



**ASIA HOUSE**

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## ASIA HOUSE BRIEFING, MARCH 2018

### ANALYZING FOOD & AGRICULTURE EXPORTS TO INDIA



## Exporting Food & Agriculture to India

*A great prize – a hard catch.*

In November 2017, the Danish Minister for Food and Agriculture, accompanied by a Danish business delegation, travelled to Delhi to participate in the world's largest food and agricultural conference, *World Food India*. Denmark was one of just three foreign partner countries, the others being Germany and Japan. While the size of the event reflected the growing importance of the Indian food and

agricultural sector, the prominent role allocated to Denmark underlined the improved relations of the two countries.

From a Danish point of view, the Indian market seems to be a land of opportunities. Before heading off to the World Food-summit, The CEO of Danish Agriculture & Food Council, Karen Hækkerup, compared Indian market conditions to China 10-15 years ago. Today, China is one of the largest export markets for Danish food and agricultural goods. Of special interest is the growing Indian middleclass, and their rising concerns for food safety, quality and animal welfare.<sup>1</sup> These expectations were echoed in a recent report commissioned by the Danish embassy in India.<sup>2</sup>

From an Indian point of view, the food and agricultural sector has a high political priority. The Indian government has a vision of doubling farmer income by 2022, and the ability or not to reach this goal may have electoral consequences. Improving crop variety, water use efficiency, sustainability, and reducing wastage, is key to success. Thus, the Indian government is – and will be – investing large sums into the food and agricultural sector. The government is very motivated in attracting foreign investments and creating a favourable business environment.

This briefing takes a closer look at the ground reality of Danish food and agricultural exports to India. How does Danish export to India compare to other Asian countries? How does Denmark compare to The Netherlands – another European country with a strong food and agricultural sector – when accessing? What are the barriers to trade facing foreign countries when entering the Indian market? And what questions do we need to ask ourselves, if we are to succeed in India?

### **A land of opportunities**

It is beyond the scope of this paper to highlight all the opportunities identified on the Indian food and agricultural sector. A number of excellent reports have covered this topic, most notably two recent reports from the Danish Ministry of Foreign Affairs from August 2017: *The Food Processing Sector in India, Opportunity Assessment for Danish Companies* (in corporation with YES Bank) and *Dairy Chain Opportunities: India, Pakistan and Bangladesh*. Also worth reading are the sector specific reports published in connection with World Food India, written by KPMG and the *Indian Ministry of Food Processing Industries*.

Below are a few of the most important opportunities, for inspiration:

- **Dairy:** India is the world's largest producer of milk, yet productivity is low. 85% of Indian cattle (mainly buffalo) belong to herds of 1-2 animals each producing an average of less than 4 Kg. per day. Farmers lose ~30% of their milk to spoilage. The Indian government has allocated DKK 80 billion for dairy food processing next year, in order to increase the efficiency and profitability of dairy farming. There is a need for knowhow at all levels of the value chain: Animal health and genetics, animal feed, milk monitoring, packaging and cold storage, processing.
- **Grain:** India is the world's second largest producer of wheat and rice, and the largest exporter of cereal products. Yet challenges abound, especially in relation to productivity, soil erosion, nutrient leaching and water drainage and irrigation. There is an urgent need for high yield seeds and improved planting techniques, upgrading of milling technology, water management, increased fertilizer efficiency.

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<sup>1</sup> [Article on Danish Agriculture & Food Council website: \*Indien er det nye King\*](#) (10 November 2017)

<sup>2</sup> *The Food Processing Sector in India, Opportunity Assessment for Danish Companies* (August 2017)

- **Marine:** India is the world's second largest producer of fish. Processing levels are low and hence there are huge opportunities in cold chain, export, packaging innovations, product differentiation.
- **Cold Chain Capacity:** Product wastage is high in all sub sectors, not just dairy farming. In 2015 the harvest and post-harvest losses were estimated to DKK 91 billion. Thus, there is a need for 3.2 million MT, more than 69.000 pack houses, 50.000 reefer vehicles and 8.000 ripening chambers.<sup>3</sup>
- **Processed foods:** The Indian food market is expected to grow from present USD 350 billion to USD 650 billion in 2020.<sup>4</sup> Other reports estimate USD 895 billion by 2020. Just as importantly, patterns of consumption are expected to change drastically owing to rising income levels and rapid urbanization.

### A note on statistics

Statistics in appendix 1 (*Danish Food & Agricultural exports to selected Asian countries, 2011-16*) are derived from five annual reports released by the *Danish Agriculture & Food Council*.<sup>5</sup>

The data in these reports are processed and presented by the *Danish Agriculture & Food Councils* statistical office. Data is selected from *Danmarks Statistik* and based on more than 3,000 specific product categories (HS-codes). The data from these 3,000+ product codes are aggregated into 35 separate categories and three major groupings:

- **Food products:** Goods directly or indirectly suitable for human consumption
- **Bio-based products:** Organic products not suitable for human consumption, e.g. enzymes, animal fodder, animals for breeding.
- **Agro-technology:** Machinery and technology used for food and agricultural production and processing.

The selected countries for this analysis are the ten largest and most important Asian export destinations for Danish goods: India, Pakistan, Bangladesh, China, Thailand, Vietnam, The Philippines, Indonesia, South Korea and Japan.

Statistics in appendix 2 (*Danish and Dutch Food & Agricultural exports to India, 2012-16*) are not comparable with the figures found in appendix 1, as data for The Netherlands is not readily available by the Danish Agriculture & Food Council. Thus, the data displayed in appendix 2 are not based on the 3,000+ product categories selected by the council, nor have they been processed in the same manner. Seasonal variations, discretionary data (confidential trade figures) and database technicalities may all impact the result. The data presented in appendix 2 are selected from the UN Comtrade database, based on the most important food and agriculture related product categories (HS 01-24, 31, 35, 41, 8432-39).

