



Ministry of Foreign Affairs



Scoping Study on Trade Partners for Egyptian SMEs

Enhancing trade partnerships and market integration for Egyptian SMEs in agriculture, focusing on leveraging Dutch technology and fostering sustainable, self-sufficient value chains.



Netherlands Enterprise Agency

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Executive Summary

Agriculture holds a significant role in the Egyptian economy and society. Yet, the sector is functioning within massive structural stress, defined by hyper fragmentation of land (with an average holding size reduced to 2.2 feddans per farm) and extreme water scarcity where over 85% of limited freshwater resources is used for agriculture. These challenges are made worse by an entrenched land governance regime characterised by a lower than 10 percent property registration rate, which means that agricultural land worth approximately US\$84 billion becomes useless as collateral for formal credit.

Recent interventions funded by the Netherlands and implemented through WFP and GIZ have moved away from foundational resilience towards innovations more in line with market forces to mitigate these vulnerabilities. The WFP pilot “Strengthening Climate Resilience” project (2020-2025) invented the Land Use Consolidation (LUC) model that successfully integrated smallholders to realise economies of scale and improved yields with yield increases in the range from 20%-50%. For physical execution, refurbishment of 65 canals and setting up 23 solar-based irrigation terminals was a key success variable that prompted critical water seepage and diesel-savings. At the same time, a gender-transformative strategy provided cashless/ongoing interest free loans to over 49 thousand women that ensured men and women were heading for high value handicrafts and palm waste recycling with consequent rise in earnings of some 100% for those involved.

The project developed into its current phase, led by GIZ’s Agricultural Innovation Project (AIP) and integrating Land@Scale component is an example of a strategic transition towards participatory, market-led model. Shifting from full subsidy, this model requires farmers to invest 20% of costs, providing rural buy-in and promoting a sustainable sense of accountability over time. This strategy is largely based on undertaking the professionalisation of Farmer Organisations (FOs) into Business Development Services (BDS) units. The units serve as intermediaries, implementing marketing, finance and quality control to bridge the chasm of mistrust too often found between smallholder producers and private sector buyers. However, there is still a massive gap in “data and traceability,” where smallholders do not currently possess the technical capacity to meet strict European MRLs and food safety standards on their own.

This study is primarily focused on how the current grants given by Netherlands can be structured and converted into business linkages that are self-sustaining and departing from traditional form of aid, towards a durable cooperation in shape of trade especially. The report highlights that smallholder farmers are not ready for export because of scale and quality challenges, but the way to facilitate trade within the value chain is through professionalising intermediaries and more integrated use of Dutch technology in Egyptian agrifood value chains.

A key aspect of this strategy was to hold matchmaking meetings with Dutch technology providers and determine realistic entry points for commercial cooperation between the Netherlands and Egypt. These sessions identified multiple strategic matchmaking pathways including satellite-based irrigation advice triggered through FutureWater’s box Croptimal tool, high-quality Dutch seeds from organisations like East-West Seed, digital supply chain traceability via FarmerLink platform and structured e-learning curricula delivered via SkillEd, and other potential organisations. A number of follow-up meetings to explore concrete collaboration have been scheduled.

Possible follow-ups to these matches are professionalising the intermediary layer of the value chain. The sustainability of the trade cycle going forward hinges on whether these BDS units can act as mediators between smallholder producers and the private sector, facilitating not only Egyptian produce that meets international standards but also providing Dutch firms with new opportunities for technology and services exports. In the case that the farmer groups are involved in exports, Dutch organisations and testing labs can further be involved to ensure compliance. Similarly, for any cooperatives or BDS who prefer to have organic certification, there are opportunities for Dutch organic pesticide suppliers to step in.

The (potential) opportunities will further be developed as the LAS project progresses, presenting additional learning opportunities and avenues for Dutch companies to step in. Grounding these partnerships in the provision of technology-as-a-service and commercial management of contracts is intended to establish a ‘win-win’ situation, linking Dutch policy interests (e.g. promoting trade, stability and controlling migration) with Egyptian goals for the modernisation of agriculture.

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Chapter 1: Agriculture in Egypt



Introduction

Agriculture holds a significant role in the Egyptian economy and society. The economy is dominated by the agricultural industry, which accounted for 14.4% Gross Domestic Product (GDP) in 2023/2024 (WFP, 2025). It represents 28% of the national labour force and 45% of the employed female workforce, whereas in Upper Egypt, 55% of all jobs are dependent on agriculture (GIZ, 2022a).

