

Position Paper

Potato: contributing to food and nutrition security and stimulating employment and entrepreneurship through productive and sustainable climate-smart small-scale agriculture

Version 2 June 2021

1. Purpose of this position paper

Potato production in different potato-growing geographies of the developing world continues to be very low, with potatoes being grown mostly by small-scale farmers in a low-input/low-output system. Even though the production system is still in its nascent stage, the potato market in those geographies is functioning, however, usually fully informal, without using the potential for further market diversification and specialisation. Demand for potatoes and their products is growing steadily in many of such markets as a result of economic growth and urbanization. There is a tremendous yield gap in small-scale potato production; if major increases in yield can be achieved, the crop can make a significant contribution to inclusive food systems in specific agro-ecosystems and geographies, with potato as one of the components of affordable and healthy diets. With improvement of the performance of the potato sector, we foresee an immediate and long-term impact on poverty, employment and entrepreneurship, food and nutrition security, and climate change resilience, especially for vulnerable people and their communities.

Stakeholders in the Dutch potato sector realize that their collective contributions to improving potato production systems and markets in developing countries and emerging economies demands a more structural and targeted approach. A critical asset of the Dutch potato sector is that it is structured as a subset of the 'Dutch Diamond', which includes industry, government, regulatory bodies, knowledge and educational organizations, civil society and farmers' organizations. In this document, the Dutch potato sector shares its position on how it can enhance its contribution to the transformation of the potato sector operating as a Dutch Diamond in those geographies, clearly demonstrating its potential for both contributing to sustainable development and to achieving its aspirations in terms of a business interest. Dutch stakeholders will closely work with their international and local counterparts in the targeted geographies, and in partnerships tailor interventions to the local context, challenges and ambitions, jointly strengthening the performance of the potato sector and contributing to the development of inclusive food systems.

The position paper has been prepared by the Dutch Potato Organization (NAO), together with stakeholders, and with support from the Netherlands Food Partnership (NFP). The document provides insights into major challenges in the potato sector in developing countries and emerging economies. It introduces the transformation of the potato sector as an approach. Subsequently, it elaborates the strengths, challenges and opportunities of the Dutch potato sector for supporting the transformation of the potato sector in those geographies, and explores ways to enhance its contribution. In conclusion, it proposes the establishment of a common space, through a potato platform or working group¹, which will act as a facilitator for coalition building and knowledge brokering, driving the contributions made by Dutch but also international stakeholders in the transformation process.

¹ Note that the proposed potato platform or working group is envisaged as a common space where potato expertise comes together and collaboration is initiated and facilitated, serving as an information broker and networking hub, rather than a physical centre with a large number of staff employed.

2. Potato sector in developing countries and emerging economies

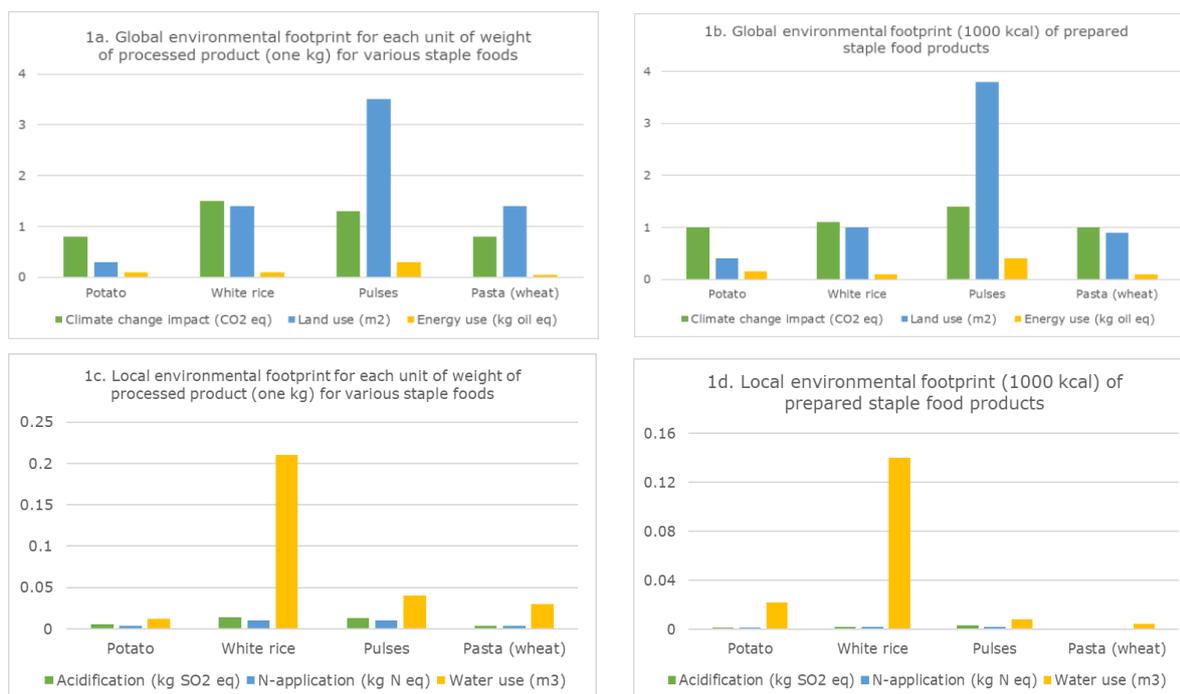
2.1 Policy context: food and nutrition security, employment and entrepreneurship

Many governments in developing countries and emerging economies have ambitions to develop the potato sector. An increasing body of knowledge (Figures 1a-1d) illustrates the efficiency of potato, in terms of the energy/water units produced and the amount of land needed, when compared with other staple cropsⁱ. Potato is beginning to gain a foothold in evolving farming systems of the tropical and subtropical midlands and highlands, with regard to area and production. In several countries, potato is considered to be a vegetable; it is often identified as being one of the three big vegetables, alongside tomatoes and onions. In East Africa, potato is increasingly recognized as being a staple crop.