On a general note, certain difficulties arise when analysing export data:

- Products sold to one country may be processed and/or repackaged and sold to a third-party country. It seems the recent increase in exports to Vietnam to some extent is fuelled by demand in China: Pork is sold to Vietnam and reexported to the Chinese market via informal channels.

<sup>3</sup> *The Food Processing Sector in India, Opportunity Assessment for Danish Companies* (August 2017), p. 10

<sup>4</sup> *The Food Processing Sector in India, Opportunity Assessment for Danish Companies* (August 2017), p. 1

<sup>5</sup> Udenrigshandel: 2008-12, 2009-13, 2010-14, 2011-15, 2012-16.

- Products produced locally on the foreign market are not reflected in the export statistics. Thus, a fall in exports might not necessarily reflect a reduced market position. It could also reflect a shift towards establishing own production facilities in the country.

### Comparing India with other Asian countries<sup>6</sup>

Analysing the performance of the Danish food and agricultural sector across South and South East Asia, there seems to be a huge gap between the narrative of opportunities in India and the actual market presence. The comparison is especially interesting in relation to the two large South Asian countries, Bangladesh and Pakistan. China has also been included in the comparison. For more detail, please refer to appendix 1.

Analysing exports in terms of revenue and percentage increase:

- **Total revenue:** In 2016, exports to India were DKK 234 million. Comparison: Bangladesh (DKK 235 million), Pakistan (DKK 215 million). China (DKK 11,000 million).
- **Percentage change:** From 2011-16, exports to India increased by just under 17 %, the lowest of all the emerging countries in this analysis. Comparison: Bangladesh (49 %), Pakistan (435 %), China (152 %).
- **Share of food and agricultural exports of total exports:** Food and agricultural exports to India comprised less than 9 % of the total Danish exports to India, the lowest of all the selected countries. Comparison: Bangladesh (43 %), Pakistan (27 %), China (43.8 %).

Analysing exports in terms of export composition:

- **Food-exports** to India comprised only 25 % of total exports, the lowest level of all the selected countries. In comparison, *Food-exports* to Bangladesh covered 89 % of total exports, Pakistan 74 % and China 59 %. From 2011-16, *Food-exports* to India increased by just DKK 9 million.
- **Bio-based products** cover 61 % of food and agricultural exports to India, by far the highest level of all the selected countries. In comparison, *Bio-based* products to Bangladesh covered only 1.4 %, Pakistan 20 % and China 38 %.
- **Agro-technology** exports to India fell from just under DKK 100 million to 34 million. However, all selected countries experienced a decrease on this product category, except Vietnam (+ 10 %) and Malaysia (+ 7 %). But India experienced the sharpest decrease of all the countries (- 65 %).

Concluding on the findings above, Danish food and agricultural exports to India seem to be underperforming at all levels: In terms of revenue, growth rates and share of total exports.

Exports to India grew at the third slowest rate of all the selected countries. Only exports to Japan and South Korea experienced a slower growth rate, at 11.8 % and 1.6 % respectively, compared to India's 16.7 %. However, the total export revenue (and base figure) to Japan and South Korea was significantly higher (DKK 5.4 billion and DKK 1.2 billion respectively), and thus the countries are not really comparable.

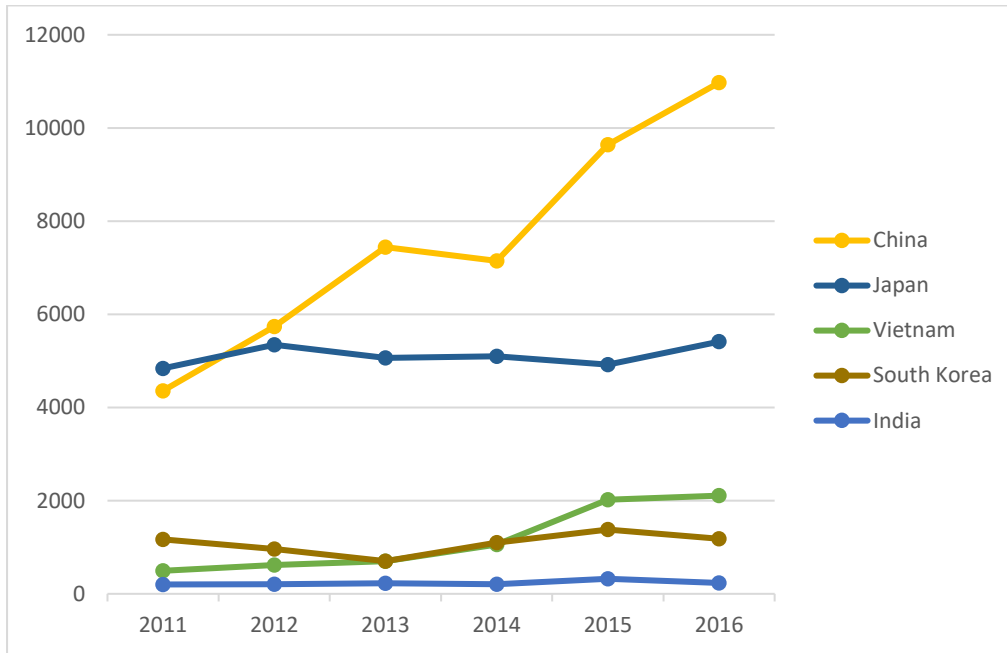
Despite India's size in terms of population and GDP, exports to India had the second lowest export revenue of all the selected countries, except Pakistan. Also, the share of food and agricultural exports from total exports to India was the lowest of all the selected countries.

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<sup>6</sup> The selected countries are: India, Pakistan, Bangladesh, Thailand, Vietnam, China, Japan, South Korea, The Philippines and Indonesia. See also *A short note on methodology*. For further detail, see Appendix 1.

