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# Dutch view of trade and globalisation

## The Netherlands systematically chooses a liberal approach

In recent years, there have been increasingly negative comments on trade and globalisation, and diverse recent developments seem to point to a reassessment of bilateral relations. For example, the World Trade Organisation (WTO), a firm advocate of open trade, continues to make little progress on reducing trade barriers. This can be blamed on the irreconcilable differences among participating parties on the approach to crucial dossiers. With his motto of 'America First', the American president Trump dismisses the benefits of free trade – economic growth and more welfare – in order to protect the domestic industry and other sectors against foreign competition. His recent decision to place a tariff on steel (March 2018) is a clear example of his policy. And the United Kingdom's wish to leave the European Union, referred to as 'Brexit', can be considered a rejection of further European integration and a plea for retaining 'the national'.<sup>1</sup> The risk of more protectionism is a serious one.

These are developments that go against the grain of the traditional Dutch attitude and ideas about open trade and globalisation. The Netherlands has always been a country looking beyond its borders and a proponent of free trade and transparent trade relations. This attitude can be traced as far back as the sixteenth century when, after the collapse of Antwerp in 1585, Amsterdam became the most important trade centre in Europe and Holland dominated international shipping.<sup>2</sup>

As a small country, the Netherlands depends on good relations with both its neighbours and distant friends. This is especially true of the Dutch agricultural sector. The Netherlands is a major producer and processor of agricultural

1 Berkum, S. van, R. Jongeneel, H.C. Vrolijk and J. Jager (2016). Implications of a UK exit from the EU for British agriculture. Study for the National Farmers' Union (NFU). LEI Wageningen UR report 2016-046.

2 Israel, J.I. (1989). Dutch primacy in World Trade 1585-1740. Oxford: Clarendon Press. M. van der Heide, H.J. Silvis and W.J.M. Heijman (2011). Agriculture in The Netherlands: its recent past, current stage and perspectives. Applied studies in Agrobusiness and Commerce: 23-28.

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products and involved in the trade of many agricultural commodities, so foreign trade is very important. The domestic market is limited and has always been so. Consequently, even in periods when there was a large (global) tendency towards protectionism, the Netherlands systematically chose a liberal attitude.

A well-known example of this attitude was the situation during the first major agricultural crisis in Europe in the late nineteenth century. This crisis resulted in part from the increased import of cheaper commodities, especially grain from the United States. Many European countries, such as France and Germany, took measures to protect the farmers from the consequences of the cheaper imports. However, the Dutch reacted very differently. The emphasis here was on adjusting to this new reality in accordance with the advice of the government committee established in 1886 to investigate the agricultural situation. Government support was primarily aimed at expanding the competitive strength of the Dutch agrosector by focusing on education, information and research. This so-called 'trierarchy' played an important role in developing Dutch agriculture and contributed to an increasingly larger role of the Netherlands in international markets.<sup>3</sup>

The only exception to this liberal Dutch attitude was the policy enforced by the government in the 1930s. During this crisis, the Dutch also adopted protectionist measures to protect their own industry, including agriculture. For example, mixing various products, including domestic wheat, was prohibited in order to maintain the domestic price level. And import duties were imposed on diverse products, which helped to finance the measures taken to support agriculture.

## Europe has been an important market for years

After the Second World War, a new economic world order arose with such pillars as the World Bank, the International Monetary Fund (IMF) and the General Agreement on Tariffs and Trade (GATT). Partly thanks to Marshall Aid, the Netherlands recovered relatively quickly from the destruction caused by the war. In this period, great strides were also made in modernising Dutch agriculture. One of the problems was the issue of the small farmer; in 1955, 60% of the farms were smaller than 10 ha, especially those on the sandy soil of the eastern and southern provinces Overijssel, Gelderland, Noord-Brabant and Limburg.<sup>4</sup>

3 OECD (2015). Innovation, Agricultural productivity and sustainability in The Netherlands. Paris: OECD Publishing.

4 Landbouwatlas van Nederland, 1959. Ministerie van Landbouw, Visserij en Voedselvoorziening.

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Because these farms were not considered viable, the government tried to encourage large-scale farming by means of land consolidation. The economic growth in other sectors of the economy also helped since many small farmers were able to find work in the industrial sector.

Driven by the wish to maintain peace and safety in Europe, in 1951 the Netherlands helped to found the European Community for Coal and Steel (ECCS), which in 1957 became the European Economic Community (EEC), the predecessor of the EU. The wish for European integration and the creation of one common market meant that countries had to abandon their national agricultural policies in favour of a common agricultural policy. This policy and the accompanying common market for agricultural products were largely realised in the 1960s.<sup>5</sup> This development was very beneficial to the Netherlands. The European market was and is an important market for agricultural products, a market that has become increasingly accessible with the further integration of the EU and the completion of the internal market in 1992 and a market that has increased in size as new countries entered the EU.

## Multilateral framework as critical prerequisites

Multilateral trade agreements have always been of vital importance to the Netherlands because it is almost impossible to create a competitive playing field for trade based on separate bilateral agreements with every individual trade partner. Effective collaboration in the framework of GATT and its successor the World Trade Organisation (WTO) is thus a critical prerequisite for the Dutch agrofood sector.

The most important objective of GATT was to reduce or remove existing trade barriers. That was successful for industrial products, but the agricultural sector was largely unaffected because it was considered a national affair. Only after the Uruguay Round was concluded in 1993, far-reaching agreements were made about liberalising agricultural trade and reducing the options for subsidising this sector.

At the moment, the Doha Round, which began in 2001 as the successor to the Uruguay Round, is stagnating. One of the reasons for this is the growing number

5 Meester, G. and L. Dries (2013). Europese integratie: betekenis voor landbouw, voedsel en groen. In: EU-beleid voor landbouw, voedsel en groen. Van politiek naar praktijk. Eds.: Gerrit Meester, Petra Berkhout and Liesbeth Dries. Wageningen Academic Publishers.

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of players. The EU and the US no longer set the agenda; more countries have joined the talks, each with its own interests, thus leading to more potential contradictions and conflicts. In addition, there are now more dossiers on the agenda, which increases the chance conflicts of interests pop up.

Simultaneously, we see that trade agreements are increasingly being made by blocks of countries. There is the North American Free Trade Agreement (NAFTA) between the US, Canada and Mexico, the Asia-Pacific Trade Agreement (APTA) in Southeast Asia and the Trans-Pacific Partnership (TPP) among countries surrounding the Pacific Ocean (except the US, which recently withdrew from this agreement). In addition, there is the Comprehensive Economic and Trade Agreement (CETA) between the EU and Canada, a Free Trade Agreement (FTA) between the EU and Japan and the proposed Transatlantic Trade and Investment Partnership (TTIP) between the EU and the US. The EU is also actively trying to conclude Economic Partnership Agreements (EPAs) with ACS countries;<sup>6</sup> these are intended to diversify trade and to contribute to local development via aid and

6 ACS countries are countries in Africa, the Caribbean and the Pacific Ocean with whom the EU had more favourable import agreements than with other countries, this in the period when the EU almost completely protected its internal market against external market developments. Most of these countries were previously French or British colonies.



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investments. Guarantees for investment protection are also used as a means to encourage and protect foreign direct investments (FDIs). In this light, it is clear that many countries consider removing trade barriers very important.

## New playing field: looking beyond economic considerations

We can also conclude that considerations other than economic ones are playing an increasing role in international relations. Concerns about food security, poverty and the consequences of climate change have led to an international agreement aimed at Sustainable Development Goals (SDGs) and to the Paris Climate Accord, both agreed upon in 2015 in the framework of the United Nations. Although such concerns and the related measures still are no part of international trade talks (WTO), initiatives such as the Roundtables for soy and palm oil indicate that concerns about the consequences of trade on the environment and biodiversity are being taken more seriously. The agreements on more sustainable production made in the Roundtables are limited to the participating parties. The question remains as to whether such agreements will eventually be implemented globally.



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The discussion on food security also brings up the matter of sovereignty. The recent price peaks on the international agricultural market have led food-importing developing countries to look for ways of being less dependent on imports.<sup>7</sup> Exporting countries are now worried about food importers building new trade barriers. One of the much debated issues in the WTO negotiations is the question whether strategic food stock may be financed publicly or should be considered trade-distortive support of the agricultural sector.

There is also an ongoing discussion in the Netherlands about the scope and the intensive character of agricultural production and the effects of this on, for example, the environment, public health or animal welfare.<sup>8</sup> In addition, there is the question of the extent to which externalities (such as environmental costs) can be calculated into prices and the possible undermining effects of cheaper imports from other countries where those externalities are not taken into account.<sup>9</sup> Trade has become more than 'just' moving goods from A to B because trade also has important consequences on the environment and biodiversity. If these externalities are included in the cost of production, the Dutch trade position, which is strongly tied to specialisation and the intensive use of inputs, may be endangered as many products may be delivered at lower prices by countries with less environmental pressure.

With increasing attention to sustainability and climate change, the international and export-focused orientation of the Dutch agrofood sector seems not futureproof, and the sector will have to start exploring alternative ways of making money. Earning models with which we can market what we are also good at: knowledge-intensive agrofood products, production, transport and marketing processes and knowledge of the social context in which the agrofood sector acts. Social discussions in the

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### *Exploring alternative ways of making money*

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- 7 Watson, D.D. (2017). The political economy of food price policy during the global food price crisis of 2006-2008. *Food Security* 9 (3): 497-509. <https://doi.org/10.1007/s12571-017-0685-z>.
- 8 WRR (2014). *Naar een voedselbeleid*. Amsterdam: Amsterdam University Press / Wetenschappelijke Raad voor het Regeringsbeleid.
- 9 Swisher, M.E., J. Ruiz-Menjivar and R. Koenig (2018). Value chains in renewable and sustainable food systems. *Renewable Agriculture and Food Systems* 33(1): 1-5. Baltussen, W., Achterbosch, T., Arets, E., Blaeij, A. de, Erlenborn, N., Fobelets, V., Galgani, P., Groot Ruiz, A. de, Hardwicke, R., Hiemstra, S.J., Horne, P. van, Karachalios, O.A., Kruseman, G., Lord, R., Ouweltjes, W., Tarin Robles, M., Vellinga, T., Verkooijen, L. (2017). *Valuation of livestock eco-agri-food systems: poultry, beef and dairy*. Wageningen Economic Research Report 2017-039.