In geographies suitable for its cultivation, potato has the potential to make a significant contribution to inclusive food systems. After rice and wheat, potato is the third most important food crop globally, with 380 millions of tons produced per year, consumed by 1 billion people, often also when other crops are scarce.ⁱⁱ Based on dry weight, the protein content of potato is comparable to maize and rice. However potato also has certain properties of vegetables and is a source of many minerals, vitamins and fibre. Also the production of protein per unit of time and land is higher. When comparing with popular tropical root crops, the protein to carbohydrates ratio for potatoes is much better (1 to 9) than for Yam (1 to 18) and Cassave (1 to 25). Potato is rich in vitamin C, which also promotes iron absorption, and contains vitamins like B1, B3 and B6, as well as minerals like potassium, phosphorus and magnesium.

This nutritious crop is generally not only profitable for producers, but also affordable for consumers; increased potato production and consumption will contribute to healthy and affordable diets and as such to SDG 2 'Zero hunger'. In a healthy diet, potato always needs to be balanced with other food products, including those based on cereals and other vegetables.

Figures 1a-1d. The global and local environmental footprint of potato compared with other staple food productsⁱⁱⁱ



The increasing demand for agricultural products, including potato, is linked to demographic growth, urbanization and economic development; as a result of these three factors, potato is fast becoming an income-generating crop for small-scale farmers. Rapid, quantum leaps in yield can be achieved using quality seed and advanced cultivation practices, including rotation. These potential jumps in yield allow small-scale potato producers, including female and young producers, to increase their farm-based income. Multiple potato value chains and markets are developing in response to greater demand for potatoes and potato products, generating opportunities for employment and entrepreneurship, value creation and

economic growth (Figures 2 and 3). This increased popularity strengthens the market for potatoes and potato products, and creates business opportunities for the private sector, varying from local small- and medium-sized enterprises up to globally operating corporations. With its potential for farmer income generation and local business development, increased potato production and marketing will contribute to SDG 8 'Decent work and economic growth'.

Figure 2. Average ware potato productivity in metric tons/hectare in various geographies (2014-2018)^{iv}

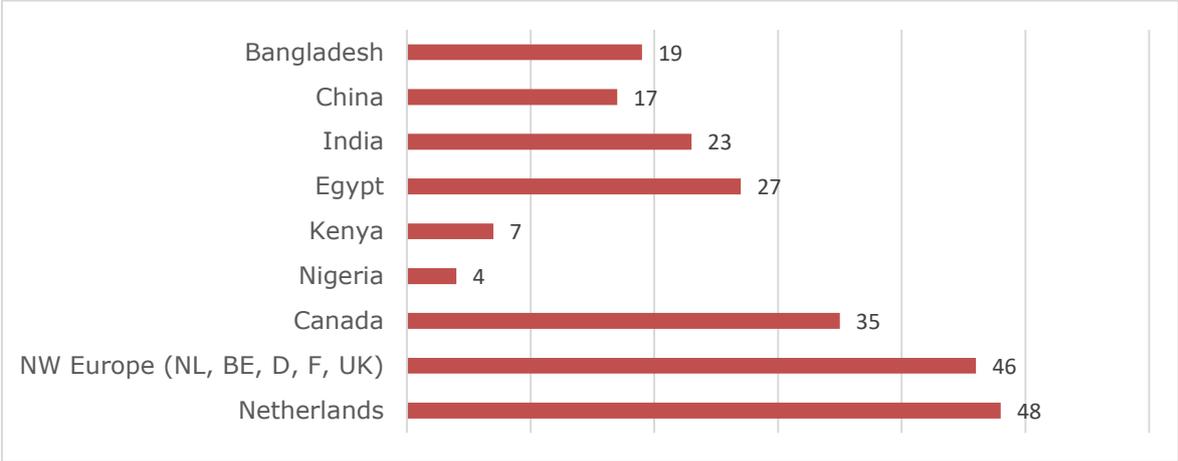
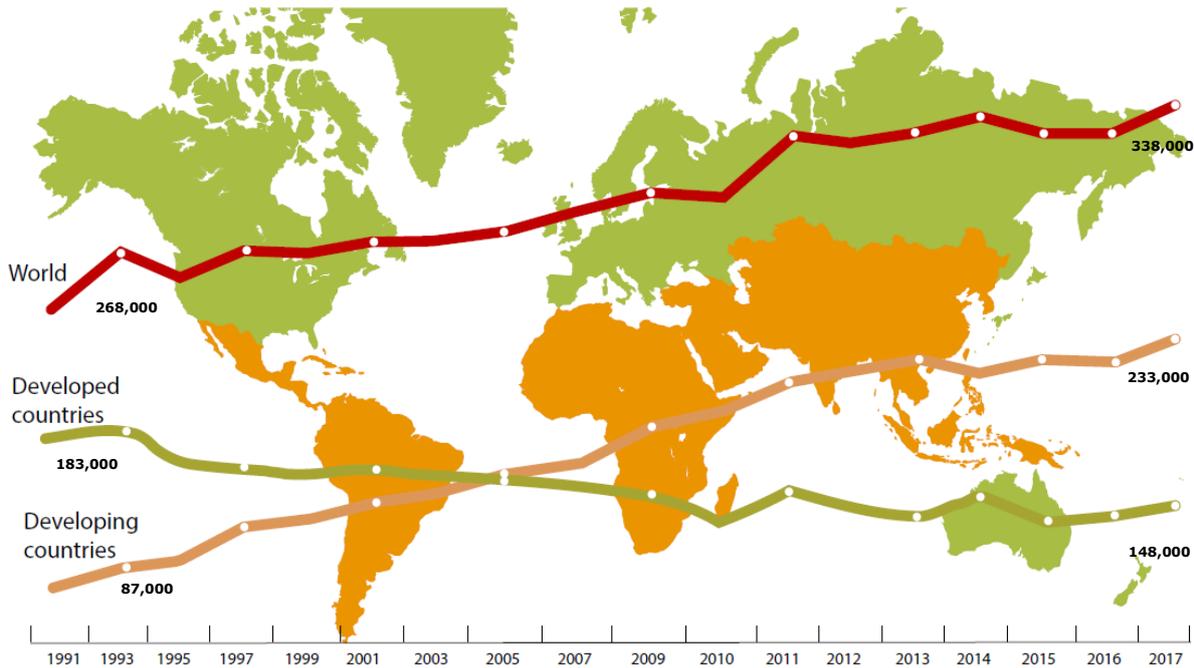