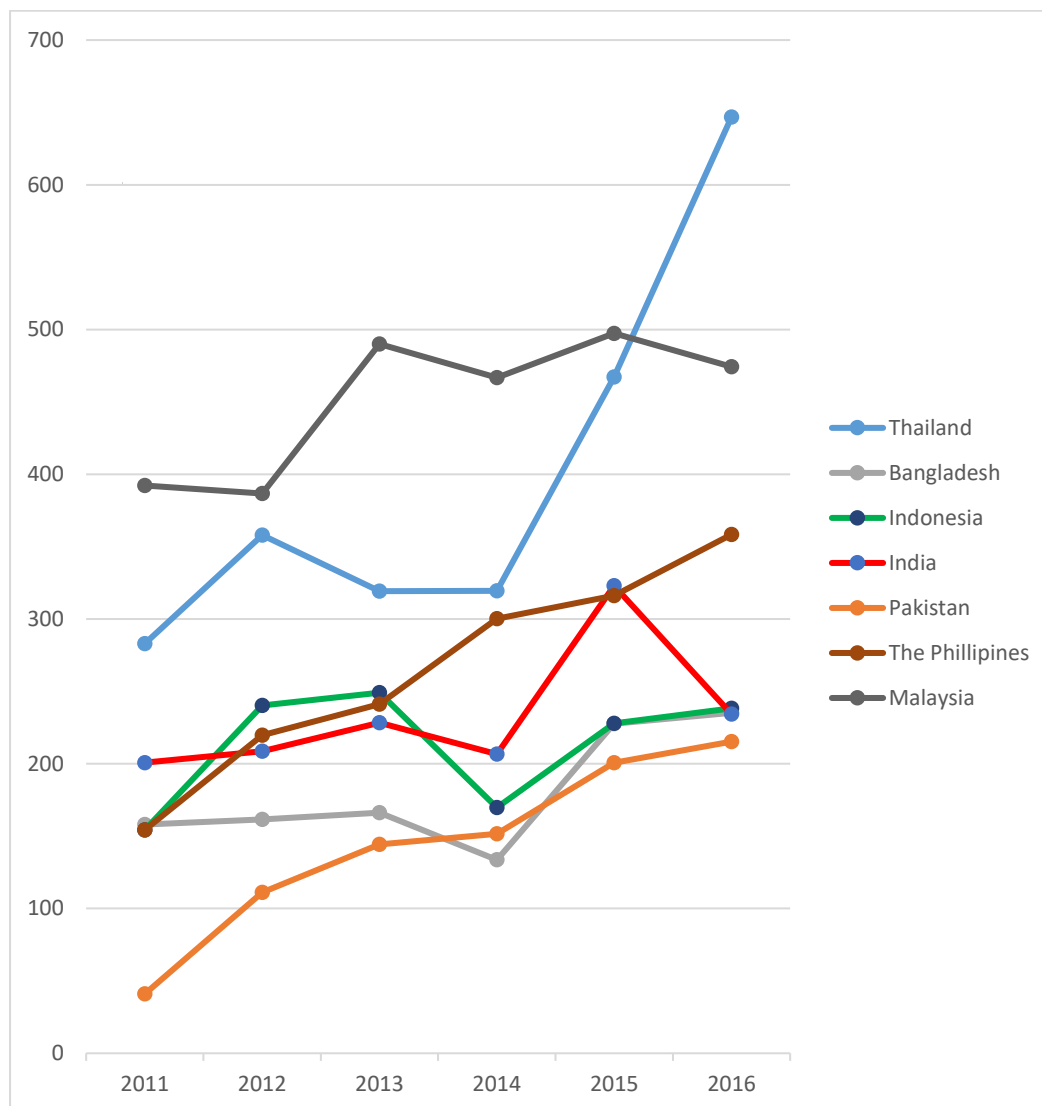
In terms of export composition is India unique. The single most important export item, and the main export driver, was enzymes. From 2011-16, sales of enzymes increased from DKK 46 million to DKK 110 million, thus covering half the Danish food and agricultural exports to India. The main players in this field are Chr. Hansen and Novozymes.<sup>7</sup> Thus, the bulk of Danish exports to India seems to be centred around very few companies.

Figure 1: Comparing India with the four top Danish export markets in Asia



<sup>7</sup> This has not been specifically verified.

Figure 2: Comparing India with the other secondary export markets in Asia



### Indian barriers

This chapter provides a brief overview of the trade barriers encountered by Danish companies approaching the Indian market. It should be noted that a full account of these barriers requires a larger investigation. Additional (non-Indian) barriers should also be taken into consideration to understand the relatively sluggish Danish presence on the Indian market.

**Trade tariffs:** According to the Global Competitiveness Index, India ranks 123 of 138 nations in relation to tariffs.<sup>8</sup> The high tariffs seem to be especially prevalent within processed food, dairy products and poultry (India is a food surplus country, and thus not inclined to imports of the product category). High tariffs can be one of the reasons why Arla and other Danish dairy producers focus on other markets than the Indian. They are simply more profitable.<sup>9</sup>

<sup>8</sup> World Economic Forum *Global Competitive Index*, 2016-17. See also the *Enabling Trade Index*.

<sup>9</sup> See also *India's trade barriers: an analysis with reference to tariffs and customs procedures*, p. 11. Centre for Public Policy Research, 20 January 2015.



**Non-tariff barriers** are by nature very complex, and this list is not exhaustive. Some of the barriers identified for food and agricultural exports are as follows:

- Labelling and packaging requirements maintained by Food Safety and Standards Authority (FSSAI) and the Ministry of Commerce (MOCI) are often ambiguous, creating uncertainty, and causing detention of shipments at the port of entry and cancellation of import contracts.<sup>10</sup>
- While clearing imported goods, the agents have to undertake various formalities and rules which are very tedious and make the import process difficult. There are 11 essential documents required to Import in India (among the highest in the world).<sup>11</sup>
- Bilateral health certificates are lacking for many commodity areas. EU certificates are not sufficient when exporting to India (as is the case for most countries).