There is a geographic dichotomy within the agricultural geography in Egypt – divided into the ‘Old Lands’ present across the Nile Valley and Delta (which covers approximately 5% of Egypt’s land area), and the remaining ‘New Lands’ found within the larger desert landscape (approximately 96% of Egypt) (Nada & Sims, 2020). The geographical areas are further diversified by the nature of agricultural practices, with the Old Lands including intensive population concentration, smallholder land fragmentation, and year-round flood irrigation to produce numerous staple crops (Sims, 2022; World Bank Group, 2020). Such challenges are exacerbated by the current rise in population, projected to reach 120 million by 2030 and 160 million by 2050, especially when noting that roughly 90% of Egypt’s population lives within the Nile Basin and 50% within the Delta (5% of Egypt’s surface area) (Haars et al., 2016; World Bank Group, 2020).

Despite this geographical limitation, the intense smallholder agriculture system in the Nile Valley provides crops year-round (Nada & Sims, 2020). From a horticultural perspective, fruits and vegetables, Medicinal and Aromatic Plants (MAPs), and palm dates are predominantly grown in Upper Egypt (Nada & Sims, 2020). The MAPs sub-sectors are highly prioritized by both government and development actors, due to their potential for domestic high-value exports and dependence on smallholders (GIZ, 2022b). Upper Egypt contributes 92% of the country’s MAP productivity; half is produced in Beni Suef and Minya (GIZ, 2022a, 2022b). Other significant crops are onion, garlic and chili pepper (GIZ, 2022a). Nonetheless, the Old Lands remain to be challenged by land fragmentation, and the small number of agricultural land holdings.

Accordingly, the ‘New Lands’ (desert areas covering over 90% of Egypt’s land) have increasingly received more priority in government development policy than the Old Lands (Nile Valley/Delta) over the last four decades. The Government of Egypt’s (GoE) policy on this has been to convert public desert land as fast as possible into investment opportunities for development projects of all kinds (agricultural, industrial, urban), with policies exponentially concentrated within the last five to ten-year time frame. Nevertheless, despite the increased focus, only 3% of Egypt’s population is based within the New Lands, which hinders the adoption of new policies (Nada & Sims, 2020).

Several existing development programmes are focused on building resilience and climate adaptation capacity in smallholder communities, particularly in more

vulnerable regions of South/Upper Egypt – Assiut, Sohag, Qena, Luxor and Aswan (WFP, 2025). Such programmes focus on lifelong good agricultural practices (GAP), land consolidation, and the use of climate-smart agriculture.

STRUCTURAL CHALLENGES

The main issues within the Egyptian agricultural sector are structural, inherent in its geography, resource scarcity, and institutional challenges from a legal perspective.

An underlying difficulty lies in the intricate legal and institutional structure that underpins land in Egypt, which features numerous policies and multiple actors such as governmental institutes – accordingly leading to numerous contradictions, bureaucracy, and overcentralisation. Problems of land tenure, including access/open-market and cost constraints, are perceived as extremely severe constraints, particularly for small firms.

Extreme land fragmentation and an ill-functioning property registration system undermine the structural integrity of agriculture in Egypt. Between 1960 and 2010, the average holding size decreased from 3.8 feddans to around 2.2 feddans, with 48.3% of holders now less than one feddan (Sims, 2022). This fragmentation makes economies of scale impossible, complicates the use of modern machinery and raises production costs.

“Around US\$84 billion in agricultural land [in Egypt] cannot be used as collateral for a bank loan, stunting investment and hindering Egypt’s agribusiness capabilities.”

The official land and property registration system has fallen into disuse, leaving more than 90% of properties legally unrecorded. Even on agricultural land, only about 25% of plots are properly registered. This clog in the system also prevents the use of assets, with

around US\$84 billion in agricultural land that cannot be used as collateral for a bank loan, stunting investment and hindering Egypt's agribusiness capabilities (Nada & Sims, 2020).

Most predominantly, water scarcity further represents a key structural and environmental constraint. Egypt is considered one of the most water-scarce countries, with limited surface and groundwater (62 billion m³/year). The most significant sources of water in Egypt are the Nile and groundwater; more than 97% of the water resources originate from these two sources. In addition, the climate change impact on food security is expected to exponentially increase, with projections of up possible losses of up to 10% in crop yields by 2050 because of water deficit and elevated temperatures (WFP, 2025).

A further obstacle is the widespread fragmentation of agricultural land, especially in the Nile Valley. This is due to its inheritance laws, which are influenced by historical and reforms initiated in 1952 and local customs. This fragmentation is a major obstacle to the development of agriculture and means that small-scale producers cannot benefit from economies of scale, i.e., be able to afford efficient, innovative technologies and techniques (GIZ, 2022b; 2022c; World Bank Group, 2020).

MARKET-RELATED CHALLENGES

In addition to structural challenges, it is important to consider the agricultural market and fluctuations in yield. Currently, there are instances of data deficiencies, information asymmetry, and volatile pricing mechanisms.