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Netherlands about the effects of intensive agricultural products on the environment have led to diverse innovative solutions, which also result in useful solutions in other parts of the globe faced with similar circumstances. Our comparative advantage is based to a large extent on smart combinations of hardware (production), software (knowledge/training/education) and orgware (organisation and agro-logistics).

## Can trade contribute to solving social challenges?

The common factor behind the developments described above is the concern about the negative consequences of trade on, for example, domestic employment, the environment or food supplies. There is also the underlying idea that protecting the own market is a possible way of reducing these negative effects because free trade is considered a major culprit. The question remains as to whether it is correct to regard trade as the cause of non-sustainable production, food shortages and/or decreased employment opportunities in the agricultural sector. We approach the role of trade in sustainable and climate-proof development from the perspective of how trade could contribute to solving these social challenges. Then we ask what this could mean for the trade strategy of the Dutch agrofood sector.

To answer these questions, we will first discuss the position of the Dutch agrosector in international markets. This will be followed by a discussion on the most relevant SDGs and their role in agriculture and other aspects of the agrosector. We will concentrate on a number of dilemmas and problems from the perspective of trade. We will then turn to the question of how trade can contribute to realising the SDGs and the climate goals set in Paris. Our paper ends with an analysis of what the Netherlands (companies, the government, NGOs and citizens) can do via trade in agricultural products and commodities to contribute to the SDGs and the Paris agreements.



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en  
6.<sup>95</sup>

10 Tulpen  
1. Wahl!  
Bundel 6.<sup>95</sup>



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# The position of the Dutch agrosector in international markets

The Netherlands is known internationally for the strong competitive position of its agriculture with related suppliers, processors and other services. National Geographic (September 2017) praised the Netherlands as a large and efficient producer of agricultural products. The article refers to the innovative strength of the sector that is constantly capable of producing more with fewer inputs. This efficient manner of production has given the Netherlands a strong position in international markets for agricultural products.<sup>10</sup>

Access to international markets is very important to the Dutch agrosector. The Dutch sales market is too small for the ambitions of many companies, which sell a large share of their products, varying from seed to poultry slaughter lines to cheese, to markets beyond the Netherlands. Moreover, many companies in the agrosector, both suppliers and processors, depend to a great extent on imported materials.

The Netherlands is often proudly spoken of as the second biggest exporter of agricultural products in the world. The role played by the Netherlands in feeding the world and the strength of the Dutch agro-cluster are then also referred to. But there are an increasing number of questions surrounding this dominant export role, questions about the effects on the environment, animal welfare and fair rewards for production factors.

## Leading agro-export position strongly dependent on European Union

The figures show that, after the United States, the Netherlands is the most important agro-exporter. These products are exported mostly to our neighbouring countries. Eighty per cent of the export goes to the European

10 Viviano, F. (2017). This tiny country feeds the World. National Geographic. September 2017. <https://www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming>

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Union, especially to Germany, the United Kingdom, France, Belgium and Luxembourg. The most important export products are vegetables and fruit, livestock and meat, and flowers and plants. Another sizeable group of export products is formed by the composite products made of products suitable for human consumption, such as processed meat, vegetables and fish. These products, together with grain, beverages and dairy products, are also frequently sold to countries outside of the EU.

The most important markets for Dutch agricultural products outside of the EU are the US and China. China seems to be overtaking the US as the most important trade partner in the group of non-EU countries. Between 2015 and 2016 exports to China rose by 24%, whereas exports to the US rose by 'only' 3.4%. The total agricultural export to the US amounted to 2.4 billion euros; exports to China amounted to 2.2 billion in 2016. Russia is also becoming a bigger export market for the Netherlands. However, the import barrier imposed in 2014 on a large number of products from the EU caused the stream of exports to fall from 1.6 billion euros in 2013 to 850 million euros in 2016.

In most countries, the majority of trade is done with neighbouring countries (figure 2.1). In other words, the Netherlands is an exporter on a 'world' market that is relatively small since only 10% of world trade involves agricultural products.<sup>11</sup> Moreover, a large share of this agricultural trade is done between companies and is dominated by a limited number of companies.<sup>12,13</sup>

11 FAO (2005). The State of Food and Agriculture: Rome: FAO.

12 Ercsey-Ravasz M., Toroczkaï Z., Lakner Z., Baranyi J. (2012) Complexity of the International Agro-Food Trade Network and Its Impact on Food Safety. PLoS ONE 7(5): e37810. <https://doi.org/10.1371/journal.pone.0037810>

13 See for example Agrifood Atlas, facts and figures about the corporations that control what we eat. 2017.

Share of exports by destination country    Share of exports by product category

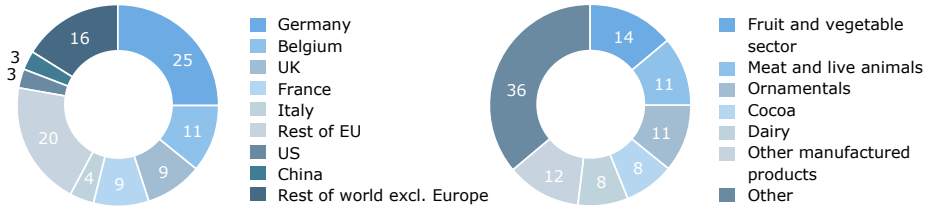


Figure 2.1: a circle diagram with the most important markets and a circle diagram with the most important NL export products (2016 data, Eurostat)

## Dutch agro-industry and trade part of global chains

The Netherlands also imports many agricultural products, in 2016 for the amount of 62.4 billion euros. Half of this (33.9 billion euros) is from other EU countries. Most of the imported products are dairy products, beverages, fish, vegetables and fruit. The most important import products from non-EU countries are fruit, oleaginous seeds (soybeans, rapeseed) oils and fats (including palm oil) and cacao (especially beans). Brazil and the US are the biggest suppliers of agricultural products imported by the Netherlands (see figure 2.2).

Share of imports by country of origin    Share of imports by product category

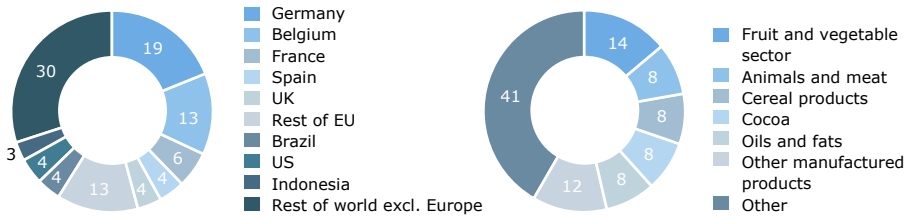


Figure 2.2: a circle diagram with the most important countries of origin of NL imports and a circle diagram with the most important import products (2016 data, Eurostat)

The size of imports and the extent to which imported commodities (in addition to the above, also grains and other ingredients for cattle feed) are processed for the domestic and foreign markets show that the Dutch agro-industry and trade sector are part of globally operating chains. In addition to the importance for

export, open borders are also a prerequisite to these chains being able to handle the import of commodities as efficiently as possible.

By means of a branch in a foreign country, companies try to benefit from market opportunities and to secure the supply of commodities ('sourcing') to the Netherlands. There are numerous examples of companies with a Dutch basis that have developed as multinationals in, for example, seed breeding, growing flowers or tomatoes, processing potatoes and cattle feed. The increasing international character of the Dutch agrosector due to foreign direct investments is also broadly reflected in the figures from De Nederlandsche Bank<sup>14</sup> shown in figure 2.3.

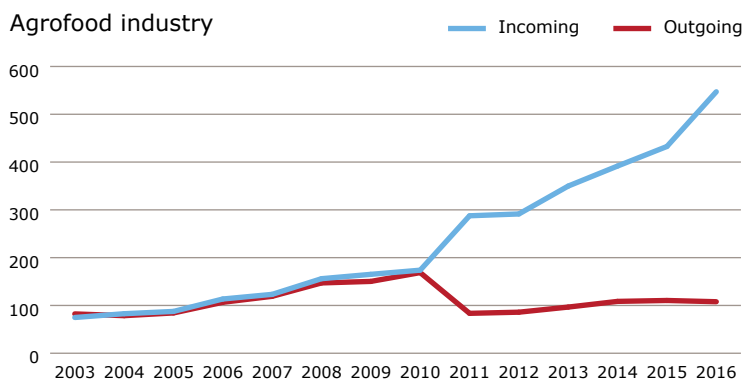


Figure 2.3: In and outflow of FDI in area of agro and food (in billions of euros)

## Transit in Netherlands adds value

As a result of its location, the Netherlands is also an important transit country for exports from here to other (EU) countries and for imports from other countries, which are then further transported to EU member states. These trade flows are called re-export (export after processing) or transit. An example of re-export is the import of soya beans that are crushed in the Netherlands and exported as oil or soy flour. About one-fourth of the Dutch agricultural export comes from abroad and is re-exported after being processed here.<sup>15</sup> The re-export is relatively large in the cases of fish, fruit, oleaginous seeds (soy) and

14 For an explanation of the figure see: [www.statistiek.dnb.nl](http://www.statistiek.dnb.nl).

15 Landbouw-Economisch Bericht (2015), via <http://www.agrimatie.nl/docs/LEB-2015.pdf>.



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cacao. Transit accounts for only a few per cent of the total Dutch export of agricultural products, and is not very profitable. The re-export of products first imported here provides a more lucrative business case. They are often commodities of low value and semi-finished goods, which gain in value by being processed before being exported again. Using figures from 2016 the Central Bureau of Statistics calculated that the Dutch economy had earned 48 billion euros on the export of agricultural and agricultural-related products.<sup>16</sup> The biggest earnings were for the Dutch ornamental horticulture sector, meat and dairy products. Considerable amounts were also earned from the export of grain/ flour processing, cacao products, vegetable and fruit products and beverages such as beer. The basis of the final product in all of these last-mentioned product groups often consisted of imported materials.