**Cultural barriers:** For some of the big players in the Danish food sector, India is not an obvious market due to different consumption preferences with less meat-based meals. Also, Danish companies specializing in breeding capabilities for the dairy sector face particular difficulty in India. Firstly, the sector is dominated by public entities, which hand out government subsidized semen to local dairy farmers. Secondly, foreign companies encounter a general predisposition for local cattle breeds, and apparently some opposition against cross breeding.

### Comparing with The Netherlands

The Netherlands is the world's second largest exporter of food products, after the United States, and the agro-food sector has been designated as a "top sector" by the Dutch government.<sup>12</sup> This is reflected in the sheer size of the Dutch exports compared to the Danish. Dutch exports of food and agricultural products to India are five times higher than the Danish: USD 120 million vs. USD 29 million in 2016.<sup>13</sup>

The Dutch enjoy a greater variety of exports to India, with 10 product groups exceeding annual exports of USD 4 million compared to one single Danish product group – Enzymes. Comparing the trends of this particular product group underlines the Danish "enzyme-success story". In 2012, the Netherlands exported twice as many enzymes to India than Denmark. In 2016 Denmark exported 30 % more than The Netherlands (USD 4 million in value). However, in most other product groups the Dutch seem more successful than the Danes.

Both Denmark and The Netherlands seem to face some of the same difficulties on the Indian market, especially in relation to edible products (HS-codes 01-05, 07-10), most probably due to Indian trade barriers. For instance, both countries experienced a sharp drop in dairy exports from 2012-16 (though more severe for the Danes than the Dutch).<sup>14</sup>

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<sup>10</sup> *India's trade barriers: an analysis with reference to tariffs and customs procedures*, p. 8. Centre for Public Policy Research, 20 January 2015.

<sup>11</sup> *India's trade barriers: an analysis with reference to tariffs and customs procedures*, p. 9. Centre for Public Policy Research, 20 January 2015

<sup>12</sup> *Dutch Export Opportunities in Asia: Is the Netherlands Lagging Behind?* Commissioned by the Ministry of Foreign Affairs, the Netherlands, 16 January 2017. [www.worldatlas.com](http://www.worldatlas.com) Largest Food Exports by Country (Denmark is # 22)

<sup>13</sup> The export figures for Denmark are a little lower than the figures presented in appendix 1. Presuming a conversion rate of USD 1 = DKK 6.5, the difference for 2016 is DKK 189 million in appendix 2 vs. DKK 234 million in appendix 1. For more on reasons for this difference, see chapter: *A short note on statistics*.

<sup>14</sup> See appendix 2

Also exports of agri-technology (HS-codes 8432-39) has decreased: Danish exports dropped from USD 13 million to USD 5 million, Dutch exports from USD 22 million to USD 13,7. This reduction seems to be a general trend across most Asian markets (see appendix 1).

A particular difference between Denmark and The Netherlands exports is the ambitious Dutch institutional set-up.

- **The Dutch embassy** have five employees in Delhi and one in Mumbai with a dedicated focus on food and agriculture exports.<sup>15</sup> In addition they have a website for *Indo Dutch Agriculture*, providing links and information from other Dutch stakeholders, including *FoodTechIndia*, *Dutch Hortifruit Partners for India*, *Dutch Dairy Cluster India* and *Dutch Potato Cluster India*.<sup>16</sup>
- **Netherlands Agro & Food Technology Centre (NAFTC)** is a private-public sector initiative focussing on promoting Dutch food and agriculture in Asia, with offices in China, Vietnam, Turkey, Iran and India. NAFTC works in close corporation with the Dutch embassy, sector associations and Indian State Governments, focussing on the entire value chain. According to their homepage, “*NAFTC-India is a gateway to the agriculture, food processing & logistics sectors of the Netherlands. NAFTC-India links the knowledge, expertise & technology available in the Netherlands with the Indian requirements through a cluster approach*”.<sup>17</sup>
- **Research Project Maastricht 2018 INDIA – Explore a Billion Opportunities (RPM)** is a formalized corporation between Maastricht University and private enterprises since 1989. According the website “*RPM aims to successfully conduct company-specific research in emerging economies on a non-profit basis. RPM consists of a multidisciplinary team with twelve carefully selected top students in the final phase of their studies*”.<sup>18</sup>
- **FoodTechIndia**; “*a public-private initiative combining the strengths of Dutch agro-food companies, knowledge institutes, governmental agencies and their Indian counterparts to reduce food wastage in India through the establishment of an improved supply and cold chain*”.<sup>19</sup> The initiative runs from 2017-2020, and the project is managed by the consulting company Larive together with their local Indian partner Sannam S4.

### Questions waiting to be answered

It seems clear that Denmark is not yet profiting sufficiently from the opportunities on the Indian food and agricultural market. Indeed, there are difficulties particular to India that have hampered exports, not just for Denmark but other countries too. Yet, casting a brief look at the Dutch also reveals a different story. Disregarding the superior size of the Dutch food and agricultural industry compared to the Danish, the Dutch experience shows that the Indian market is accessible for a large number of product categories.