Market Information and Transparency

For the local market, there is little published information on agricultural and property market operations, such as volumes, types, prices and ownership of properties exchanged. The lack of consistently updated credible market information decreases the possibility of making evidence-based policy and operating decisions (Nada & Sims, 2020).

Mismatches between Supply, Demand, and Price Volatility

Independent smallholder farmers are often detached from the end market, typically depending on input suppliers or traders for signalling the market. Consequently, due to this reliance, farmers decide which crops to grow based solely on seed availability or a farmer's personal experience with different varieties, rather than on market demand, leading to failures in supplying matched preferred crop types. Farmers also base their decisions on available subsidies or export bans, facilitated by the government. This further results in significant losses for farmers due to price fluctuations (GIZ, 2022b; World Bank Group, 2020).

Poor Extension Services and Input Quality

Farmers do not have access to adequate and reliable technical information and extension services. Limitation of resources commonly places constraints

on governmental extension services. As a result, farmers depend on unqualified input suppliers who provide inaccurate technical advice or sell unregistered (low-quality) inputs [pesticides, fertilisers, seeds] that do not resist pests. These lead to lower quality produce developed with poor rejection rates, higher risk of loss, and potential extra costs (GIZ, 2022a; 2022b).

Contracting and Trust

While contract farming is a valuable tool, its expansion is limited by the prominent mistrust between smallholder farmers and buyers. If the market price exceeds the contract price at the time of delivery, farmers tend to default on contracts (which damages farmer credibility and creates instability and mistrust). In addition, traders frequently distort prices and quantities, exercising their monopoly power and maximising profits at the expense of the smallholder farmers. Firms often choose to contract with farms on a commercial scale in order to avoid the inconvenience and risks of processing cotton from numerous small fields, and dealing with quality control and potential default by many small farmers. This hinders the development of land use consolidation models developed in conjunction with contract farming (GIZ, 2022d).

Smallholder Farmers

To understand the Egyptian agricultural dynamics, it is crucial to assess numerous agricultural components, and their subsequent effect on smallholder farmers (who contribute the largest proportion for agriculture in Egypt).

LAND OWNERSHIP

Land Law in Egypt is based on the 1948 Civil Code, which categorises land into three main types, including state lands (including public and private domain), private land and waqf (endowment) land. The 2014 Constitution guarantees the protection of agricultural land, and expropriation can only be made possible for a public purpose against just compensation (Nada & Sims, 2020). Nonetheless, despite this guarantee, actual tenure security is extremely uneven. Fewer than 10% of buildings are legally recorded there under the formal system. The predominant modalities of transactions are not formal (registered) but instead represented as preliminary contracts of sale (urfi transactions) or through documented evidence of possession. In relation to rural lands, the current land title system is outdated, and only 25% of rural land parcels are accurately documented, which implies that the current bureaucratic registration system is mostly not used for rural properties (Nada & Sims, 2020).

CHALLENGES

Accordingly, the current land ownership model leads to great limitations for smallholder farmers, especially when considering those based across the Delta with high levels of fragmentation (GIZ, 2022b).

Fragmentation and Scale

About 90% of the Egyptian farmers hold small plots of less than 0.4 ha (1 feddan). Such a high degree of fragmentation makes it impossible to achieve

economies of scale, increases production costs, and precludes the use of large machinery. Some subsidised projects have mitigated this through successful experimentation with land use consolidation, where 10-20 farmers jointly manage their holdings to realise combined machine use, input procurement, and simultaneously cultivate within contract farming (GIZ, 2022d; WFP, 2025).

Resource Access and Gender Disparity

Smallholder farmers have low access to efficient collaborative functions, cooperatives, financial and technical assistance, as well as marketing chains. These are struggles particularly experienced by women smallholders, who endure severe gender-based inequities in land access and tenure. Women are often socially pressured to sell inherited land to male relatives, leading to staggeringly low rates of female land ownership (e.g., only 2% of landowners in Beni Suef) (GIZ, 2022e).

Although the contribution of women to farm labour is essential (up to 75% in post-harvest for MAP and pepper), they are largely relegated into seasonal, informal and low-paid work. The responsibility of women within several agricultural families is household and finance management. Moreover, women's mobility is constrained by social and cultural norms that in turn limit their capacity to directly interact with outside markets, training or formal sources of financial credit (GIZ, 2022a; 2022b; 2022e).



Government Reforms

In response to such challenges, there have been several governmental reforms attempting to strengthen the agricultural sector. The GoE diagnosed reform in two ways: overarching national frameworks and narrower legislation focusing on modernising land governance, promoting fiscal sustainability, and introducing spatial planning coherence (Nada & Sims, 2020).