Figure 3. The development of global potato production, 1991-2017, in million metric tons



2.2 Challenging context of small-scale potato producers

The potato sector continues to operate in its nascent stage at farm level in sub-Saharan Africa, as well as in other countries in the developing world that have a potential for potato production. The sector in those geographies is characterized by low-input/low-output production systems. Important technical, yield-reducing factors include limited availability and lack of knowledge of soil fertility management and advanced cultivation practices (e.g. rotation), and the high level of pests and diseases^v. Low yields should be considered within the context of insufficient availability of land in areas favourable for potato production;

shortage of labour and cash; restricted access to information, training and inputs; poor post-harvest management; and limited access to, and inefficient functioning of, potato markets^{vi,vii}.

Potato producers operate within a 'potato ecosystem' that is weak in terms of access to and use of quality seed potatoes of modern varieties, and limited use of advanced crop protection inputs and cultivation practices. Small-scale producers have a restricted access to knowledge and technology for enhancing productivity. They are either reluctant to invest in or do not have the appropriate means to finance production and marketing.

Comparing actual farm-level production and productivity to potential production levels reveals a tremendous gap (Figure 3). The planting material is primarily obtained on farm or in informal markets, and seed potatoes carry seedborne diseases. Whilst *Phytophthora* is not adequately managed, it could technically be controlled by using crop protection products, improved resistant varieties and advanced cultivation practices.

Even though small-scale potato producers often use poor agricultural practices, they value potato as a cash crop. The fresh potato market is usually thriving, and potatoes produced by small-scale farmers reach all corners of a country and abroad. Such potato markets largely operate through local and informal systems of collection and distribution, and employ high numbers of field-level collectors, transporters and traders. The production and marketing systems are not perfect, and far from international standards, but even under these imperfect conditions potato production and trade are functional and profitable. These existing systems form a stable basis to promote the sustainable intensification of production and further market diversification and specialization.

2.3 Opportunities for improvement

As such, the potato sector demonstrates tremendous room for improvement in many countries. The starting point for this improvement lies in increasing productivity through sustainable intensification. The yield gap is such that a sustainable intensification of production can result in an increase in profits for producers and, simultaneously, a decrease in the price of production per kilo. Despite the growth in demand for potatoes and potato products (chips, fries, starch) in many countries, especially in urban areas, with the current informal and low-input/low-output production systems, the processing companies are reluctant to invest in and thereby create a more structural potato market. Improvement refers to all aspects of the process of sustainable intensification of potato production. This includes developing and introducing varieties that are resistant to major diseases and carry market-demanded traits, and ensuring that small-scale producers have access to and use quality seed potatoes of those improved varieties. Small-scale potato producers can make the leap in yield at once, provided they get the tailored assistance needed, gain access to the right technology, and apply advanced cultivation practices. In a country like for example Nigeria and Kenya (see Figure 2) they can easily double and usually even triple productivity, which would be highly remunerative in existing potato markets. However, there are few examples of where such achievements have been realized, because there is a lack of tailored support for small-scale potato producers to make the right compromise between investments in inputs and risk management. Intensive potato cultivation requires a relatively high amount of working capital for seed potatoes, fertilizers, crop protection products and labour; it is also a crop with relatively short-cycle with potentially rapid returns on investments in production. Despite the potential to cover investments quickly, small-scale producers with structural cash constraints struggle with purchasing the inputs required to make the potential leap. Appropriate financial products are critical for advancing the growth and professionalization of potato production among small-scale farmers; they should be made available to farmers together with improved technologies, since both the technical and entrepreneurial capacity of those farmers is critical for moving forward.