## Exporting embedded technology and knowledge

Dutch exports consist to a large extent of processed, high-quality products. These include not only the processed agro-products but also agro-related products such as agricultural machines, fertilisers, machines for the food

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*Dutch agricultural exports in 2017 exceeded one hundred billion for the first time: 100.8 billion euros*

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industry and greenhouse material. The export of technological and knowledge-intensive products increases annually, reaching an estimated 9.1 billion euros in 2017 compared to 4.4 billion euros in

the import of such products.<sup>17</sup> Including the previously mentioned primary and secondary agricultural goods, total Dutch agricultural exports in 2017 exceeded one hundred billion for the first time: 100.8 billion euros.

In addition to the export of goods, services provided to the foreign agrosector are also an important Dutch export product.<sup>18</sup> These services have many facets, which are not easy to recognise in existing trade data. There are sometimes patents and other intellectual property rights such as licenses on knowledge used in products and procedures. A foreign party that wants to use this product/ procedure has to pay royalties or fees. To discover how much the Dutch agro-

16 Agrofoodportal.com, Handel en afzet, 2018.

17 Agrofoodportal.com, Landbouwgerelateerder goederen, 2018.

18 Berkum, S. van, J. Wijnands and B. Pronk (2013). Export van kennis en technologie door het Nederlandse agrocomplex: Verschijningsvormen, maatstaven en prestaties, LEI-nota 13-024.

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cluster earns on royalties and what the turnover is of service providers abroad, the annual reports and other company-specific information are needed. With regard to the universities and universities of applied science, the export of knowledge has a specific form, namely earnings from the incoming flux of foreign students. These students gain knowledge in the Netherlands that they then take back with them to their countries of origin. This often results in new market opportunities for Dutch companies in those countries.

## Dutch agricultural trade plays a small role in emerging economies

Globally, the largest economic growth is occurring in Asia, with China, India, Thailand, Indonesia, Vietnam and the Philippines as emerging players (first as importers and then, for some products, also as exporters). The same is true for trade in agricultural products. Dutch trade with these Asian countries is relatively small. Currently, the Dutch export of goods to Asia still lags behind those of other Western European countries. In 2015, 2.5% of the Dutch total gross export of goods went to China and Hong Kong, compared with around 8% for the UK, 6.5% for Germany and 3.5% for Denmark. Similarly, Dutch gross exports to India in 2015 constituted only 0.5% of the total Dutch gross export compared with 2.2% for Belgium and just over 1% for the UK.<sup>19</sup>

A second expected major change is the emergence of the African market. The population in Africa is rapidly expanding, and by 2050 the region will hold an estimated 2.5 billion people, which is more than one-fourth of the world's population.<sup>20</sup> In addition, a large portion of the African population is relatively young and available for the employment market. Although agriculture's contribution to sufficient and productive employment is still small, there are ample opportunities in the processing agro-industry, transport and trade. Many African economies are growing rapidly, and the rising middle class wants high-quality food products. Since Africa currently imports \$35 billion in food products – more than 60% of African foreign trade – local food production is an evident option for the near future.<sup>21</sup>

19 Oomen, N. and W. Rougour (2017). Dutch export opportunities in Asia. Is The Netherlands lagging behind? Amsterdam: SEO Economics Report for MinBuza.

20 UN (2017). World Population Prospects: The 2017 Revision, Key Findings and Advance Tables. United Nations Department of Economic and Social Affairs/Population Division

21 In 2016 main African import products were cereals (28%), animal and vegetable fats and oils (11%), sugars and confectionary (9%) and meat and edible offal (6%). Egypt (17%), Algeria (12%), South Africa (10%) and Nigeria (8%) were the largest African agricultural importers (ITC trade map).

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## Emerging trends in trade

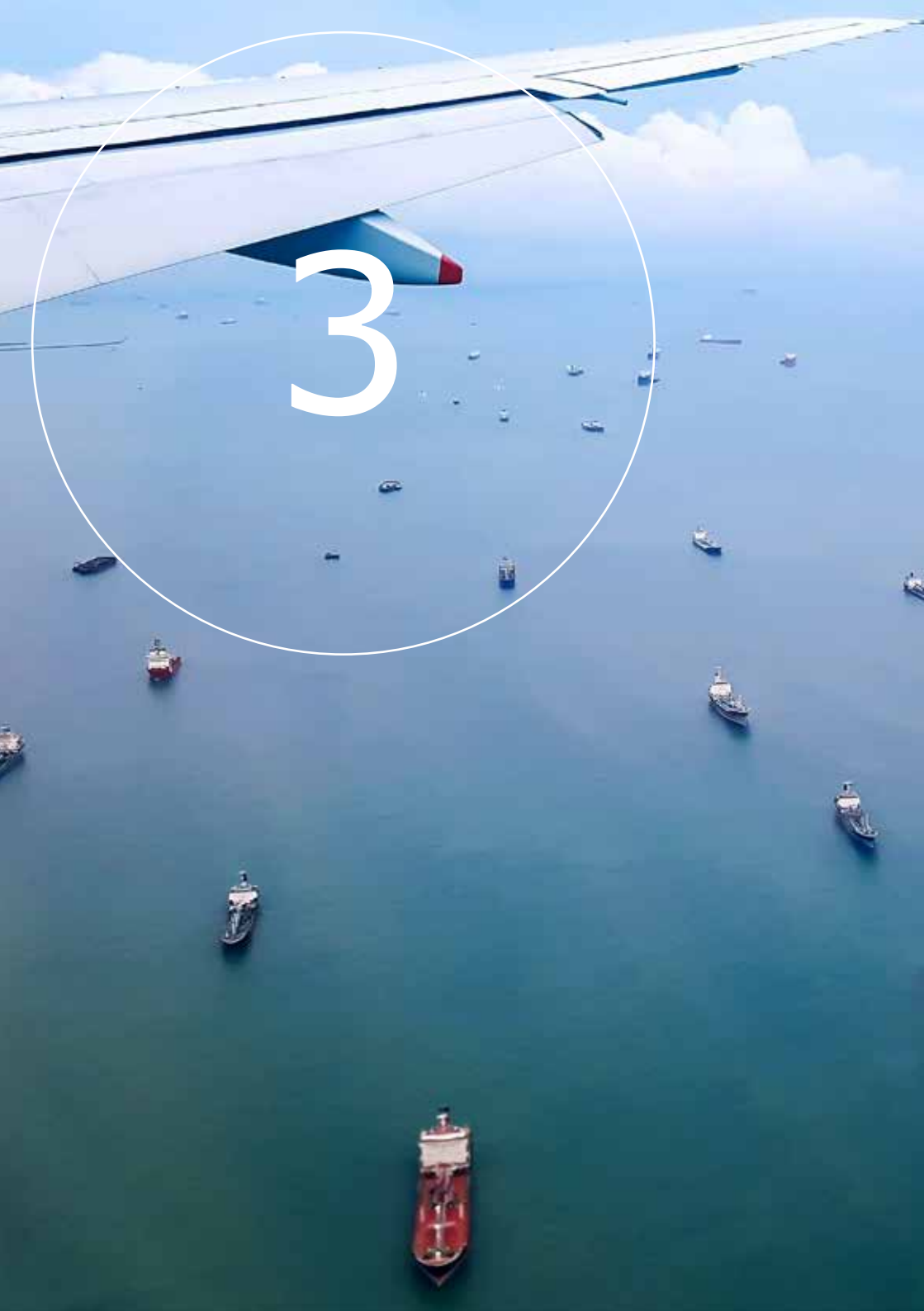
A third important tendency in international trade is the growing role of standards and non-tariff restrictions (NTM), especially the Sanitary and Phytosanitary Regulations (SPS) and the Technical Barriers to Trade (TBT).<sup>22</sup> In addition to public standards of food safety, private standards relating to quality and sustainability are becoming increasingly important, as reflected in the growing number of fair trade labels. Exports from developing countries are increasingly confronted with such requirements, which can function as non-tariff restrictions on products that fail to meet the requirements. This results in an important loss for both producers in exporting countries and for consumers in the importing countries.<sup>23</sup>

Even regular trade is subject to disruptions. The cheap exports ('dumping') of European chicken legs to West Africa, for example, sometimes reduces local production in countries like Senegal, Cameroon and Ghana by 50%.<sup>24</sup> And it remains very difficult for African exporters to sell more processed products on the European market because the import tariff for these products is higher ('tariff escalation') In such cases there is a significant imbalance in trade agreements such as those in the Economic Partnership Agreements concluded between the EU and the ACS countries.

22 Gibbon, P., S. Ponte and E. Lazaro, Eds. (2010). *Global Agro-Food Trade and Standards Challenges for Africa*. London: Palgrave.

23 Demaria, F., Droque, S. and Rau, M.-L (2015). EU preferences for agri-food products from developing countries- winning and losing due to the EU GSP reform, IAAE Conference, August 9-14, 2015, Milan, Italy. Kareem, O. I. and M.-L. Rau (2018): Market Access for Africa's Fruits and Vegetables Exports in the European Union: Evidence from Sanitary and Phytosanitary Measures. In: Nicita, A. and J. de Melo (eds.): *Non-Tariff Measures: Economic Assessment and Policy Options for Development*. New York and Geneva: UNCTAD.