Further information is needed to improve Danish access to the Indian market. Other European countries need to be analyzed.<sup>20</sup> What can be learnt from the Dutch experience? Has their institutional set-up translated into contracts and market access, or should alternative methods be considered? And how are other European countries faring in India? The Danish approach should be scrutinized. Why

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<sup>15</sup> Netherlands Economic Mission to India, 2-5 November 2017, p. 41-42 (PDF via internet)

<sup>16</sup> [www.id-agriculture.com](http://www.id-agriculture.com)

<sup>17</sup> [www.naftc.nl](http://www.naftc.nl)

<sup>18</sup> [www.naftc.nl/research-project-maastricht-2018-india-explore-a-billion-opportunities](http://www.naftc.nl/research-project-maastricht-2018-india-explore-a-billion-opportunities). See also dedicated homepage: [www.researchproject.nl/india](http://www.researchproject.nl/india)

<sup>19</sup> [www.larive.com/ppp/foodtechindia](http://www.larive.com/ppp/foodtechindia) and [www.foodtechindia.nl](http://www.foodtechindia.nl)

<sup>20</sup> A good place to start could be: *Opportunities & Challenges in the Indian Market: Lessons learned from Dutch Companies in India*, published by the Dutch Embassy in India in 2016. The report includes insightful interviews with Dutch companies, do's & don'ts and tips & tricks on how to approach the Indian market.



do Danish companies seem reluctant to enter the Indian market? What do they need? And how can these needs be facilitated once they have been identified?

Finally, also Indian specifics must be subject to a detailed analysis.<sup>21</sup> Which opportunities provide the best match Danish companies? What are the Indian policies and strategies? And how can Danish companies and institutions best adapt to these policies? What are the regional differences? Which states are most suitable for Danish companies? Who are the main stakeholders? How can obstacles be overcome? And how can the findings be communicated to relevant parties?

The list is long, the questions many and the answers few. But they need to be answered before heading off to India.

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<sup>21</sup> Two reports to digest could be: *Compendium of financing options for the food processing sector* by The Indian Ministry of Food Processing (2017). *The Food Processing Sector in India, Opportunity Assessment for Danish Companies* (August 2017), chapter 8.

## Appendix 1: Danish food & agricultural exports to selected Asian countries 2011-16

|                       | 2011         | 2012         | 2013         | 2014         | 2015         | 2016         | Sector<br>%<br>of total<br>agri-exp | %<br>growth<br>since<br>2011 |
|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------------------------|------------------------------|
| <b>INDIA</b>          |              |              |              |              |              |              |                                     |                              |
| Food                  | 47.3         | 65.3         | 64           | 68.6         | 72.2         | 58.2         | 24.8                                | 23.0                         |
| Bio-based products    | 55.8         | 65.1         | 90.7         | 106.6        | 144.3        | 142.3        | 60.7                                | 155.0                        |
| Agro technology       | 97.7         | 78.3         | 73.6         | 31.4         | 106.5        | 33.9         | 14.5                                | -65.3                        |
| <b>Total</b>          | <b>200.8</b> | <b>208.7</b> | <b>228.3</b> | <b>206.6</b> | <b>323</b>   | <b>234.4</b> |                                     | <b>16.7</b>                  |
| Food & Agri share (%) | 6.7          | 8.5          | 10.8         | 9.4          | 13.6         | 8.9          |                                     |                              |
| <b>PAKISTAN</b>       |              |              |              |              |              |              |                                     |                              |
| Food                  | 17           | 69.7         | 105.9        | 114.5        | 149.3        | 159.3        | 74.0                                | 837.1                        |
| Bio-based products    | 4.4          | 18.6         | 23.8         | 27.5         | 39.3         | 43.7         | 20.3                                | 893.2                        |
| Agro technology       | 19.6         | 22.8         | 14.5         | 9.7          | 12.1         | 12.3         | 5.7                                 | -37.2                        |
| <b>Total</b>          | <b>41</b>    | <b>111.1</b> | <b>144.2</b> | <b>151.7</b> | <b>200.7</b> | <b>215.3</b> |                                     | <b>425.1</b>                 |
| Food & Agri share (%) | 6.6          | 22           | 32.5         | 31           | 41.8         | 27.7         |                                     |                              |
| <b>BANGLADESH</b>     |              |              |              |              |              |              |                                     |                              |
| Food                  | 117.9        | 129.5        | 147.2        | 123.1        | 197          | 210          | 89.3                                | 78.1                         |
| Bio-based products    | 0.2          | 1            | 1.9          | 1            | 4.8          | 3.2          | 1.4                                 | 1500.0                       |
| Agro technology       | 40           | 31           | 17           | 9.5          | 25.8         | 22           | 9.4                                 | -45.0                        |
| <b>Total</b>          | <b>158.1</b> | <b>161.5</b> | <b>166.1</b> | <b>133.6</b> | <b>227.6</b> | <b>235.2</b> |                                     | <b>48.8</b>                  |
| Food & Agri share (%) | 49.5         | 46.6         | 48.7         | 48.1         | 62           | 42.7         |                                     |                              |
| <b>CHINA</b>          |              |              |              |              |              |              |                                     |                              |
| Food                  | 2728         | 3294         | 3917         | 3929         | 5121         | 6518         | 59.4                                | 138.9                        |
| Bio-based products    | 1355         | 2208         | 3123         | 2925         | 4286         | 4138         | 37.7                                | 205.4                        |
| Agro technology       | 277          | 236          | 400          | 291          | 236          | 316          | 2.9                                 | 14.1                         |
| <b>Total</b>          | <b>4360</b>  | <b>5738</b>  | <b>7440</b>  | <b>7145</b>  | <b>9643</b>  | <b>10972</b> |                                     | <b>151.7</b>                 |
| Food & Agri share (%) | 28.9         | 33.3         | 39.6         | 35.8         | 40           | 43.8         |                                     |                              |
| <b>JAPAN</b>          |              |              |              |              |              |              |                                     |                              |
| Food                  | 4437         | 4704         | 4417         | 4507         | 4174         | 4732         | 87.4                                | 6.6                          |
| Bio-based products    | 255          | 491          | 491          | 454          | 607          | 548          | 10.1                                | 114.9                        |
| Agro technology       | 148          | 148          | 160          | 140          | 141          | 133          | 2.5                                 | -10.1                        |
| <b>Total</b>          | <b>4840</b>  | <b>5343</b>  | <b>5068</b>  | <b>5101</b>  | <b>4922</b>  | <b>5413</b>  |                                     | <b>11.8</b>                  |
| Food & Agri share (%) | 46.5         | 44.4         | 46.4         | 45           | 39.8         | 37.5         |                                     |                              |
| <b>THAILAND</b>       |              |              |              |              |              |              |                                     |                              |
| Food                  | 102.3        | 167.1        | 133.7        | 149.8        | 255.5        | 222          | 34.3                                | 117.0                        |
| Bio-based products    | 62.4         | 77.2         | 82.7         | 88.5         | 137.3        | 373.7        | 57.8                                | 498.9                        |
| Agro technology       | 118.3        | 113.6        | 102.9        | 81.2         | 74.4         | 51.1         | 7.9                                 | -56.8                        |