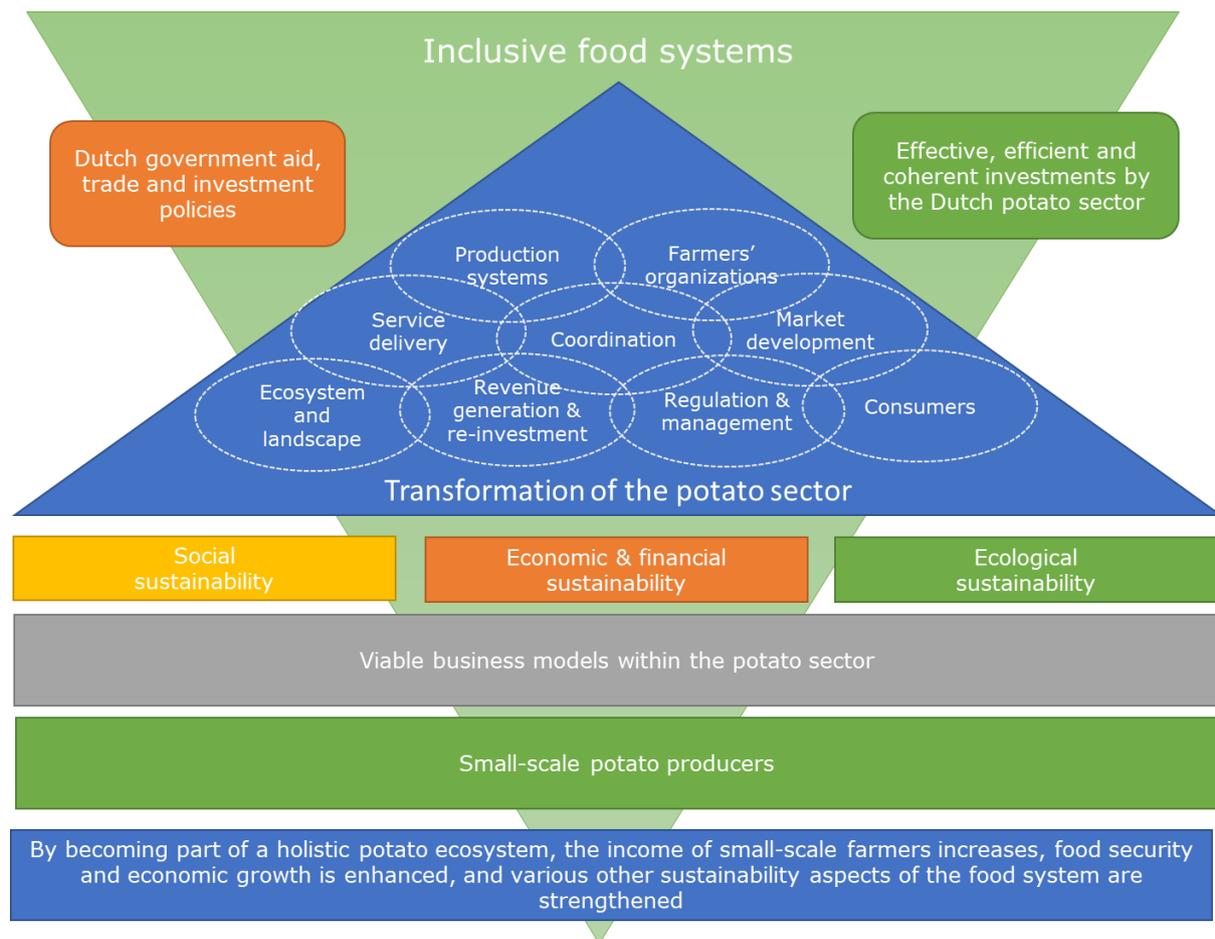
3. Potato sector transformation

3.1 Need for a sector transformation approach

Potato production by small-scale farmers can only become successful and profitable if embedded within a 'holistic potato ecosystem', where small-scale potato production is promoted and accompanied by well-functioning storage, processing, marketing and other components. The development of such an ecosystem constitutes a necessary but required step in the transformation of the potato sector. Also, to increase added value and employment in many of the potato-growing areas in developing countries requires the transformation of the potato sector. In recent years, various development agencies have moved from value chain development to a sector transformation approach^{viii,ix}. Such an approach is being applied in the horticultural, dairy, sesame and seed sectors.

The potato sector is a unique sector: its product is perishable and bulky, its seed systems are varied and distinctive, and it has crop production systems in the highland tropics and subtropics, in lowland often irrigated during the cool dry season. Furthermore, the value chains of the ware-potato markets and processing industry are singularly characteristic. Therefore, the transformation of the potato sector emerges as a particular pathway that covers various value chains, production systems and markets, but also many other functions that are illustrated in Figure 4. Its transformation involves many stakeholders – from seed-potato producers and companies, to ware-producing small-scale producers up to local and global potato processors and off-takers. Therefore, to be successful, concerted action by many stakeholders on multiple fronts is the essence of transformation.

Figure 4. Graphic illustration of the transformation of the potato sector^{x,xi}



3.2 Goal and vision for a sustainable potato sector

In the context of international development the goal of the Dutch potato sector is to contribute to achieving a sustainable potato sector in developing countries and emerging economies by expanding productivity and enhancing the functioning of the potato sector, thereby increasing the income of small-scale farmers and contributing to food and nutrition security, employment and entrepreneurship, and sustainable production. For reaching this goal, it is needed that the potato sector is economically viable, innovative, adaptive and resilient; inclusive and environmentally sustainable; well-organized, -coordinated and -regulated; accountable and transparent.

Guided by this position paper, the Dutch potato sector aims to contribute to this process of transforming the potato sector in developing countries and emerging economies. It builds on its experience and expertise in strengthening the potato sector using experiences and insights gained from applying the model of sector transformation also used in other agro-food sectors.

4. Roadmaps guiding potato sector transformation

4.1 Structured process to identify actions needed

The transformation of the potato sector in a partner country requires actions in different areas, depending on the context of the country; the challenges, ambitions, strategic innovation pathways and partners to be involved for achieving the position of the potato sector will differ per country. A potato sector road map can be considered as a strategic and policy document guiding stakeholders in improving the performance of the sector, and serving as a reference for collaboration between the government, stakeholders and development partners.