STRATEGIC PLANNING AND NATIONAL ALIGNMENT

The GoE reform agenda is based on long-term strategic directions: Governance is based on Egypt's Vision 2030 and the national strategic plan for urban development, 2052. The policy of transforming public desert into investment opportunities as quickly as possible, which was accelerated in the last five or ten years, is further connected to these national visions (Nada & Sims, 2020).

The government is working with the agricultural sector in line with the National Sustainable Agricultural Development Strategy towards 2030 and the National Adaptation Strategy in the Agriculture Sector. These approaches focus on enhancing smallholders' resilience to climate change and reinforcing adaptation in animal and crop production (WFP, 2025).

Interventions, such as programmes led by WFP, support flagship national initiatives, such as the Presidential Initiative for Decent Life ("Hayah Kareema"), which targets multidimensional poverty and extends a decent life and sustainable development to the most marginalized villages (WFP, 2025).

To further the climate focus, in 2022, the GoE additionally introduced the Nexus for Food, Water and Energy ("NWFE") platform to direct climate finance towards priority projects targeting these vital sectors (WFP, 2025).

LEGAL AND INSTITUTIONAL REFORMS

These policy directions are subsequently translated into specific legal reforms, with longstanding influences on the agricultural sector. As such, the research draws attention to recent attempts by the government to overcome longstanding legal and institutional problems in land management (Nada & Sims, 2020):

Property Registration and Tenure Regularisation

Egypt has less than 10% of its total properties legally registered. To mitigate tenure insecurity and illegality, the GoE enacted a number of significant laws:

- Law No. 144/2017: Created a programme for the regularisation of the widespread encroachment on state private land, known as wada' al-yed (hand claim). This law seeks to take back land which is seen to be in the state's interest or alternatively sell them off to the cultivators for cash, thus leading to state income.
- Law No. 27/2018: Simplifies and reinforces public property registration in new urban communities.
- Law No. 17/2019: Provides for the possibility that

property owners can request the regularisation (legalisation) of illegitimate constructions or those in violation of construction codes, assuming the building is safe, in return for regular payments.

Public and Private Land Management

In an attempt to streamline the state desert land system, the Egyptian Government (GoE) issued Presidential Decree No. 62/2018 on the "Development Map for Egypt," which calls for simplifying and decentralising development permitting of areas under public sector control. This map aims to:

- Identify applicable government agencies with oversight of given parcels of public lands.
- All the public land allocation plans shall have to get prior approval of the Supreme Council for Planning and Urban Development (SCPUD) for adaptation with the national strategic vision.

Fiscal Measures

The GoE is taking steps to generate additional revenue. The annual real estate tax (Law No. 196/2008) aims to generate revenue and discourage property speculation, although the revenues are proportionally small relative to the total income.

PROPOSED/PENDING INSTITUTIONAL REFORMS

Many necessary reforms are still pending or undergoing parliamentary deliberation:

- Legislative Harmonisation: Replacement of the laws related to local administration (Law No. 43/1979), planning and development (Law No. 70/1973), and amendment of the Unified Building Law (Law No. 119/2008) are currently under consideration by the parliament. The maximisation of coherence and harmonisation between these fundamental laws is essential to enable local government and planning interventions.
- Integrated Planning and Budgeting: A high reform priority is to improve the modalities for strategic spatial plans (developed by the General Organisation for Physical Planning, GOPP) to be linked with capital investment planning and budget allocation (led by the Ministry of Planning), as the lack of an effective link currently reduces the effectiveness of spatial planning.
- Land Administration Modernisation: A major overhaul of the dysfunctional property registration system is required in an institutional sense; specifically, by unifying (cadastral mapping and property) registration under one body of government and by creating a national programme to register all properties within 2030.



Chapter 2: Dutch Agricultural Activities in Egypt

Following the agricultural background, this research will focus on Dutch agricultural activities in Egypt, zooming in on projects specifically targeting smallholder farmers in order to determine how further businesses and linkages can be created between the

Netherlands and Egypt. Accordingly, this section will further provide a background on current Dutch activities in Egypt, after which the research will focus on land use consolidation projects in Upper Egypt.



Current and Past Activities

There is a distinction to be made in the current Dutch activities in Egypt, depending upon the budget with which they fall under. Some projects fall under private sector financing (such as studies, trade missions, and impact clusters within the Combi-Track approach), and others fall under development aid financing (such as land use consolidation projects). The type of funding indirectly influences the subsequent Dutch Egyptian collaboration within the agricultural field.