|                       |      |       |       |       |       |       |  |              |
|-----------------------|------|-------|-------|-------|-------|-------|--|--------------|
| Total                 | 283  | 357.9 | 319.3 | 319.5 | 467.2 | 646.8 |  | <b>128.6</b> |
| Food & Agri share (%) | 20.1 | 21.8  | 23.7  | 23.1  | 29.4  | 36.1  |  |              |

#### VIETNAM

|                       |              |              |              |               |               |               |      |              |
|-----------------------|--------------|--------------|--------------|---------------|---------------|---------------|------|--------------|
| Food                  | 398.3        | 529.3        | 601.9        | 842.6         | 1004.7        | 1361.6        | 64.6 | 241.9        |
| Bio-based products    | 46           | 70.6         | 83.9         | 192.6         | 976.2         | 690.5         | 32.8 | 1401.1       |
| Agro technology       | 50.5         | 20.7         | 14.3         | 22            | 42.7          | 55.5          | 2.6  | 9.9          |
| <b>Total</b>          | <b>494.8</b> | <b>620.6</b> | <b>700.1</b> | <b>1057.2</b> | <b>2023.6</b> | <b>2107.6</b> |      | <b>325.9</b> |
| Food & Agri share (%) | 42.4         | 58.4         | 59           | 69.4          | 75            | 70.4          |      |              |

#### INDONESIA

|                       |              |              |              |              |            |              |      |             |
|-----------------------|--------------|--------------|--------------|--------------|------------|--------------|------|-------------|
| Food                  | 89.9         | 151.8        | 145.9        | 120.2        | 119.5      | 143.7        | 60.3 | 59.8        |
| Bio-based products    | 4.7          | 17.7         | 32.4         | 15.4         | 55.2       | 41.1         | 17.2 | 774.5       |
| Agro technology       | 59.7         | 70.9         | 70.8         | 34.2         | 53.3       | 53.5         | 22.5 | -10.4       |
| <b>Total</b>          | <b>154.3</b> | <b>240.4</b> | <b>249.1</b> | <b>169.8</b> | <b>228</b> | <b>238.3</b> |      | <b>54.4</b> |
| Food & Agri share (%) | 25.4         | 24.9         | 24.7         | 19           | 22.9       | 26.2         |      |             |

#### THE PHILIPPINES

|                       |              |              |              |              |              |              |      |              |
|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|------|--------------|
| Food                  | 89.9         | 160.2        | 166.8        | 210.2        | 215          | 272.2        | 75.9 | 202.8        |
| Bio-based products    | 4.7          | 45.1         | 48.6         | 56.6         | 58.7         | 56.9         | 15.9 | 1110.6       |
| Agro technology       | 59.7         | 14.4         | 25.7         | 33.5         | 42.4         | 29.3         | 8.2  | -50.9        |
| <b>Total</b>          | <b>154.3</b> | <b>219.7</b> | <b>241.1</b> | <b>300.3</b> | <b>316.1</b> | <b>358.4</b> |      | <b>132.3</b> |
| Food & Agri share (%) | 25.4         | 39.1         | 38.9         | 24.4         | 37.4         | 38.9         |      |              |

#### MALAYSIA

|                       |              |              |              |              |              |              |      |             |
|-----------------------|--------------|--------------|--------------|--------------|--------------|--------------|------|-------------|
| Food                  | 245.2        | 245.5        | 323.5        | 293.4        | 309.7        | 295.7        | 62.3 | 20.6        |
| Bio-based products    | 113.2        | 95.5         | 100.1        | 118.9        | 148.4        | 142.4        | 30.0 | 25.8        |
| Agro technology       | 33.9         | 45.7         | 66.3         | 54.5         | 39.3         | 36.3         | 7.7  | 7.1         |
| <b>Total</b>          | <b>392.3</b> | <b>386.7</b> | <b>489.9</b> | <b>466.8</b> | <b>497.4</b> | <b>474.4</b> |      | <b>20.9</b> |
| Food & Agri share (%) | 35.5         | 32.3         | 39.3         | 37.9         | 37           | 35.9         |      |             |

#### SOUTH KOREA

|                       |             |              |              |               |               |               |      |            |
|-----------------------|-------------|--------------|--------------|---------------|---------------|---------------|------|------------|
| Food                  | 660.6       | 466.4        | 388.2        | 631.7         | 880.8         | 790.3         | 66.7 | 19.6       |
| Bio-based products    | 362.1       | 306.4        | 246.7        | 384.9         | 425.2         | 335           | 28.3 | -7.5       |
| Agro technology       | 143.3       | 190.7        | 67.4         | 84.1          | 73.1          | 59.1          | 5.0  | -58.8      |
| <b>Total</b>          | <b>1166</b> | <b>963.5</b> | <b>702.3</b> | <b>1100.7</b> | <b>1379.1</b> | <b>1184.4</b> |      | <b>1.6</b> |
| Food & Agri share (%) | 30.3        | 20.8         | 16           | 21.2          | 21.7          | 24            |      |            |