24 <http://epamonitoring.net/south-africa-and-ghanaian-poultry-industries-to-joint-forces-against-eu-dumping-of-poultry-parts/>



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# A changed international framework

## WTO stagnating because of new power relations

In the decades following the Second World War there was an international movement to make trade freer. The countries that signed the General Agreement on Tariffs and Trade (GATT) were successful in gradually lowering the import tariffs on industrial products. But not until the 1980s did trade conditions for agricultural products become a matter of discussion. In 1993 this led to the GATT Uruguay Round agreement on agricultural products, which took effect on 1 January 1995. In this agreement, maximums were set on export subsidies for agricultural products for all of the participating countries. Moreover, far-reaching agreements were made about reducing agricultural subsidies and expanding access to the market by, for example, lowering import tariffs.

In 2001 the WTO (the successor to GATT) initiated the Doha Round as the successor to the Uruguay Round. Up to now, these talks have produced few results. There are a number of reasons for this. In the first place, the power relations among the WTO members have changed. The emerging economies (the BRICS: Brazil, Russia, India, China and South Africa) refuse to accept domination by the EU and the US and are bringing their own interests to the table. This leads to potentially more opposition and conflicts.

Second, more dossiers (not just agriculture, but also industry, services, the environment and intellectual property rights) are also being discussed. This has greatly expanded the agenda and, with the principle of *'nothing is agreed till all is agreed'*, it is difficult to reach decisions. Third, the financial-economic crisis of 2008 and the rising and sharply fluctuating prices on the global market for agricultural products (with high peaks in 2007/2008 and 2011/12) have caused a number of countries to devote their attention to their own markets. A number of countries proposed export restrictions in order to stabilise food prices in their own domestic markets. This led to a further rise in and an increased fluctuation of international prices, which became influenced by internal policies and protectionism.

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## EU continues to advocate trade agreements

Nevertheless, the stagnation of the WTO Doha Round does not mean that the process of trade liberalisation has come to a halt. As an alternative, many countries have entered into regional or preferential agreements with one partner

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*As an alternative, many countries have entered into regional or preferential agreements with one partner or a limited number of partners*

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or a limited number of partners.

With regard to agricultural products, the OECD noted (2015) that import tariffs in particular were reduced in these agreements, but that many preferential agreements made exceptions for dairy products, meat, sugar and grain, all of

which remained relatively well protected. An important effect of bilateral or preferential agreements is that trade flows are redirected to benefit the involved countries and that countries that are not involved lose markets. This is the reason why the EU continues to advocate trade agreements, both bilateral and





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multilateral, as long as no important progress is being made in WTO discussions.<sup>25,26</sup>

With this attitude, which is in the interest of the Netherlands as a trading nation, the European Commission seems to stem the current, the latter embodied by critics of the globalisation process, made possible by a freer trade in goods and fewer regulations on international flows of capital (which leads to increased investments of, among other things, agrofood companies and food retailers, with related trade effects).

## Growing concern about unfair trade and lack of level playing field

It is not only the anti-globalists who denounce the large influence of the business sector on trade agreement negotiations and who point to 'unfair trade' when trade partners are exempted from adhering to nationally decreed social and/or environmental laws. Consumer organisations and unions also express doubts about the possible lack of a 'level playing field' in international trade. And economists such as the Nobel Prize winner Joseph Stiglitz refer to the distributional consequences of trade liberalisation.<sup>27</sup>

These concerns reflect the growing awareness that trade can have negative consequences on local economies and societies. More attention to the relation between trade and local food systems leads to calls for organising local food supplies in such a way that food access is secured for a large group of people and sustainability in terms of resources such as water and energy is ensured. Such appeals tend to protect local food production against cheaper imports of food. However, protectionism may not be the first best solution to the issues at stake. From the perspective of economic theory, trade is an efficient means of serving mutual interests and could contribute to wider goals, as also stated in the Sustainable Development Goals and the Paris Climate Accord.

25 EC DG Trade, 2015 'Trade for all' document.

26 There are an estimated 400 preferential trade agreements, most of which also include agreements on agricultural products: See for example OECD, 2015; OECD November 2017 scoping paper.

27 Stiglitz, J.E. (2017). Globalisation and its discontents revisited. Anti-globalisation in the era of Trump. W.W. Norton & Company, New York, London.

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## Trade as a means of better food supplies and sustainability

At the Sustainable Development Summit held in New York in September 2015, the United Nations adopted the Sustainable Development Agenda. This agenda consisted of 17 goals and 169 related secondary goals.

The most relevant SDG goals for the agricultural sector are ending poverty (number 1) and hunger (2), ensuring sustainable production and consumption (12) and preserving the environment (13) and combatting climate change (15). We will therefore address these four goals by exploring whether and how trade can contribute to the SDGs and the climate goals.<sup>28</sup> This concerns both the positive and the negative aspects and any possible fields of tension between these goals.<sup>29</sup> For each SDG we will first sketch the present situation, where possible, on the basis of indicators agreed upon in the Global Indicator framework<sup>30</sup> and we will then discuss the possible contribution to the SDGs from the perspective of trade.



### SDG 1. End poverty in all its forms everywhere

According to the latest figures of the UN, in 2013 767 million people lived in extreme poverty who had to exist on less than \$1.90 a day. This amounts to 11% of the world's population. With less than \$1.90 a day, you fall into the category of extreme poverty. The number of people who must exist on so little has been reduced by half since 2000, when 1.7 billion people lived in extreme poverty.

Poverty is concentrated in sub-Saharan Africa, where 42% of the people live in extreme poverty. About one-third of people in extreme poverty live in South Asia; 80% of these live in rural districts and 64% work in agriculture. Agricultural developments can thus play an important role in reducing poverty.

28 Messerlin, P. (2017). Trade and Trade Policy Issues in the United Nations' Millennium Development Goals and the Sustainable Development Goals. ADBI Working Paper 638. <http://dx.doi.org/10.2139/ssrn.2942657>.

29 Pradhan, P., L. Costa, D. Rybski, W. Lucht and J. P. Kropp (2017). A Systematic Study of Sustainable Development Goal (SDG) Interactions, *Earth Future* (5): 1169–1179, DOI: 10.1002/2017EF000632.

30 <https://unstats.un.org/sdgs/indicators/database/>.

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From the perspective of trade theory, it is clear that 'trade openness creates employment and supports incomes in sectors in which an economy has a comparative advantage, but it could have a negative impact on employment and incomes in sectors where the economy has a comparative disadvantage. This implies that trade openness leads to a restructuring of an economy that can be costly'.<sup>31</sup>

Hence, trade can contribute to prosperity, but the effect depends on the applicable trade conditions. In the case of agriculture, it is a positive development when farmers are included in the international trade chains. However, public and private standards in the areas of food safety, healthy and quality are having an increasingly strong impact on international trade flows. This can lead to the exclusion of farmers, especially in Africa and Asia, from trade chains (especially international chains) if they cannot meet these standards. But farmers can also benefit if they do meet the standards. Recent studies have shown that, after some time, local producers are reasonably capable of meeting strict international standards.<sup>32</sup> But the EU export of chicken legs shows how trade can have adverse effects. The disruptive working on local markets has led to the FairPlay anti-dumping movement in Africa, in which South Africa and Ghana are working together to prevent such dumping in the future.<sup>33</sup>

Transition to free or freer trade and the exposure of local products to the rules of the international market often involves considerable adjustment costs of the economies involved. Consequently, freer markets require flanked social (and environmental) policies in order to mitigate economic adjustments. It is a widespread misconception that developing countries would profit from protectionism: protecting the local market may offer temporary relief, but it damages further market developments in the long run.<sup>34,35</sup>

31 Helble, M. and B. Shepherd (2017). Win-Win: how international trade can help meet the sustainable development goals. Tokyo: Asian Development Bank Institute; A. Louet and D. Laborde (2017). Agriculture, development, and the global trading system: 2000– 2015. Washington DC: IFPRI, p.164-165.

32 Swinnen, J. (2016). Economics and politics of food standards, trade, and development. *Agricultural Economics* 47 (1): 7-19. DOI: 10.1111/agec.12316.

33 <http://epamonitoring.net/south-africa-and-ghanaian-poultry-industries-to-joint-forces-against-eu-dumping-of-poultry-parts/>

34 Koning, N. (2017). *Food Security, Agricultural Policies and Economic Growth*. London: Taylor & Francis.

35 Brooks, J. and A. Matthews (2015), *Trade Dimensions of Food Security*, OECD Food, Agriculture and Fisheries Papers, No. 77, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5js65xn790nv-en>

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In its annual State of Food & Agriculture,<sup>36</sup> the UN Food & Agricultural Organization (FAO) gives a clear overview of what is needed to enable agriculture and trade to contribute to structural poverty reduction. The FAO states that the pattern and speed of structural and rural transformations differ widely by region and in many cases by country. Transformation processes can lead to accelerated rural-urban migration. It is thus important to develop policies aimed at the agricultural and the non-agricultural sectors. In the words of the FAO: 'Increased productivities across sectors is the preferable dynamic for rural and structural transformation because it leads to rapid reductions in overall poverty.' By economy-wide productivity increases the poverty trap that imprisons people in small-scale agriculture in which they can hardly survive can be avoided.

The FAO also points out that rural areas are an important contributor to poverty reduction for two reasons: 1) the larger proportion of the poor who live in rural

36 FAO (2017). The state of food and agriculture.



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areas; 2) many rural poor are improving their incomes either through agriculture or non-farm employment. It is thus important to improve connections between urban and rural areas so that food systems will be more inclusive and effective. But such a transformation presents challenges for producers, especially smallholders. Their lack of access to finance, markets and transport, as well as the barriers created by standards on quality, traceability and certification, often make their participation in integrated value chains very difficult. In many countries, the ongoing fragmentation of farmland may further hinder smallholder farmers' capacity to adopt new technologies.