For private sector financing, the Dutch companies receiving grants or financing have a stake in business continuation in the target country. Thus, the projects or assignments that the respective organisations partake in provide a stepping stone onto which the Dutch organisations can expand operations in the target country – facilitated by the collaboration with Egyptian private sector organisations who have the capital to invest in Dutch knowhow. On the other hand, while development aid financing expands the presence of Dutch companies within the target country, the local collaborators within the project are frequently governmental institutions, and the recipients of the development aid are primarily smallholder farmers or small institutions who do not have the capacity to subsequently hire the Dutch counterpart if the project is successful. This theory will be explored within this study, specifically focusing on the land use consolidation projects which have been funded as part of development aid financing from the Netherlands in Egypt.

Consequently, this begs the following questions:

1. Can Dutch organisations ensure continuity in projects which are funded by development aid financing? If so, how?
2. Specifically, is there a method with which development aid financing can be adapted to create private sector linkages (to 'close the loop' and ensure that development aid financing translates into business creation between Egypt and the Netherlands)? If so, how?
 - a. How can development aid financing subsidies transition into self-sustaining business models that continue collaboration with the Dutch?

In order to begin to understand the distinction between private sector and development aid financing (as well as the subsequent continuation of Dutch activities in Egypt), it is first crucial to provide additional background knowledge on the different projects in Egypt. Accordingly, the list below provides an overview of Dutch agricultural activities in Egypt, with links to the project. Thus, the list is not exhaustive of all Dutch activities in Egypt. While this study will specifically focus on the land use consolidation projects, the list below provides an impression of the nature of Dutch agricultural projects in Egypt, and its overarching ecosystem. Each of the projects falls into a larger programme (and budget), hence why there are numerous sections in accordance to the respective source of funding.

Combi Approach Toolkit (CATK) Budget

The GoE reform agenda is based on long-term strategic directions: Governance is based on Egypt's Vision 2030 and the national strategic plan for urban development, 2052. The policy of transforming public desert into investment opportunities as quickly as possible, which was accelerated in the last five or ten years, is further connected to these national visions (Nada & Sims, 2020).



Impact Cluster: BUCRA Building Unity for Climate Resilient Agriculture

Project Duration: 1st of September 2024-31st of August 2027

Budget: € 619,979

Project Aim: The impact cluster aims to revolutionise the farming sector in Egypt by capitalising upon Dutch digital solutions and knowledge recommendations, leading to the foundations for a collective farming model, improved agricultural practices, stability of income for farmers, as well as job creation for the new generation of farmers in Egypt.

Project Partners: NABC, Buzoor, Delphy B.V, Futurewater B.V, Mozare3, Netherlands Enterprise Agency, Sanable, SkillEd, and Witteveen+Bos

Project Outcome: Currently, the first year of the project has been completed, including documentation such as an Inception Report, an Agricultural Development Plan, online training modules, and in-person training. The construction of the demonstration plot is still in progress.

Impact Cluster: Sustainable Operational Protected Horticulture (SOPH) Center

Project Duration: 1st of October 2024-30th of September 2027

Budget: € 619,262

Project Aim: The aim of this project is to promote climate-smart and water-efficient farming in Egypt by establishing a training, demonstration, and research centre for protected horticulture that builds local capacity, showcases Dutch technologies, and adapts innovations to local conditions.

Project Partners: Cherry Land, Delphy B.V., Jiffy Products International B.V., Koppert B.V., Ludvig Svensson B.V., Meteor Systems B.V., Netherlands Enterprise Agency, Ridder Holding Harderwijk B.V., Rijk Zwaan Egypte, Stichting Dutch Greenhouse Delta, UG for Agricultural Investment & Training

Impact Cluster: RootGrow Cluster Project

Project Duration: 17th of June 2024-1st of June 2028

Budget: € 491,408

Project Aim: The aim of this project is to enhance Egypt's citrus industry by introducing innovative rootstocks and efficient irrigation practices that improve productivity, sustainability, and farmer resilience against climate challenges.

Project Partners: Agroland For Agricultural Manufacturing, Boumanfruit B.V., Bushido Agriculture, Care Egypt Foundation for Development, Hezelburcht B.V., Jaguar, the fresh company B.V., MK for Trading&Supplies, Netherlands Enterprise Agency, Sweet Caroline Agro Business B.V., eLEAF B.V.

Project Outcome: The project is currently in progress, but they are applying novel varieties such as the first 'Juicy Crunch' mandarin variety in the Middle East, as elaborated upon [here](#).

Egypt's Agricultural Innovation Hub

Project Duration: 1st of January 2025-31st of December 2026

Budget: € 389,233

Project Aim: The aim of this project is to accelerate and support Egyptian agribusiness SMEs in adopting climate-smart solutions, strengthening market linkages, and enhancing productivity, profitability, and resilience in agriculture and food value chains.

Project Partners: Chemonics Egypt Consultants, Netherlands Enterprise Agency

Project Outcome: The collaboration with Chemonics Egypt has strengthened Dutch-Egyptian linkages in several aspects, such as the current development of the [Agrovance Acceleration Programme](#).