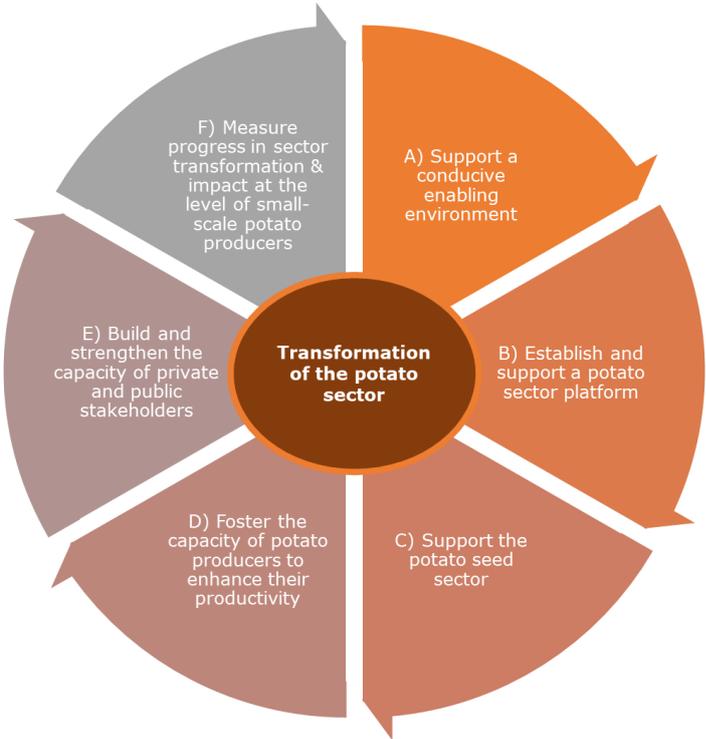
A sector assessment, involving a wide range of potato sector stakeholders from the host country, provides the inputs needed for the development of a potato roadmap; it ensures that the roadmap matches the current context and ambitions of a potato sector in a potato-growing geography. The assessment identifies critical short- and mid-term strategic innovation pathways contributing to long-term ambitions. Note that the transformation of the potato sector in developing countries and emerging economies requires a long time frame (10-20 years).

Specific topics and strategic innovation pathways of the potato roadmap can be matched to the competence and interests of the Dutch potato sector; other topics can be matched to other development partners such as development banks, public extension, financial organizations and non-governmental organizations (NGOs). Together with local partners, the Dutch sector can define its contributions to the potato sector transformation process, recognizing at the same time that the Dutch contribution only addresses a specific part of the roadmap. For each topic and innovation pathway partners and stakeholders can be identified. Working based on a potato roadmap ensures that a holistic approach is taken, and that initiatives contribute to the development of the sector in a coordinated and structured fashion.

4.2 Key components for potato sector transformation

Whereas the specific topics, strategic innovation pathways and potato sector stakeholders will differ per country, the action areas of a potato sector road map can be organized into six the generic interlinked key components, as shown in Figure 5, and further elaborated below.

Figure 5. Graphic visualization of six key components for transformation of the potato sector



- A. Support the development and operationalization of a conducive enabling environment, which includes private-sector development, phytosanitary regulations, variety release, plant variety protection, seed import, agricultural finance and agricultural advisory and extension services; this also considers the political environment.
- B. Establish and support a potato sector platform that will foster linkages between, and coordination among, stakeholders in the potato value chains, while also promoting diversification in potato value chains/products.
- C. Support the potato seed sector, ensuring that farmers gain access to quality seed potatoes of modern varieties, allowing them to increase productivity; this should acknowledge the relevance and complementarity of different seed systems, while also promoting those seed systems that match the local context and opportunities.
- D. Strengthen the capacity of potato producers to enhance their productivity through use of quality seed potatoes of modern varieties and advanced cultivation practices, and foster market linkages; practices need to be environmentally sustainable and economically feasible; a productivity increase at farm level is a requirement for sector transformation.
- E. Build and strengthen the capacity of relevant stakeholders in the private and public sector to support the development of the potato value chains.
- F. Measure the impact on the production, productivity and income of small-scale potato producers on a year-to-year basis, in a larger framework, accompanied by a transformation dashboard. Measuring progress and impact will ensure that all relevant stakeholders remain dedicated to the goal and objectives, and if required can learn and adapt their strategies for progress, increasing the performance of the sector and reaching impact. In addition, such measurement services support local policy and development goals.

4.3 Priority areas requiring significant investments

It should be recognized that two of the topics - (C) the potato seed sector and (D) capacity development of potato producers - require significant and long-term investment and commitment from both public and private stakeholders. The two topics constitute the threshold for the transformation process.

4.4 Measurement framework and transformation dashboard

The measurement framework (topic F) will support guidance of the transformation process in an adaptive manner. A shared measurement framework for all interventions/projects, which is aligned with the targets of the Food and Nutrition Security (FNS) indicator framework of the Ministry of Foreign Affairs (MoFA) will help Dutch development agencies who finance interventions (including MoFA) as well as other development organizations and stakeholders to measure, document and share their impact to the SDGs.