Access to education, markets and finance is an excellent base for being able to apply new techniques and thus enhance yourself as a competitor, as Wurlod and Eaton show.<sup>37</sup> They investigated why technological change in agriculture diffuses so slowly to poorer countries, using panel data from 84 countries over 50 years to analyse which factors contributed to how productivity improvements diffuse

37 Wurlod, J.-D. and D. Eaton (2015). Chasing After the Frontier in Agricultural Productivity. FOODSECURE Working paper no. 36.



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from the richest countries to the poor. They found that agricultural productivity had grown throughout the world in recent decades, but most of this growth occurred at the technological frontier, i.e. the small set of rich countries that generate most of the innovation within modern agriculture. These innovations ultimately benefit all of global agriculture but the pace of country-level technological change varies with the income of the country concerned. For this reason, the process of innovation and its subsequent diffusion has increased the gaps in productivity between the richest and the poorest countries in the world.

They found that, first and foremost, the very poorest countries need the most basic sorts of investments before the absorption of technological change can occur. For example, the farmers' level of education is an especially significant factor for productivity advances in poor countries, but of little significance in middle-income states.

Second, as basic needs are met, public policies become more important factors in the diffusion of technological change. For middle-income countries, the basic openness of the economy becomes significant since diffusion is linked to policies that allow for the easy entry of new products and new technologies. Third, substantial public investments in R&D are also important - to help transfer technologies situated abroad. Finally, the existence of effective intellectual property right (IPR) policies to encourage private sector investments in diffusion are also important in middle-income countries.

These insights point to a strong complementarity between agricultural development and trade, public investments and technological developments that also works differently depending on the location. This could be an important incentive for making local innovations a comparative advantage often in close cooperation with local (public and private) partners.



## SDG 2. End hunger, achieve food security and improved nutrition

This goal is closely related to the first goal of ending poverty.

According to the last UN figures, an estimated 793 million people were undernourished (11% of the world's population) in 2014-2016. This is a considerable reduction since 2000 when 15% of the population was undernourished, especially in sub-Saharan Africa and South Asia (India, Pakistan).



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International agricultural trade involves moving food and nutrients over long distances. A recent IFPRI study calculated the macronutrient (calories/protein/fat) contents of agricultural trade flows over a long period of time and showed that the nutritional content of international trade has been increasing since 1996, especially for developing countries.<sup>38</sup> Despite its complexities, international trade has thus become an increasingly important feature of the global food system. As of 2015, nearly 20% of the calories produced in the world crossed an international border before being consumed. This share was only 12% in 1975.<sup>39</sup>

Work by Rutten et al.<sup>40</sup> also points to the increasing nutrient-import dependency for some (but not all) countries, including Southern Africa and the USA. This nutrient-import dependency increases over time with substantial variations in regions of origin, which implies that diets and nutrition are increasingly determined by food supplied from global food supply chains, making concerted action across the globe crucial to reach diet, nutrition and health goals. Generally, over time Asian economies, but also Africa (excluding Southern Africa) and the Middle East, will gain ground as important suppliers of agri-food commodities and nutrients at a cost to Europe and the Americas so these are important players to take into consideration.<sup>41</sup>

Free trade also reduces the level and volatility of agricultural and food prices, diversifies the sources of supply and the nutritional contents of dietary regimes and expands the size of markets in which farmers can sell their products. According to IFPRI:

'In a time of emerging protectionist forces, it is of great importance to emphasize the positive and active role that international cooperation and a freer and fair trading system can play in terms of economic development and alleviation of hunger and malnutrition. It is also crucial to highlight the key role that multilateral institutions can play in the global trading system. Such institutions offer a framework for collective action and also protect small and poor countries from the non-cooperative trade policies of large countries. The WTO in particular must remain a strong and active multilateral institution.'<sup>42</sup>

38 Deason, D. and L. Laborde (2015). Trade and Nutrition Content. Washington DC: IFPRI.

39 Ibid.

40 Rutten, M., A. Tabeau and F. Godeschalk (2014). We are what we eat. An economic tool for tracing the origins of nutrients with entry points for action. FOODSECURE Working paper no. 28

41 Ibid.

42 Deason, D. and L. Laborde (2015). Trade and Nutrition Content. Washington DC: IFPRI, p.xviii.

Trade and food security are thus interrelated, but do not automatically correlate positively. It is important to recognise that free trade does not always benefit the poorest people. A wider social policy is then needed for immediate poverty reduction. Government may create a safety net and try to prevent major price swings by, for example, building strategic food stocks. The latter is still a reason for polemics in the WTO. One of the hotly debated issues in WTO negotiations is whether food stocks may be publicly financed or can be seen as unfair support of the agricultural sector. However, food stocks are not as important to expanding agricultural production and food security as government policies aimed at, for example, improving rural infrastructure, the working of the market and the level of education would be.<sup>43</sup>

A particular case in point refers to the transformation of Indian agriculture following economic liberalisation.<sup>44</sup> Agricultural trade policy in India will remain subservient to food-security concerns. This is particularly true with respect to grains. Despite large reserves of foreign exchange and the ability to play world markets, agricultural trade policies are driven by food-security concerns and often trigger knee-jerk reactions. Liberalising agricultural trade had made policymakers concerned that the domestic market would be flooded by imports, but such was not the case. Agricultural production is diversifying and the share of high-value commodities such as horticulture, livestock and marine products is increasing, which provides a boost to the export of these items. The export of high-value commodities has increased over a period of time, but India is still a very small player in the global market and herein lies the scope to expand further. One of the key challenges confronting the agricultural sector is the lack of a world-class physical infrastructure, which has an adverse impact on agricultural exports. There is a need for large investments in adequate infrastructure and the right technology, but this will be possible only when subsidies give way to investments.<sup>45</sup>

43 Brooks, J. and A. Matthews (2015), Trade Dimensions of Food Security, OECD Food, Agriculture and Fisheries Papers, No. 77, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5js65xn790nv-en>.

44 Ganguly, K. and V. Laxmi Pandey (2017). Transformation of Indian agriculture following economic liberalization. In: F. Brouwer and P.K. Joshi (eds). International Trade and Food Security: The Future of Indian Agriculture. Wallingford: CABI.

45 Ibid.





## SDG 12: Ensure sustainable consumption and production patterns

It is generally recognised that some degree of public intervention is needed to promote sustainable agriculture. Indeed, markets are not perfect, in that external effects of agricultural production are not automatically internalised. Therefore, free trade does not automatically result in the desired social results and if so, then specific policy is needed to tackle negative externalities in order to meet the goals of the environmental, health and animal welfare policies. The discussion generally concerns the question of which instruments are the most effective and efficient.

There is little room to introduce criteria for including negative externalities of agricultural production within the WTO framework; many member countries are hesitant because they are afraid of disturbing the 'level playing field' among countries. Although it was agreed in the WTO Agricultural Agreement and the Doha Round that non-trade concerns must have a place in a new WTO Agricultural Agreement, not much progress has been made. So far, it has been unfeasible to make further agreements on such topics as animal welfare, labelling and the environment. These topics are still controversial, and the existing WTO regulations are so ambiguous that WTO case history has to offer assistance here.<sup>46</sup> These cases show that the WTO represents more than only trade interests. Not for nothing sustainable development was included in the preamble of the founding treaty of the WTO. For example, in 2012 the WTO settled a dispute between the EU and the US on animal welfare (seal products). Nevertheless, there are no specific WTO regulations about protecting the environment or how animal welfare requirements (of member countries) could generically be applied to all WTO members.

Some steps have been taken in the area of encouraging sustainable consumer behaviour. A number of initiatives are trying to cover the external effects of agricultural productions in the price.<sup>47</sup> Only when all production costs are considered the efficiency of production can be assessed (see textbox on page 38 and 39). In the livestock sector, the external effects of imported feed (soy trade) and the cost of emissions are often not included in the price. If those costs were

46 Eaton, D.J.F., Bourgeois, J. and Achterbosch, T.J (2005). Product differentiation under the WTO; An analysis of labelling and tariff or tax measures concerning farm animal welfare. The Hague: LEI

47 See for example <http://trueprice.org/> and <http://www.agrimatie.nl/PublicatiePage.aspx?subpubID=2525&sectorID=2243&themaID=7331&indicatorID%20=%202919>

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included, the Dutch dairy sector would be quite efficient from the environmental perspective (per kg of product). However, for a number of environmental themes (e.g. ammoniac), milk production is also unsustainable.

Sustainable production can also be encouraged by a set of quality certificates that stimulate farmers to switch to more sustainable production methods (GAP: Good Agricultural Practices) and sometimes also offer a price premium for certified products (e.g. coffee, tea, bananas, cacao, etc.). However, thorough impact studies conducted by researchers from Wageningen Economic Research systematically indicated that overall effects are rather modest and tend to decrease over time.<sup>48</sup> It is thus considered important to focus more on sector-wide trade alternatives beyond commodity certification, such as strategies for quality upgrading and opportunities for landscape labelling.<sup>49</sup> An example of this is sustainable timber in the construction branch.

A last example of an initiative to encourage more sustainable production and consumption is the globally operating Sustainability Consortium (TSC). TSC is a global non-profit organisation working to transform the consumer goods industry by partnering with leading companies to define, develop and deliver more sustainable products.<sup>50</sup> This consortium includes the cooperation between manufacturers, retailers, suppliers, service providers, NGOs, civil society organisations, governmental agencies and academics to achieve this goal. Wageningen Economic Research coordinates the European activities of TSC.