Road toward a consortium on Climate and Water Smart Protected Cultivation

Project Duration: 15th of August 2023- 4th of October 2024

Budget: € 150,464

Project Aim: The aim of this project is to promote climate and water-smart agriculture in Egypt by facilitating knowledge exchange, demonstrations, and partnerships between Dutch providers and Egyptian stakeholders.

Project Partners: Delphy B.V., Netherlands Enterprise Agency, NABC, Dutch Greenhouse Delta

Project Outcome: The aim of this consortium was threefold: beginning with a market study on protected horticulture in Egypt (which was conducted by Delphy), then with an outgoing trade mission on horticulture from the Netherlands to Egypt in February 2024 (which was implemented by NABC with [17 organisations](#) participating), and the application for a Partners' in Business programme by Dutch Greenhouse Delta (which developed into a subsequent programme mentioned in the section on the right).

Sahara Expo Egypt 2024

Project Duration: 15th of September 2024-9th of December 2024

Budget: € 114,869, € 72,137, and € 28,326 (there were different funding elements (for the rental of the exhibition, the building of the NL Pavilion, and the organisation of the incoming delegation)

Project Aim: The aim of this project is to showcase Dutch expertise in climate and water-smart agriculture at the Sahara Expo, fostering trade, innovation, and partnerships between the Netherlands, Egypt, and the wider MENA region.

Project Partners: Netherlands Enterprise Agency, So Expo B.V., Informa, NABC, Land Water Food Consult

Project Outcome: A Dutch Pavilion was held during the 2024 Sahara Expo, with [20 participating Dutch organisations](#), and the Dutch presence also included the hosting of 4 distinct seminars during the Expo. The trade mission further included a networking reception, and several days of field visits. Several participants in the Sahara Expo later joined the PiB programme. The event report can be found [here](#).

Enabling environment for seed potato companies in Egypt

Project Duration: 1st of January 2025-1st of February 2026

Budget: € 15,000

Project Aim: The aim of this project is to strengthen Egypt's seed potato sector by improving its regulatory framework to enable the introduction of climate-resilient crop varieties and position Egypt as a seed hub for Africa, mainly focusing on the elements of a developed certification body.

Project Partners: Netherlands Enterprise Agency, Stichting Netherlands Food Partnership

Seed potato certification system governance framework development

Project Duration: 11st of July 2025-15th of November 2025

Budget: € 15,000

Project Aim: The project aims to define clear roles, responsibilities, and decision-making processes for key stakeholders to manage and implement a seed potato certification system in Egypt.

Project Partners: Netherlands Enterprise Agency, Netherlands embassy in Cairo, Egypt

Project Outcome: The embassy is working on the NAK light certification for seed potatoes.

Incoming visit by influentials from Egypt, April 2024

Project Duration: 1st of March-17th of June 2025

Budget: € 61,902

Project Aim: Contribute to climate and water-smart agriculture in Egypt, through connecting Egyptian enterprises of various characteristics to Dutch counterparts active in horticulture technology, knowledge and services.

Project Partners: Netherlands Enterprise Agency

Enhancing water efficiency in sugar beet production using remote sensing data

Project Duration: 1st of July 2025- 1st of August 2026

Budget: € 40,000

Project Aim: Develop a tailored, data-driven monitoring solution for sugar beet production in Upper Egypt by promoting efficient water use and improve crop management practices.

Project Partners: Netherlands Enterprise Agency, eLEAF

Trade with Impact

Project Duration: 1st of August 2024-28th of March 2025

Budget: € 44,770

Project Aim: The purpose of this project is to build a consortium concluding of Dutch trading companies that operate in Egypt in the sectors of seed, (seed-) potato, vegetables and fruits that develop a portfolio of impact projects in the field of Climate and Water Smart Agriculture (CaWSA).

Project Partners: Advance Consulting, Netherlands Enterprise Agency

Project Outcome: The findings of this project were included in a report as well as presented during an Egypt Combi Track session hosted on March 13th, 2025, exploring the need for a shared platform where Dutch companies active in Egypt can collaborate.

Knowledge exchange sessions on Climate and Water Smart Agriculture (CaWSA) at Wadi Expo

Project Duration: 1st of May 2023-30th of June 2023

Budget: € 33,005

Project Aim: This project contributed to climate and water smart agriculture in Egypt, by connecting Dutch providers of agricultural technology, knowledge and services with clients, partners in Upper Egypt.

Project Partners: Netherlands Enterprise Agency, NABC, Land Water Food Consult

Project Outcome: This project included an open NL Pavilion at the Wadi Expo in Luxor 2023, with a presence of 8 Dutch companies. The visit included field visits to different farms, as well as a seminar and roundtable within the Expo.