5. Dutch support to potato sector in developing countries and emerging economies

5.1 Strong global position of the Dutch potato sector

Over a period of more than 100 years, the Netherlands has developed a strong potato sector and gained an internationally recognized position of leadership. Three elements have been essential for achieving this position: (i) broad cooperation among all stakeholders, (ii) the presence of a conducive institutional infrastructure, and (iii) plant breeders' rights legislation that supported the development of a seed potato industry^{xii}. The Dutch potato sector is a market leader for many aspects, such as breeding new varieties, scientific knowledge supporting varietal development, potato production and processing, the export of seed and ware potatoes, and the provision of machinery and consulting services. Other strengths are its innovative and dynamic nature, and the fact that the various stakeholders engage in and operate as a sector exploring challenges. For example, the Netherlands is the world's largest exporter of seed potatoes; approximately 55% of exported certified seed potatoes (800,000 tonnes per year)^{xiii} and an estimated 55% of the (improved/high-yielding) potato varieties used globally are of Dutch origin^{xiv}.

5.2 Structure and stakeholders in the Dutch potato sector

The Dutch potato sector is structured as a subset of the 'Dutch Diamond', which generally includes industry, government, regulatory bodies, knowledge and educational organizations, civil society, and farmers' organizations. Having different goals and responsibilities, collaboration of these organisations in areas of joint interest allows reduction of risk and increase of impact. The 'Dutch Potato Diamond' comprises the stakeholder groups indicated below; we provide some examples of organisations within each stakeholder groep:

- Branch organizations - the Dutch Potato Organization (NAO), Plantum, and Agrofoodcluster;
- The Ministry of Agriculture, Nature and Food Quality (LNV) and the Ministry of Foreign Affairs (MoFA);
- Internationally operating companies and farmers' organizations, including those active in potato breeding, potato seed production and marketing, potato processing, development of potato processing equipment, and potato trade;
- Regulatory bodies, including the Netherlands Food and Consumer Product Safety Authority (NVWA), the Netherlands General Inspection Service for Agricultural Seeds and Seed Potatoes (NAK) and the Netherlands Inspection Service for Horticulture (Naktuinbouw);
- Knowledge and educational organizations, such as Wageningen University & Research (WUR), Aeres University of Applied Sciences, and the Royal Tropical Institute (KIT), but also private research and consultancy organizations like HLB, Delphy and SoilCares;
- Development organizations, such as SNV Netherlands Development Organisation, Agriterra, Solidaridad and Oxfam Novib.

5.3 Current initiatives

The Dutch sector (private sector, regulatory bodies, knowledge and educational organizations) is active in various ways in the potato sector in developing countries and emerging economies. From the many excellent initiatives, we have selected some examples for illustration below:

- A noteworthy experience is the concerted action taken by the Dutch potato sector in the transformation of the Polish potato industry when it joined the European Union.
- The consolidated position of the Dutch seed potato industry in North Africa and the Near East is the result of coordinated and sector-wide efforts conducted over several decades.
- Several public-private partnerships target the potato sector, especially in sub-Saharan Africa; for example, MoFA investments through the Sustainable Development Goals Partnership (SDGP) and the Facility for Sustainable Entrepreneurship and Food Security (FDOV), both managed by the Netherlands Enterprise Agency (RVO).
- MoFA, LNV and the Netherlands Food Partnership (NFP) finance globally recognized and leading potato research of WUR, primarily, and the International Potato Center (CIP), among others.
- MoFA, mainly through Embassies of the Kingdom of the Netherlands (EKNs), finances potato value chain development and the establishment of national potato platforms in various countries in Eastern Africa; such projects are implemented by a diversity of development organizations (e.g. SNV, Agriterra, Solidaridad and Oxfam Novib), and in some cases in collaboration with the private sector and/or WUR.
- RVO supports Naktuinbouw in many countries in developing and implementing plant variety protection, thereby paving the way for investments by potato seed companies establishing businesses in those countries.

- The Dutch Organisation for Internationalisation in Education (NUFFIC) through the Orange Knowledge Programme (OKP), finances an international potato course implemented by WUR and partners.

5.4 Current challenges

Even though both public and private investments supporting the growth of the potato sector in developing countries and emerging economies have been significant, they have lacked coherence, offering multiple - and in some cases divergent or complementary - perspectives. Certain interventions revealed competitive behaviour among various private and public stakeholders operating in markets that require pre-or non-competitive efforts to reach impact.

Regulatory bodies have the potential to increase effectiveness, efficiency and accountability in varietal release, phytosanitary measures and the import of seed potatoes, but their impact would be greater if accompanied by the emergence of a domestic private sector. Advancing the development and especially the operationalization of plant breeders' rights is necessary for seed potato companies to obtain entry into markets. International and Dutch research organizations and seed companies hold diverse perspectives on how to enhance the supply of seed potatoes; what is critical is that these stakeholders take a pluralistic approach to the development of potato seed systems and that interventions are driven by local context and opportunities.

Over the past few years, the EKNs, RVO and NFP (and its predecessor the Food & Business Knowledge Platform) have supported country assessments that bring together trade and aid in their investment agenda. They have collaborated with the Dutch Diamond and created a clear space for private sector engagement and contribution. As an example, globally operating seed vegetable companies based in the Netherlands (e.g. Rijk Zwaan, East West Seeds, Bakker Brothers, Syngenta and others) have been successful in guiding and orienting activities in Ethiopia and Nigeria, through SeedNL^{xv}, as a collaborative framework between the MoFA, LNV and Plantum, and supported by EKNs.

Recognizing the leadership and innovation demonstrated by individual companies, building upon past experiences of jointly entering new potato markets, and perceiving major opportunities to do so in the future, the present position paper proposes pathways to further improve collaboration and engage in more impactful action in developing countries and emerging economies through a joint position and framework.