## SDG 13. Urgent action to combat climate change and its impacts

The SDG climate goal (SDG 13) is often considered in relation to the goals in the areas of biodiversity, land degradation and deforestation (SDG 15).<sup>51</sup> As with SDG 12, to achieve these environmental and climate goals, it is frequently not enough to rely on the market. Thus, governments formulate requirements for production and trade that are aimed at: (a) compensating the costs of repairing

48 Ruben, R. (2017). Impact assessment of commodity standards: towards inclusive value chains. *Enterprise Development & Microfinance* 28 (1-2): 82-97. doi.org/10.3362/1755-1986.16-00020

49 Baltussen, W.H.M., Tarin Robles, M., Galgani (2017). P. Valuation of livestock eco-agri-food systems: poultry, beef and dairy. Wageningen University & Research

50 <https://www.sustainabilityconsortium.org/>

51 SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

## What is better: intensifying or extensifying? The case of dairy cattle

Dairy cattle throughout the world are kept in completely different systems of livestock farming. In a study published in 2017 the livestock farming systems in Tanzania, India, Indonesia and the Netherlands were compared with regard to their external effects (Baltussen et al., 2017). This study showed that the Dutch livestock farming system has the lowest CO<sub>2</sub> costs (see Table 3.1). In the Netherlands, the amount of greenhouse gasses per kg of milk or per kg of produced animal protein is less than half in comparison to the other systems of livestock farming.

Table 3.1: External effects of livestock farming systems Tanzania, India, Netherlands and Indonesia

External effects	Livestock farming system			
	Tanzania	India	Netherlands	Indonesia
Greenhouse gasses in USD per kg animal protein	12.8	18.2	5.4	13.6
Greenhouse gasses in USD per kg milk	0.36	0.48	0.17	0.36
NH <sub>3</sub> emissions per ha	194	75	79	28
N-surplus in kg N per ha	136	221	163	88

Source: Baltussen et al. (2017) Figure 4.3a and Table A.5

The Dutch system of livestock farming is at the wrong end of the spectrum with regard to emissions of ammoniac and nitrate per ha. These relatively high emissions result from the high inputs in the form of fertilizer and (feed) concentrates per ha. The high production in the form of milk per ha (and thus the nutrients) cannot prevent the losses from being high. The reported figures have been favourably affected by all of the measures taken by dairy cattle farmers to limit the losses of minerals. Examples are minerals management, covered manure storage, low-emissions use of manure, etc.

The advantage of intensifying regional production where external circumstances are favourable (fertility of soil, sun, rain, knowledge, infrastructure, ...) is that production with regard to greenhouse gasses per unit of end product is very low. Locally, this entails high ammoniac emissions and nitrate losses into the groundwater. If many intensively producing businesses are located close together, there will be great pressure on the local environment, speaking on a regional scale. However, this regional concentration offers the possibility of innovations on these points so that the negative effects will eventually remain within the set limits. If we compare standard dairy farming with biological dairy farming in the Netherlands (Wagenberg et al., 2017; De Groot Ruiz et al., in press) we see that,





per litre of milk, biological milk has higher sustainability scores for:

- Landscape value (pasturing, biodiversity);
- Soil quality;
- Depletion of auxiliary materials;
- Animal welfare.

However, biological dairy farming scores less favourably for sustainability on:

- Air quality (amount of particulates);
- Government subsidies;

Baltussen, W.H.M., M. Tarin Robles and P. Galgani (2017). Valuation of livestock eco-agri-food systems: poultry, beef and dairy. Wageningen University & Research).

Groot Ruiz, A. de, R. de Adelhart Toorop, W. Baltussen, F. van den Elzen, B. Janssen, R. van Keeken, K. Logatcheva, E. Martinius and T. Ponsioen. Op weg naar de echte prijs, echte waarde en echte winst van voedsel; Een routekaart om te sturen op de maatschappelijke effecten van voedsel. In press.

Wagenberg, C.P.A. van, Y. de Haas, H. Hoogeveen, M.M. van Krimpen, M.P.M. Meuwissen, C.E. van Middelaar and T.B. Rodenburg (2017). Animal Board Invited Review: Comparing conventional and organic livestock production systems on different aspects of sustainability. *Animal*. 13 p. <http://edepot.wur.nl/417160>



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the damage (*abatement costs*) and (b) incentives to encourage chain parties and consumers to act carefully and sustainably (*behavioural incentives*).

Such adjustments to the framework of international trade do not happen automatically. Not many countries, including the Netherlands, have a

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### *Policy does not sufficiently protect natural resources*

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comprehensive policy on protecting natural resources. It is thus vitally important to transparently define good (local) prerequisites for the sustainable management of resources. To

prevent these basic assumptions from disrupting trade unnecessarily, they should be created in a pre-competitive framework.

Initiatives like the Roundtables for soy and palm oil indicate that companies are seriously interested in the concerns about the consequences of trade on the environment and biodiversity and that these damaging effects can be limited by a mutual approach. But the question remains as to the extent to which such standards can be implemented globally. An increasing number of countries are adopting national standards (Indonesia, Malaysia) and regional agreements. This in turn leads to a larger variation in regulations and fees. The wider WTO framework with transparent and uniform regulations and a large number of participants remains an attractive perspective thanks to its low transaction costs; unfortunately, it enjoys little support.

## Importance of policy coherence

Simultaneously working on the SDGs and climate goals requires insight into the relation and the possible trade-offs between international trade, hunger/nutrition and the environment/climate.<sup>52</sup> In practice it is not easy to get governments, companies and civil organisation to follow the same line to strengthen trade relations with an eye to achieving social goals. Trying to create policy coherence by aligning various dossiers is getting more priority on the political agenda.<sup>53</sup> And via monitoring, it is possible to analyse the results of this alignment and to

52 See for example Shutes et al. (2017). SDGs in the global MAGNET model for policy coherence analysis. Research Brief. European Commission-Joint Research Centre.

53 Mackie, J., Ronceray, M., Spierings, E. 2017. Policy coherence and the 2030 Agenda: Building on the PCD experience. (Discussion Paper 210). Maastricht: ECDPM.

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start planning further improvements. In this way, policy can become more and more effective.

Dutch trade policy is generally in line with the policy for international cooperation, but it often encounters problems with the EU agricultural policy which continues to offer considerable support to and thus protection of EU products. There is growing awareness that direct investments in emerging economies rather than the trade in goods can contribute to a growing market, local employment (and thus political stability) and a possible halt to migration.

This broadening of the trade agenda to include services, knowledge and investments offers interesting possibilities for a new positioning of the Netherlands on the international podium. The traditional focus on food production aimed at self-sufficiency with considerable flows of commodities is making place for a new paradigm: integrated circular food systems oriented to local growth markets with appreciation for the environment, nature and biodiversity. Such a transition means a re-evaluation of the role of national and international trade and implies a focused integration into local markets with a focus on integral efficiency and effective cooperation between public and private parties.<sup>54</sup>

54 Jomo, K.S., A. Chowdhury, K. Sharma and D. Platz (2016). Public-private partnerships and the 2030 Agenda for Sustainable Development: Fit for Purpose? New York: UN DESA Working Paper 148.

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# The contribution of the Netherlands

Given the recent changes in relationships in global trade (Section 2) and the rise of new questions about the contribution of international trade to solving social issues (Section 3), we examine the possibilities for the Dutch agrofood trade to further develop and strengthen existing comparative advantages and then use them to generate additional social effects.

This requires an extensive adjustment to four aspects of Dutch international trade strategy:

- a the choice of strategic trade partners
- b the selection of production and investment locations
- c the transparency of agrofood chains (including the valuation and/or the pricing of external effects)
- d the development of new integral agrofood export propositions.

## New strategic trade partners

According to a recent UN report on the expected population growth,<sup>55</sup> current world population is about 7.5 billion people. In 2017, 60% of these people lived in Asia, 17% in Africa, 10% in Europe, 9% in Latin America and the Caribbean and 6% in North America and Oceania. By 2030 the population is expected to have grown to 8.5 billion people, with most of this growth occurring in Africa and Asia. Consequently, the market demand will shift to Africa and Asia where, under the influence of population growth, urbanisation and increased prosperity, diets will change to include fresh produce, meat and fish.

For Dutch agrofood exporters, emerging economies in Asia and Africa are far distance markets. Therefore, it is questionable whether the Netherlands agrofood sector can serve these markets in the way it now serves the German market, that is with production concentrated in the Netherlands and regular exports of processed products to the local retail sector. It is thus necessary to make new propositions around local food that match the development of the market. This requires insight into local consumption patterns and knowledge of the specific

55 UN DESA (2017) World population prospects – Revision 2017. New York: United Nations

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needs of the local population and the requirements of the national market. In order to gain such insights, agrofood companies may create partnerships with local companies or establish their own representatives in the countries with the larger markets.

## Production and investment decisions

Dutch agrofood companies are increasingly confronted with the question of whether to export their products to distant markets or to place their production closer to the market. This is much easier for companies that produce for the 'bottom of the pyramid' and can quickly enter the market for mass consumption. But more and more foodstuffs for the rising middle class in Asia, Latin America and Africa are produced locally, sometimes as a result of (temporary) import restrictions. At a certain point, it becomes attractive for food companies to locate themselves closer to the sales market.

The step from trade to local investment brings the agrofood sector closer to the market but it also involves the necessary challenges. In the earliest phases,





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many commodities must be imported, and it can take some time before good local suppliers have been found who can deliver the commodities with the correct specifications. For instance, companies in the beer sector are intensely involved in the production of commodities in Africa. In other sectors as well, such as the dairy sector, a great deal of attention is given to developing reliable contractual relationships with local farmers (contract farming) and suppliers.

Setting up local production means that a company has to weigh the potential advantages of production closer to the local or regional market against the economic costs of such investments (including the risks of political changes). Many emerging economies are improving their infrastructure (energy supplies, logistics) and the education of their workers, all of which contribute to the investment climate. In addition, the increase in regional free trade zones in Africa and Latin America also offer extra opportunities. Companies need guarantees in the form of agreements on investment and intellectual property rights protection.