Green Alliance Egypt

Project Duration: 1st of May 2024-3rd of April 2025

Budget: € 29,950

Project Aim: To explore the potential for a 'Green Alliance Egypt'. This is a network of companies that resembles the Dutch 'Greenport-thinking' in aligning corporate efforts to boost environmental sustainability, R&D, inclusive capacity building, sector and cluster development.

Project Partners: Advance Consulting, Netherlands Enterprise Agency

Project Outcome: The Green Alliance is now an established network which is frequently invited to different networking receptions in the presence of incoming Dutch delegations.

Water footprint analysis

Project Duration: 1st of December 2023-24th of June 2024

Budget: € 24,032

Project Aim: A study was conducted to understand the water footprint of various crops that Egypt exports to the Netherlands and to identify opportunities for NL businesses to support Egyptian farmers in reducing their water footprint.

Project Partners: Netherlands Enterprise Agency, Wageningen University

Project Outcome: The project resulted in a study which can be found [here](#).

Enabling environment for seed companies in Egypt

Project Duration: 1st of January 2025–1st of February 2026

Budget: € 99,964

Project Aim: This project focused on the exploration of how to create an Egyptian Seed Hub, serving Africa, namely through improving the overarching regulatory framework.

Project Partners: Netherlands Enterprise Agency, Stichting Netherlands Food Partnership

Project Outcome: The project developed an Egypt-Netherlands Seed Road Map, while establishing a working group on key regulatory topics.

Egypt's Agricultural Innovation Hub

Project Duration: 1st of January 2025–31st of December 2026

Budget: € 389,233

Project Aim: This project supports 25 small- and medium-sized enterprises (SMEs) through tailored acceleration and growth management programs, enabling them to adopt climate-smart solutions, access finance, and strengthen market linkages.

Project Partners: Chemonics Egypt Consultants, Netherlands Enterprise Agency, CARE Egypt

Project Outcome: The project is yet to be finalised.

Private Sector Development (PSD) Toolkit – Phase 2 Budget

Impact Cluster: DESALT- Dutch Egyptian SALine farming and water management Technology

Project Duration: 1st of January 2020–24th of July 2025

Budget: € 449,980

Project Aim: The project aimed to find techniques and approaches which could allow Egypt to be more water efficient through utilising available brackish groundwater resources for food production.

Project Partners: CEDARE, Delphy Agriconsult B.V., Heliopolis University, Iv-Water B.V., Necterra B.V., Netherlands Enterprise Agency, Rula for Land Reclamation, SEKEM Holding, The Salt Doctors B.V.

Project Outcome: The proposed interventions consist of Dutch technology on saline agriculture, smart water management, and agroforestry (DESALT), that allow higher crop yields and quality under saline conditions, while using less water and recycling water, and providing higher soil fertility and resilience.

Orange Corners: Egypt – Subsidy application 2024

Project Duration: 15th of August 2024–31st of December 2030

Budget: € 2,191,043

Project Aim: The Orange Corners Innovation Fund (OCIF) is a subsidy programme that provides fund managers with capital to invest in early-stage startups.

Project Partners: Falak Startups, Netherlands Enterprise Agency

Orange Corners: Upper Egypt – Incubation programme

Project Duration: 1st of July 2020–5th of September 2024

Budget: € 504,301

Project Aim: The Orange Corners Upper Egypt incubation programme aims to support approximately 30 young Egyptian entrepreneurs per year with a dynamic, state-of-the-art facility, where they get the opportunity to collaborate and work with like-minded individuals in order to start and grow their business.

Project Partners: Netherlands Enterprise Agency, Outreach Egypt (Consultancy for Development)

Orange Corners: Building a strong entrepreneurial ecosystem in the Delta region

Project Duration: 1st of July 2025–1st of April 2026

Budget: € 49,908

Project Aim: This project aims to strengthen the entrepreneurial ecosystem in Egypt's Nile Delta region by fostering collaboration among key local actors, including universities, incubators, non-governmental organisations (NGOs), private sector representatives, and government entities.

Project Partners: Netherlands Enterprise Agency, Outreach Egypt (Consultancy for Development)

Orange Corners: Upper Egypt – Support in ecosystem mapping

Project Duration: 15th of April 2023–20th of July 2023

Budget: € 14,103

Project Aim: The project aimed to provide assistance in the preparation and execution of a thorough mapping of the current entrepreneurial ecosystem in Upper Egypt.

Project Partners: ENROOT Consultancy, Netherlands Enterprise Agency

Orange Corners: Upper Egypt – Hackathon in Cairo 2023

Project Duration: 15th of April 2023–1st of November 2023

Budget: € 19,100

Project Aim: The project encompassed a Hackathon for students, entrepreneurs, and public sector through a half-day event focused on challenge-based learning.