5.5 Strengthening the contributions of the Dutch potato sector

Global leadership comes with the responsibility of contributing in an impactful manner to the development of the potato sector in developing countries and emerging economies. To consolidate global leadership, the Dutch potato sector looks for business opportunities in growing and new potato markets. Initial investments in such markets may lead to strong positions within the globally competitive potato industry. As such, contributing to sustainable development and investing in new markets are interconnected and interdependent within the proposed position in this paper.

Dutch potato stakeholders are participating in the transformation of the potato sector in various countries; in many cases, interventions are isolated and lack the larger and long-term embedding required for a sector-wide approach. Current interventions on supporting the development of an enabling environment, as well as the introduction of modern varieties, series of trials, and support for one or several commercial seed producers, are worthwhile, but individual and unconnected; interventions would become more impactful when embedded in a holistic approach. To avoid mismatches between the Dutch private sector (multinational seed companies) and private sectors in Africa (smallholder for-profit producers) tailored, national, stakeholder-owned, consolidated and agreed (multiple) pathways for sector transformation need to be elaborated. Interventions and investments in the potato sector should build upon the unique and historically critical assets of the Dutch potato sector - its broad cooperation, conducive enabling environment and strong private sector - that are so far not adequately reflected in operations in developing countries and emerging economies.

It is critical to have an enabling environment that is conducive to high-quality cultivation and private-sector development. Efforts in the Dutch potato sector, as well as other sectors (e.g. dairy and horticulture) in various countries, show that a conducive enabling environment is a precondition for mid- and long-term investments by both the private sector and financial institutions. For strengthening potato seed systems, one needs to ensure that seed laws, plant variety protection and phytosanitary regulations are beneficial to the development of viable business models for both domestic and internationally operating seed companies, as well as for globally operating potato seed companies that work mainly through local partners. Another aspect is that regulatory bodies, knowledge and educational organizations are essential

to the development of the sector; however, learning from the experience of the Dutch sector, the responsibilities of public and private stakeholders need to be balanced. The Dutch expertise in creating 'enabling environments', with mid- and long-term perspectives, and distinct roles and responsibilities distributed among stakeholders in the sector, is crucial for supporting the transformation of the potato sector in various potato-growing geographies and markets.

5.6 Organize a common space to improve our impact

An essential aspect for improving effectiveness and efficiency in our contribution to potato sector transformation is that we open up a space where demands for support or information, both from the stakeholders in the potato sector in a given potato-producing geography (bottom up) as well as from policy bodies such as the MoFA, LNV, EKNS, RVO and NUFFIC (top down), can be collected and addressed, and generate a practical and relatively fast response based on the expertise and knowledge of sector stakeholders. In such a space, local stakeholders and policymakers should find expertise and support in the field of business development and policy support. A space should also be created for enhancing both professional and organizational capacities among various stakeholders in the potato sector, in a manner that is consistent with the roadmap for the sector, and thus be consistent with the other interventions. The space should foster collaboration among various Dutch stakeholders contributing to this pre-competitive stage of the development or transformation of a potato sector in a partner country. Furthermore, it should position the Dutch sector within larger policy discussions relevant to international collaboration and trade. The space is thus about raising effectiveness and efficiency, enhancing the provision of technical and other support, raising capacities, and documenting and sharing lessons learned from successes and failures. The approach should recognize the strength of the Dutch sector, be consistent and distinguish itself in being driven by the sector, thus reinforcing its leadership and becoming a preferred partner in the transformation of the potato sector in potato-growing geographies. The organization of a common space should be a means to an end, and through potato sector transformation contribute to food and nutrition security and stimulate employment and entrepreneurship in developing countries and emerging economies.

It is too early to decide on and define the modalities for intervention, but some potential intervention areas are:

- Establish, promote and facilitate potato sector platforms in partner countries
- Document, reflect on and share lessons learned from interventions
- Enhance the potato sector enabling environment and improve the regulatory framework
- Support formulation and facilitate review of potato sector transformation programmes
- Develop an agenda for and foster potato research targeted at (sub-)tropical production systems
- Strengthen the capacity of stakeholders in the potato sector
- Act as a meeting point for potato stakeholders with development agencies including the Dutch government
- Measure the impact and contribution of the international/Dutch potato sector to sector transformation and SDGs
- Act as information broker and networking hub for the potato sector targeting developing countries and emerging economies
- Act as a contact point for interested parties such as international stakeholders or media

6. The way forward

6.1 Ambition

To increase the joint impact of the Dutch potato sector working in developing countries and emerging economies, the establishment of a potato platform/working group is proposed. The platform/working group will support coalition building in transforming potato sectors to contribute to improved food security, employment and entrepreneurship. It serves as a structure for knowledge brokering to provide stakeholders access to information, and facilitate interactions, agenda setting, communication, collaboration and innovation in potato sector transformation. The platform/working group is more of an information hub, rather than an organization implementing activities; implementation of projects and activities in partner countries remains with Diamond partners in the Netherlands as well as host countries, i.e. government, private sector, knowledge and educational organizations, regulatory bodies, farmers, NGOs and development organizations. It is important that it has convening power, e.g. the ability to bring the right expertise to the table and consider topics that are addressed by multiple stakeholders. In this way, the platform will develop a strong voice or rather authority in the specific space of transforming the potato sector.

It is recognized that similar international potato platforms exist, but they either operate in specific countries or are linked to particular development organizations, e.g. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The potato platform/ working group should link with such other platforms, and also with important international players such as CIP and the Potato Congress.