Amount in DKK 1,000,000

Source: Reports from Danish Agriculture & Food Council, 2008-2016 (data extracted from five separate reports)

## Appendix 2: Danish and Dutch food & agricultural exports to India 2012-16

### Denmark

| HS           | 2012              | 2013              | 2014              | 2015              | 2016              | Total              |
|--------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| 1            |                   |                   | 156,304           | 1,035,994         | 11,840            | 1,204,138          |
| 2            |                   |                   |                   | 22,301            | 1,880             | 24,181             |
| 3            | 424,092           | 824,280           | 827,965           | 861,774           | 685,986           | 3,624,097          |
| 4            | 3,962,067         | 3,779,808         | 4,425,561         | 3,090,541         | 1,556,126         | 16,814,103         |
| 5            |                   | 2,650             |                   | 2,632             | 122,963           | 128,245            |
| 6            | 10,595            | 8,582             | 9,691             |                   | 1,596             | 30,464             |
| 7            |                   | 2,100             | 227               |                   |                   | 2,327              |
| 8            | 29,096            | 19,214            | 9,834             |                   | 26,842            | 84,986             |
| 9            | 2,171             | 17,674            | 1,939             | 119               | 94                | 21,997             |
| 10           |                   | 46                | 1,462             | 1,263             |                   | 2,771              |
| 11           |                   |                   | 244,263           | 66,442            | 9,513             | 320,218            |
| 12           | 116,518           | 175,170           | 128,883           | 241,016           | 157,063           | 818,650            |
| 13           | 24,495            | 20,272            | 68,345            | 17,250            | 1,597             | 131,959            |
| 14           |                   |                   |                   |                   |                   |                    |
| 15           | 532,435           | 351,116           | 1,165,766         | 713,799           | 159,270           | 2,922,386          |
| 16           | 52,295            | 44,597            | 13,707            | 15,877            | 1,249             | 127,725            |
| 17           | 34,007            | 59,417            | 29,005            | 24,359            | 26,591            | 173,379            |
| 18           |                   | 6,306             | 2,882             | 84,318            | 120,642           | 214,148            |
| 19           | 3,184,498         | 2,483,709         | 1,697,698         | 1,497,334         | 1,470,371         | 10,333,610         |
| 20           | 196,411           | 170,571           | 170,570           | 177,047           | 245,646           | 960,245            |
| 21           | 1,696,347         | 1,488,407         | 2,055,651         | 1,763,357         | 1,764,605         | 8,768,367          |
| 22           | 120,717           | 40,202            | 186,727           | 136,325           | 487,781           | 971,752            |
| 23           | 43,509            | 21,577            | 73,374            | 6,761             | 43,851            | 189,072            |
| 24           | 13,106            | 34,390            | 18,545            | 20,567            | 24,222            | 110,830            |
| 31           |                   |                   |                   |                   | 6,737             | 6,737              |
| 35           | 8,998,105         | 13,298,497        | 14,534,087        | 15,265,528        | 16,919,062        | 69,015,279         |
| 41           | 732,741           | 786,251           | 657,872           | 399,666           | 231,103           | 2,807,633          |
| 8432         | 107,574           | 171,383           | 3,822             | 3,374             | 30,575            | 316,728            |
| 8433         |                   | 19,010            | 232,491           | 188,913           | 270,350           | 710,764            |
| 8434         | 650,369           | 1,283,939         | 1,812,306         | 5,061,575         | 761,680           | 9,569,869          |
| 8435         | 9,676             |                   |                   |                   |                   | 9,676              |
| 8436         | 1,411,698         | 1,024,081         | 355,890           | 1,645,570         | 906,425           | 5,343,664          |
| 8437         | 1,088,178         | 495,670           | 453,550           | 433,899           | 114,860           | 2,586,157          |
| 8438         | 9,829,227         | 9,942,177         | 2,666,245         | 8,385,165         | 2,885,201         | 33,708,015         |
| 8439         | 17,214            | 24,108            | 28,573            | 2,791             | 31,602            | 104,288            |
| <b>Total</b> | <b>33,287,141</b> | <b>36,595,204</b> | <b>32,033,235</b> | <b>41,165,557</b> | <b>29,077,323</b> | <b>172,158,460</b> |