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## Transparent and sustainable agrofood chains

Consumers, especially in the wealthier countries, increasingly want sustainably produced goods. Criteria for sustainable trade have not yet been set within WTO, where discussions on this topic have not been productive yet. As a result, sustainability conditions are agreed upon in bilateral agreements and met via compliance with private standards via EUREPGAP and GLOBALGAP. But not all of the product flows are covered by these regulations. For example, chicken meats from the Ukraine may only enter the EU if the producer meets the EU animal welfare requirements, but the Ukraine can make different agreements with other countries.

A balance often has to be found between the pros and cons of free trade, and there must be good coordination between the government, the business sector and knowledge organisations. We now see that companies are dealing with issues such as sustainability and food safety via previously mentioned initiatives such as The Sustainability Consortium and Duurzame Zuivelketen (a collaboration between Dutch dairy companies and dairy farmers aimed at creating a future-proof and sustainable dairy sector). This primarily happens with the broad involvement of all parties in the chain in a pre-competitive context.

Other initiatives aiming at making chains more sustainable focus on certification<sup>56</sup>. Agreements are made, for example on the minimum wage for farmers (Fairtrade) and agricultural workers (Living Wage) or instructions are given to improve the means of production (Utz - Good Agricultural Practices) or the sustainability of production (Rainforest Alliance). Certification is increasingly used in tropical crops such as coffee, cacao, tea, bananas, soy and palm oil. It is meant as a strategy to make trade more sustainable and inclusive, but as described in Section 2 the direct effects are rather limited. It is better to focus on sector-wide agreements.

## New integral propositions

The international trade of the Dutch agrofood sector often concerns more than just the product alone. In many cases, services are also involved (e.g. machine maintenance), and training programmes and supervision are offered to local

56 Mol, A.P.J. and P. Oosterveer (2015). Certification of Markets, Markets of Certificates: Tracing Sustainability in Global Agro-Food Value Chains. Sustainability 7(9), 12258-12278; doi:10.3390/su70912258.



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employees. This makes the Dutch trade proposition unique: an intelligent combination of hardware (products), software (knowledge and employee training) and 'orgware' (strengthening the local organisation and agrologistic processes).

This relationship between production, service and knowledge requires good collaboration among the various (Dutch) partners when developing new propositions. In some cases, the export of knowledge is more important than that of goods. These new propositions can involve, for example, the integrated management of natural resources (e.g. with a new approach to landscape certification), the supply of healthy food to megacities (feeding megacities) or the use of ICT and big data to reduce post-harvest losses in agrofood chains (Postharvest Network; Champions 12.3).

This approach fits with Dutch experiences in the area of agricultural transitions and frequent changes in the Dutch agricultural sector in response to new economic and social requirements (for example, the Transform programme in the period 2005-2010).

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*Knowledge should contribute to an increase in factor productivity*

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Experience has shown that an important share of the growth in the agricultural sector resulted no so much from the use of more land, labour or capital, but

by a better and more sustainable combination of all these resources. The focus has to lie on the increase of the so-called 'total factor productivity' (TFP): the knowledge and skills needed to create more value with the same (or reduced) use of resources.<sup>57</sup>

57 Aydin, N., A.N. Alrajhi and J.H. Jouini (2018) Estimating The Impact Of R&D Spending On Total Factor Productivity For OECD Countries: Pooled Mean Group Approach. The Journal of Developing Areas 52 (2): 159-168.

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# Towards a leading position in a network economy

The international playing field of the Dutch agrofood sector is subject to large changes. Although we proudly refer to the position of the Netherlands as the second largest exporter of agricultural products in the world, it is becoming increasingly clear that changes in international relations and the growing consensus on social conditions demand that the Dutch export strategy should adjust.

Given the strong external orientation of the sector, the Netherlands has an interest in ample possibilities for international trade. However, the playing field for international trade is becoming more limited because trade policies of important trade partners are increasingly influenced by national interests. In addition, global agreements on poverty reduction, environment protection and the combat of climate change demand that agrofood companies rethink the way in which they participate in international trade.

The most important changes ahead concern:

- Demographic growth in emerging economies requires production locations near large and growing markets
- The need to reduce the use of energy and commodities in the agricultural sector and in food production
- The rewards for primary production factors (labour, land) must be made to comply with the principles of sustainability (living wage, sustainable resource use);
- From the perspective of public health, strict national and international standards for food safety and quality, also in relation to health, are expected
- The social demand for including external environmental and social costs in the cost price of agricultural products (true pricing).

All of the above is likely to lead the Dutch agrofood sector to make important changes in order to develop new comparative advantages. Production and trade volume are no longer measures of Dutch export performances, but instead there is a promising alternative position of the Dutch agrosector in the world. The important strategic activities that must be undertaken to realise this new international positioning can be summarised in four components:





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## Developing a reputation for producing sustainable and healthy products

Dutch agricultural products are known and acknowledged throughout the world for their efficient and high-quality production processes. Making visible to the consumer that products are healthy, sustainable and fairly produced offers a potential extra market value and forms the basis for developing a strong reputation and consumer trust. For this, labels and certification are frequently used to give insight into the production conditions and chain organisation. Monitoring the progress of making food more sustainable offers periodic insight into the developments achieved by the sector.

Research can contribute to making the effects of this transparent for both the income of farmers and improvements to the environment. Moreover, periodic monitoring of developments in the market, reports on the progress of the introduction of sustainable production methods (for example, in the dairy and horticultural sectors) and the trend in the trust of agricultural producers in their company situation help to give insight into the contributions of the agricultural sector to SDGs.

## Mutual approach to food problems by several chains and knowledge parties

The strong growth and continual dynamics of the agricultural sector in the Netherlands is especially due to an intensive collaboration between the government, the private sector, farmer organisations and specialised knowledge institutes. This leads to detection of obstacles (for example, in knowledge circles) at an early stage and faster innovative solutions. The collaboration between the various parties results in a process of social and interactive innovation that brings system solutions closer. Innovations based on the principles of the circular economy and insights from the nexus water/energy/climate become economically and socially more attractive.

This collaborative approach is characteristic of the way in which we think about changes in agricultural policy; alliances are formed to contribute to improvement in the agrofood chains as well as the approach to new blue and green growth in urban areas. The participation of public-private partnerships (PPPs) and the multi-stakeholder approach of sustainable trade (IDH Initiatief Duurzame Handel) and sustainable production (TSC The Sustainability Consortium) are

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important conditions for expanding and accelerating the contributions of the agricultural sector to realising SDGs.

## Integral supervision of agrofood transition processes

The agricultural sector is undergoing major changes, partly because of the influence of the growing consumer demand for healthy food and also because the national and international conditions in the areas of climate and sustainability are being further defined. To create effective structures to meet these challenges, the Netherlands has gained the needed experience in integral decision-making processes. Moreover, various possible solutions are first explored via modelling before a carefully considered package of transitional activities is chosen.

The further developments in the agricultural sector that can contribute to a new position in the area of integral agrofood transitions require balanced attention to the dimensions of the infrastructure, company organisations and knowledge innovation. The strong interaction between hardware, orgware and software enable a fast growth in the agricultural factor productivity. These transitions are necessary both from the perspective of consumer demand (healthy food) and because of the major changes to production possibilities related to climate change (sustainable production).

## Market development via knowledge exchange in the chains

Changes in agricultural production systems or improvements in food chains do not occur automatically. Especially when considerable initial investments are involved, it is very important for companies to have sufficient certainty about the market potential and to be sure that the changes in the chain are of a structural nature. Direct knowledge exchange is a tested way of gaining insight into risks, and price information and transparency in the food chains are often prerequisites for a sustainable playing field.

It is not easy to meet these prerequisites in an international connection. Existing market studies (Outlook) often offer insight into the market potential, but collaboration with other parties is necessary to gain thorough information about local consumer preferences and competition. Investing in big data and ICT offers promising possibilities for quickly combining enough information on the soil,





climate, infrastructure, incomes and population. The use of blockchain technology will quickly increase this information for agrofood chains. The information can possibly contribute to more quickly discovering obstacles to and reducing the uncertainty for large-scale direct agrofood investments.

If the international developments mentioned continue, the Dutch agrofood sector will be able to manifest itself as an international network to which, in addition to primary production and commodity trade, foreign investments (participations) and services in the form of knowledge and innovation contracts can contribute to creating value. The strength of the sector can thus gain value in a new manner.

A landscape photograph capturing a sunset over a rural scene. The sun is low on the horizon, casting a warm, golden glow across the sky and reflecting in a pond in the foreground. The sky is filled with soft, wispy clouds. In the middle ground, a line of green grass separates the pond from a field where several black and white cows are grazing. The foreground is dominated by tall, thin reeds or grasses growing in the water. A large, thin white circle is superimposed over the upper half of the image, framing the text.

# Highlighted

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# Dutch solutions to world problems

Researchers at Wageningen Economic Research are involved daily in programmes intended to support the Dutch business sector in its international ambitions. On the basis of the above-mentioned possibilities for strengthening the contribution of the Dutch agrofood sector to solving international social issues, we are going to highlight three examples of the integrated Dutch approach that can also be useful elsewhere in the world.

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# Netherlands as transition expert

*Anne-Charlotte Hoes*

For years the dream of more sustainable and healthier food production has been on the Dutch agenda. There is much criticism regarding the mega-stalls, deforestation, environmental pollution and food manipulation. This all offers fertile ground for initiatives that work towards a transition to better food production and consumption and to a better living environment.

## **Collaborating on innovation**

In such initiatives as Kipster, HerenBoeren, Instock and Duurzame Zuivelketen companies, entrepreneurs, NGOs and citizens work passionately and gradually on breakthrough innovations. Their points of departure are social and ecological challenges. These initiatives have provided much information about networking, experimenting and marketing sustainability.

## **Initiatives struggling**

However, more is needed to offer these initiatives a future and to create more sustainable and healthier food production and consumption. Discussions with innovators reveal that new food initiatives often struggle with their own progress. Inspiring entrepreneurs often miss the capital to start or upscale and they meet all sorts of obstacles when trying to expand their market. A citizens' initiative depends on volunteers, who rarely commit themselves for longer periods. And it is difficult for established agrofood companies to change the routines and standards of their own sector to promote sustainability initiatives.