6.2 A platform/working group under SeedNL

The proposal is to create a space for a potato platform/ working group under SeedNL. SeedNL operates as a collaborative arrangement between the MoFA, LNV and Plantum working closely with the partners in the seed sector, aiming to increase the availability, access and use of quality seed in developing countries and emerging economies by strengthening the seed sector. The ambitions and objectives of SeedNL are very similar to those of the envisaged potato platform/ working group. However, potato is only one of the crops addressed in SeedNL, and access to quality seed potato is only one of the components addressed in potato sector transformation, i.e. the focus of the potato platform/ working group is on the whole potato sector.

6.3 First steps

We propose five action areas towards the establishment of the potato platform/ working group:

1. *Establishment of a working group*

Establishment of a working group under SeedNL, with representation of NAO and other Dutch Diamond stakeholders to prepare the actions 2 to 5.

2. *Development of a success factor framework to assess new initiatives*

- Translation of the position paper towards ten criteria/success factors for potato projects and programmes in developing countries and emerging economies, serving as a framework to guide the joint development of new initiatives. Success factors need to take into consideration issues like (also see figure 4): (i) aid, trade and invest results; (ii) financial benefits for smallholder farmers; (iii) viable business models for the potato sector; (iv) sustainability at social, economic and financial, and ecological levels; and (v) relevance and expected effectiveness and efficiency of proposed interventions.
- Next to guiding the development of new projects and programmes, the position paper, and the success factor framework and scoring cards can be used by the Dutch government and development agencies to assess feasibility and impact of project proposals. They may guide investment policy and instruments related to potato sector transformation in developing countries and emerging economies for increased impact.

3. *Organisation of two stakeholder meetings*

- Organisation of an online meeting with the private sector to share and discuss the finalized position paper, the action agenda, the hosting of the potato platform/ working group under SeedNL, and an inventory of possible follow-up activities.
- Organisation of a face-to-face platform meeting for all Dutch Diamond potato stakeholders, to share and discuss the position paper, the success factor framework, prioritized actions, communication strategy and possible follow-up activities.

4. *Support and advise to new potato sector transformation programmes*

- Creation of a meeting space and coordination point (potato platform/ working group) for national and international stakeholders, including government and private sector stakeholders, facilitating public-private partnerships and providing support and advise on the formulation and implementation of new potato projects and programmes.
- The meeting space will be facilitated by the SeedNL secretariat with support from NAO, AFC, LNV, MoFA and Embassies, also using sector experts from other organisations (companies, knowledge organizations, NGOs, etc.).

5. *Communication on potato related initiatives*

- Develop a Dutch potato platform/ working group website, potentially hosted by SeedNL, to share information on the Dutch potato cluster, announce new initiatives, communicate project results, etc.
- Inform potato sector stakeholders and other parties such as Embassies on potato related initiatives.

ⁱ Haverkort, A., 2018. The potato handbook. Aardappelwereld BV.

ⁱⁱ CIP, Potato agri-food systems program <https://cipotato.org/research/potato-agri-food-systems-program/>.

ⁱⁱⁱ Kennisplatform Aardappel, 2020. De aardappel vergeleken. Netherlands Potato Organization, The Hague. <https://kennisplatform.aardappels.nl/de-aardappel-vergeleken>.

^{iv} Sources: Central Bureau of Statistics (CBS), The Hague; Netherlands Potato Association (NAO), the Hague and FAO Stat, FAO, Rome, <http://www.fao.org/faostat/en/#home>.

^v Gildemacher, P.R., 2012. Innovation in seed potato systems. PhD thesis, Wageningen University, Wageningen. <https://edepot.wur.nl/212110>.

^{vi} Gildemacher, P.R., 2012. Innovation in seed potato systems. PhD thesis, Wageningen University, Wageningen. <https://edepot.wur.nl/212110>.

^{vii} Stemerding, 2019. Potato in Africa – observations from the literature. Background paper for VSB/POTAREI workshop, 'Opportunities and challenges for hybrid potatoes in East Africa', June 13-14, Ghent, Belgium. <http://ipbo.vib-ugent.be/wp-content/uploads/2019/05/Background-paper-Program-Workshop-Hybrid-Potatoes.pdf>.

^{viii} WCDI, 2020. https://www.wur.nl/en/Research-Results/Research-Institutes/centre-for-development-innovation/Our-Value-Propositions/Guiding-Sector-Transformation.htm?qclid=Cj0KCOjw8fr7BRDSARIsAK0Qqr7aYH_oozV5Df_aSSvwi1Ft8LIwObW24IbYjgqj3Good9IQmPfu0w_aApCgEALw_wcB.

^{ix} AidEnvironment, 2020. <https://www.aidenvironment.org/sustainable-sector-transformation/>.

^x AidEnvironment, 2020. <https://www.aidenvironment.org/sustainable-sector-transformation/>.

^{xi} Sepers, J.W./ 2020, personal communication.

^{xii} Van Loon, J., 2019. Door eendrachtige samenwerking: De geschiedenis van de aardappelveredeling in Nederland, van hobby tot industrie (1888-2018). PhD thesis, Wageningen University. <https://edepot.wur.nl/469088>.

^{xiii} Based on consultations with members of the Netherlands Potato Association (NAO), the Hague, combined with data from the United Nations International Trade Statistics Database (UN Comtrade).

^{xiv} Estimate by the Netherlands Potato Association (NAO), the Hague.

^{xv} Convenant Samenwerkingsafspraken SeedNL: <https://zoek.officielebekendmakingen.nl/stcrt-2020-13115-n1.html>