## The Netherlands

| HS           | 2012               | 2013               | 2014               | 2015               | 2016               | Total              |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 1            | 6,414              | 6,692              | 158,436            | 27,324             | 91,927             | 290,793            |
| 2            | 300,056            | 534,675            | 299,274            | 130,233            | 175                | 1,264,413          |
| 3            | 429,867            | 134,276            | 45,891             | 420,913            | 250,412            | 1,281,359          |
| 4            | 1,991,915          | 2,949,485          | 3,706,722          | 2,361,324          | 1,520,295          | 12,529,741         |
| 5            |                    |                    | 94,734             | 86,409             | 457,137            | 638,280            |
| 6            | 9,406,534          | 10,204,761         | 11,163,510         | 12,793,765         | 10,781,013         | 54,349,583         |
| 7            | 237,121            | 739,489            | 737,290            | 1,255,925          | 2,058,726          | 5,028,551          |
| 8            | 146,967            | 299,000            | 91,995             | 208,586            | 921,753            | 1,668,301          |
| 9            | 174,729            | 342,652            | 118,846            | 352,850            | 317,818            | 1,306,895          |
| 10           | 53                 | 286                | 21,293             | 11,213             | 1                  | 32,846             |
| 11           | 650,449            | 1,013,471          | 2,788,794          | 2,198,045          | 129,397            | 6,780,156          |
| 12           | 8,513,581          | 11,874,336         | 17,661,487         | 15,623,678         | 11,929,472         | 65,602,554         |
| 13           | 262,588            | 177,706            | 78,066             | 187,869            | 119,308            | 825,537            |
| 14           | 37,031             |                    | 46,329             | 18                 | 3,994              | 87,372             |
| 15           | 17,575,988         | 319,176            | 1,794,373          | 3,852,225          | 10,324,746         | 33,866,508         |
| 16           | 298,233            | 56,029             | 109,323            | 34,897             | 3,533              | 502,015            |
| 17           | 22,917,035         | 25,789,800         | 23,292,780         | 20,503,268         | 20,915,617         | 113,418,500        |
| 18           | 10,510,488         | 8,039,975          | 8,402,088          | 7,091,525          | 7,986,706          | 42,030,782         |
| 19           | 1,947,787          | 3,018,408          | 3,521,109          | 3,117,187          | 3,243,163          | 14,847,654         |
| 20           | 2,838,611          | 5,503,297          | 3,382,051          | 3,436,699          | 2,291,235          | 17,451,893         |
| 21           | 12,431,866         | 11,789,363         | 10,900,785         | 6,592,081          | 6,868,961          | 48,583,056         |
| 22           | 3,025,000          | 2,732,451          | 15,041,310         | 2,569,940          | 1,737,155          | 25,105,856         |
| 23           | 3,519,829          | 4,761,689          | 8,733,253          | 6,633,660          | 4,833,137          | 28,481,568         |
| 24           | 47,859             | 77,083             | 122,583            | 145,927            | 16,609             | 410,061            |
| 31           | 714,256            | 828,272            | 697,468            | 1,328,055          | 1,867,707          | 5,435,758          |
| 35           | 16,342,254         | 19,023,555         | 20,581,694         | 18,690,165         | 13,063,369         | 87,701,037         |
| 41           | 4,168,118          | 3,813,671          | 3,901,615          | 2,982,279          | 4,448,022          | 19,313,705         |
| 8432         | 512,539            | 163,646            | 185,283            | 207,027            | 514,724            | 1,583,219          |
| 8433         | 1,620,516          | 1,349,532          | 1,784,980          | 1,340,605          | 1,118,490          | 7,214,123          |
| 8434         | 420,235            | 47,300             | 331,815            | 298,343            | 496,375            | 1,594,068          |
| 8435         |                    |                    |                    |                    |                    |                    |
| 8436         | 3,716,963          | 1,146,944          | 1,707,455          | 1,742,760          | 856,302            | 9,170,424          |
| 8437         | 801,959            | 1,370,880          | 1,795,465          | 1,548,873          | 681,162            | 6,198,339          |
| 8438         | 14,841,803         | 7,866,968          | 10,166,163         | 23,151,248         | 9,972,665          | 65,998,847         |
| 8439         | 130,802            | 41,040             | 12,749             | 95,858             | 81,125             | 361,574            |
| <b>Total</b> | <b>140,539,446</b> | <b>126,015,908</b> | <b>153,477,009</b> | <b>141,020,774</b> | <b>119,902,231</b> | <b>680,955,368</b> |

Amounts

in

USD

Source: Comtrade database

## HS-codes

| HS   | Key   |
|------|---|
| 1    | Live animals  |
| 2    | Meat and edible meat offal  |
| 3    | Fish and crustaceans, molluscs and other aquatic invertebrates  |
| 4    | Dairy produce birds' eggs natural honey edible products of animal origin, not elsewhere specified or included   |
| 5    | Products of animal origin, not elsewhere specified or included  |
| 6    | Live trees and other plants bulbs, roots and the like cut flowers and ornamental foliage  |
| 7    | Edible vegetables and certain roots and tubers  |
| 8    | Edible fruit and nuts peel of citrus fruit or melons  |
| 9    | Coffee, tea, maté <sup>®</sup> and spices   |
| 10   | Cereals   |
| 11   | Products of the milling industry malt starches inulin wheat gluten  |
| 12   | Oil seeds and oleaginous fruits miscellaneous grains, seeds and fruit industrial or medicinal plants straw and fodder   |
| 13   | Lac gums, resins and other vegetable saps and extracts  |
| 14   |   |
| 15   | Animal or vegetable fats and oils and their cleavage products prepared edible fats animal or vegetable waxes  |
| 16   | Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates  |
| 17   | Sugars and sugar confectionery  |
| 18   | Cocoa and cocoa preparations  |
| 19   | Preparations of cereals, flour, starch or milk pastrycooks' products  |
| 20   | Preparations of vegetables, fruit, nuts or other parts of plants  |
| 21   | Miscellaneous edible preparations   |
| 22   | Beverages, spirits and vinegar  |
| 23   | Residues and waste from the food industries prepared animal fodder  |
| 24   | Tobacco and manufactured tobacco substitutes  |
| 31   | Fertilisers   |
| 35   | Albuminoidal substances modified starches glues enzymes   |
| 41   | Raw hides and skins (other than furskins) and leather   |
| 8432 | Agricultural, horticultural or forestry machinery for soil preparation or cultivation lawn or sports-ground rollers.  |
| 8433 | Harvesting or threshing machinery, including straw or fodder balers grass or hay mowers machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37. |
| 8434 | Milking machines and dairy machinery.   |
| 8435 | Presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages.  |



|      |   |
|------|---|
| 8436 | Other agricultural, horticultural, forestry, poultry-keeping or bee-keeping machinery, including germination plant fitted with mechanical or thermal equipment poultry incubators and brooders.                                   |
| 8437 | Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm-type machinery.         |
| 8438 | Machinery, not specified or included elsewhere in this Chapter, for the industrial preparation or manufacture of food or drink, other than machinery for the extraction or preparation of animal or fixed vegetable fats or oils. |
| 8439 | Machinery for making pulp of fibrous cellulosic material or for making or finishing paper or paperboard.  |