## **Activate, connect and teach**

I advocate a Netherlands where this enthusiastic entrepreneurship and social energy is encouraged and connected to local visions of the future, such as circular cities and food as medicine. The Dutch polder model 2.0 in which businessmen, citizens, the government and researchers bundle their strengths and support valuable start-ups in scaling-up. This requires room to experiment and courage and communal reflection to further expand Dutch expertise and experience in triggering and supporting transitions.



### **Trigger and support international transitions**

Other countries are also struggling with food security, environmental pollution, soil depletion and social resistance. With its knowledge, innovations and expertise in sustainable solutions, the Netherlands can position itself as a transition expert. This also fits in with the image of a 'makeable' Netherlands. The Netherlands is challenged to look beyond our borders, to learn further and, together with international partners, to trigger and support sustainable transitions in other regions.



# Sustainable production system as opportunity for the Netherlands

*Joan Reijs*

The Netherlands is a country with a rich history of agricultural production. The skills of the Dutch farmer are known worldwide. The Netherlands is also a densely populated country and known for its tendency to regulate every last detail. We use every square centimetre and, partly as a result of this, we are the first to encounter the limits of what a society can and wants to accept. In the area of sustainability too, the signals reach the Netherlands faster and more strongly than elsewhere. Is this a threat or an opportunity?



I would like to consider this situation as an opportunity: an opportunity to be in the lead in developing sustainable production systems. In addition to this being necessary to save our planet, this can also offer the Netherlands two important things: 1) a better position in the international market and 2) knowledge about sustainable production systems as an export product.

With regard to the market position, there are increasingly more signs that the market for sustainable food is shifting from niche to mainstream. For example, the requirements and concepts introduced by retailers such as Albert Heijn and Jumbo as well as major buyers such as Unilever, Mars and Nestle. Although the





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# The Netherlands as developer of transparent and inclusive chains

*Gonne Beekman*

## **Trade for world peace**

The French philosopher Montesquieu is especially renowned for his *Trias Politica*, but he also praised international trade. 'Trade,' he said, 'is a cure for the most destructive tendencies'. According to Montesquieu trade goes hand in hand with good manners, and international trade teaches us the specific mores of all of the



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countries in the world. The natural result of trade is eventually... peace.<sup>58</sup> Trade in the interests of world peace.

### **The trade in tropical crops was not always sunshine and roses**

Montesquieu's words are true to a certain extent. A healthy institutional climate and sufficient mutual trust are important to every trade relation, wherever and at whatever level. But it is questionable whether world trade, particularly in tropical crops as it was done in the past few centuries, conforms to this romantic idea. No one has to think very long to find examples that prove the opposite.

### **Today's merchant trades in certified crops**

Traditional trade in tropical crops, or simply buying and selling as many goods or services as possible at so low a price as possible on the global market is gradually disappearing. Today's merchant prefers to trade in certified products: farmers earn an honest price, and consumers know that their ecological footprint will be limited. This trend is driven in part by a growing critical mass of consumers and NGOs.

### **Certification is a Dutch specialism**

The Netherlands is a trigger in this. We are the cradle of Max Havelaar, Fairtrade and Tony Chocolonely. And Utz, recently merged with the much larger American Rainforest Alliance, was also initiated in the Netherlands. These are all organisations that have found a permanent place on supermarket' shelves and whose names have been exported far beyond our borders.

### **Criticism: impact of certification is limited**

But there is also criticism of certification: the impact remains limited, certified farmers often earn no more than their non-certified colleagues (although they sometimes profit in the immaterial area and are less troubled by price fluctuations), and the poorest farmers are not included. Trade in certified cacao only is not enough.

### **A farmer is never alone**

The future merchant thus trades cacao in a package of supporting services and training programmes that ensure that trade is sustainable, not only with respect to the climate, but also socially. The future merchant also realises that every

58 Trade is a cure for the most destructive tendencies; it is almost a rule of thumb that where we encounter good manners, trade flourishes; and that where there is trade, we encounter good manners. [...]. Trade has ensured that knowledge of each country's mores is known overall [...]. Peace is the natural consequence of trade.

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product is part of a household, and that every decision made on the cacao plantation has implications for other activities in the household. What happens to the division of income in the household? How do gender dynamics change? What role do underage children play? And increasingly more often, trade-related projects go beyond the household and look to the dynamics in the community and decisions about land use, biodiversity and surrounding forests.

### **The future trader operates in an institutional context**

Multinationals are starting to realise that local context is important for stable trade relations, and they are working together with social organisations. Not only the formal, but especially the informal institutes are decisive to the choices an individual makes and thus to the success of trade relations.<sup>59</sup> And that brings us back to Montesquieu because trade and good manners go hand in hand.

59 Beekman, G., E. Nillesen and E. Bulte (2013) Corruption and Economic Activity: Micro Level Evidence from Rural Liberia, *European Journal of Political Economy* 30(1): pp. 70-79; Beekman, G., E. Nillesen and E. Bulte (2014) Corruption, Investments and Contributions to Public Goods: Experimental Evidence from Rural Liberia, *Journal of Public Economics* 115(1): pp. 37-47.



# About the authors



**Petra Berkhout** (1965) is a senior agricultural economist with 27 years of professional experience. Until 2000 she worked for the Dutch Ministry of Agriculture, mainly in the area of EU agricultural, rural and structural policies. In 2000 she switched to research. Her research focuses on impact assessments of agricultural policies and on evaluation studies, especially of EU and Dutch policies for the agricultural sector. She was editor of the Dutch annual Agricultural Economics Report for more than 10 years (2003-2015). She now leads the successor of this publication on the food economy. Lately she has been involved in both research on food security through the EU-funded project FOODSECURE, an interdisciplinary research project to explore the future of food and nutrition, and in the development of impact measurement methodologies for the food security impact of global equities.



**Siemen van Berkum** (1961) is a senior researcher at Wageningen Economic Research. He has a PhD in economics and more than 25 years of research experience in the areas of agricultural policy and trade analysis, sector studies and food supply chain analysis. He has contributed to numerous studies financed by the Dutch government and a wide range of internationally financed projects, such as the EU-financed projects AGRICISTRADe and FOODSECURE. In addition, he contributes to the internationally financed research programme 'Food systems, agriculture, health and nutrition', exploring the food system challenges and opportunities of sustainably providing sufficient and healthy food. He has recently conducted trade-related studies on the (ex-ante) impact analyses of a Transatlantic Trade and Investment Partnership (TTIP) between the EU and the USA and the implications of Brexit for Dutch-UK-EU trade relations.





**Ruerd Ruben** (1954) is the research coordinator on food security and value chains at Wageningen Economic Research and professor of impact assessment at Wageningen University & Research. His research concerns the prospects for smallholder participation in tropical food value chains, the effectiveness of rural cooperative organisations and the impact of certification in value chains. He coordinated interdisciplinary research programmes on food security and sustainable resource management in sub-Saharan Africa. Previous to his current role, he was director of the Independent Policy and Operations Evaluation (IOB) department at the Netherlands Ministry of Foreign Affairs and professor in Development Effectiveness at the Centre for International Development Issues (CIDIN) of Radboud University Nijmegen.

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# About Wageningen Economic Research

Wageningen Economic Research contributes to the mission of Wageningen University and Research *to explore the potential of nature to improve the quality of life* by supporting the analysis of opportunities for and responses to transitions towards integrated agrofood systems and sustainable inclusive growth. Given today's global challenges we dedicate our knowledge and expertise to identify, assess and create solutions for providing healthy and safe food for everyone that is produced sustainably.

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*To improve the quality of life, we analyse and design effective incentives and policies*

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Wageningen Economic Research carries out applied scientific social and economic research for government bodies, companies and societal organisations. Our strengths are to analyse current systems and to develop new insights through an interactive approach based on market intelligence, unique models and data, sector and domain expertise and in interaction with a wide variety of stakeholders. We ensure that the latest scientific knowledge in the field is applied. We explore and explain, so that you can enhance your policy or strategy, thus laying the foundations for 'earning' more value for your organisation, your clients and partners, the environment, citizens and society.

**[www.wur.eu/economic-research](http://www.wur.eu/economic-research)**

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## Explore

We identify and analyse trends in regions, countries and markets and assess possible development pathways. The horizon of our studies ranges from short term to several decades, depending on the client's question. We combine expertise on the sector and state-of-the-art scientific knowledge with data from a wide range of sources. This results in unique and innovative insights for business opportunities and policy strategies.

## Explain

We explain what has happened, what is happening and what may happen by measuring, monitoring, modelling and predicting the effects of government and company policies, of (inter)national market reforms and value chain upgrading, on competitiveness, food security, health, the environment and climate change. We provide insights for our clients, showing why and how these events take place and what the likely implications are. We use clear indicators and transparent change models and are able to look at results at the company, sector and country levels, considering all possible effects and likely influences.

## Enhance

Based on insights obtained from explorations, we present concrete options, scenarios and strategies to improve policies and business designs. This may enhance the impact of policy instruments and marketing strategies on product standards, supply chain performance, consumer choices and a sustainable environment. This enables our clients to work more efficiently and to operate more effectively in the complete agrofood system and to create sustainable inclusive growth.

## Earn

The insights and opportunities for improvements provide a basis for 'earning'. We consider earning not only as financial gain, but also as the creation of added value for organisations, communities, consumers and society. We work with companies to develop and implement innovative and sustainable business models and with governments to design and monitor sustainable inclusive policies. We challenge entrepreneurs to look at their processes, companies, chains and markets in a different way and we challenge governments to make an integral assessment of their policies. In complex transition processes, we also consider social acceptance and societal embedding.



# Colophon

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Communication Services, Wageningen University & Research

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