Project Partners: Outreach Egypt (Consultancy for Development), Netherlands Enterprise Agency

Workshop Land Use Consolidation Egypt

Project Duration: 15th of May 2024-19th of July 2024

Budget: € 10,500

Project Aim: The one-day workshop formed a kick-off for the LAND-at-scale project implemented by GIZ, grouping invited government officials from the Ministry of Agriculture and the Ministry of Water Resources and Irrigation.

Project Partners: Land Water Food Consult B.V., Netherlands Enterprise Agency

Scoping mission Impact Cluster on CSWA farming in the Nile Delta

Project Duration: 20th of February 2023-9th of November 2023

Budget: €28,664

Project Aim: The scoping mission mapped the opportunities for futureproof farming in the Nile Delta, outlining a proposal for a subsequent aid-trade combi-trajectory of Egypt.

Project Partners: Land Water Food Consult B.V., Netherlands Enterprise Agency

Mapping opportunities for sustainable agriculture in Egypt

Project Duration: 1st of February 2022-19th of December 2022

Budget: € 33,500

Project Aim: The project aimed to follow up on the 2021 Dutch visit to Egypt in order to explore possible Dutch Egyptian consortia and follow-up assignments.

Project Partners: Land Water Food Consult B.V., Netherlands Enterprise Agency

Knowledge exchange for climate smart agriculture

Project Duration: 20th of June 2022-20th of September 2022

Budget: € 24,980

Project Aim: The project organised a study tour with 12 Egyptian entrepreneurs for the Africa Works! conference.

Project Partners: NABC, Netherlands Enterprise Agency

SAHARA – Inspiration & knowledge sharing Tour Egypt

Project Duration: 1st of August 2021-18th of October 2021

Budget: € 31,882

Project Aim: The project organised a 3-day study, inspiration, and knowledge sharing tour alongside the Sahara Expo in 2021, which formed the foundation for subsequent projects and programmes in Egypt.

Project Partners: NABC, Netherlands Enterprise Agency

Partners in Business (PiB) Budget

Partners in Business Programme Coordinated by the Dutch Greenhouse Delta

Project Duration: 14th of February 2025-14th of February 2028 (not finalised dates as the project is reassessed on a yearly basis)

Budget: € 27,500 (with additional budget for specific initiatives when needed)

Project Aim: This public-private partnership aims to position and strengthen market access of the Dutch protected cultivation in Egypt. As part of the PiB programme, the cluster will organise activities such as incoming and outgoing trade missions, trade fair visits, matchmaking, and knowledge-sharing initiatives.

Project Partners: Coordinated by DGD (involving Boal Group, Hoogendoorn Growth Management, Koppert, Klasmann-Deilmann, KUBO, Priva, Ridder, Svensson, and Van der Hoeven Horticultural Projects / collaborating with knowledge partners NABC, Delphy, and NFP)

Project Outcome: Currently, the PiB has arranged two field visits: an incoming delegation from numerous Egyptian companies to the GreenTech Expo in June 2025, and an outgoing delegation to Egypt in November 2025. Many activities will be held in the following years.



Providing smallholder farmers hydroponic methods to combat soil salinity and water scarcity (ProSal-Hydro)

Project Duration: 1st January 2024–31st December 2025

Budget: € 182,676

Project Aim: The project provides smallholder farmers with easy sustainable hydroponic farming systems, know-how, and methods to which they could adapt their cultivation practices resulting in a boost of yield production, revenue and entrepreneurship.

Project Partners: Delphy B.V., Netherlands Enterprise Agency, Plug'N'Grow, The Salt Doctors B.V.

Project Outcome: The project resulted in a low-tech hydroponic solution which is exhibited at several farms in Egypt (such as Plug n' Grow or Mozare3).

Development of saline agriculture in Egypt with brackish groundwater

Project Duration: 1st May 2017–22nd August 2018

Budget: € 97,294

Project Aim: The project encompassed a study exploring the commercial and technical feasibility of brackish water cultivation, focused on the North Coast.

Project Partners: Delphy B.V., Iv-Water B.V., Nectaerra B.V., Netherlands Enterprise Agency, Zilt Proefbedrijf B.V.

Project Outcome: The project resulted in methods to decrease the use of fresh water by 50%, and saving 10% on the usage of fertilisers.

LAND-at-Scale Budget

The following budget provides the foundation for the remainder of this study. The LAND-at-scale programme (LAS) in Egypt is an extensive programme which is aid-based and financed by the Dutch government. This programme includes budgets in different elements such as in studies or in subsequent implementation. Please note that the LAS programme is cross-country, thus, there are several additional budgets for the development of [management strategies](#) (also [here](#) and [here](#)), the [Land Portal](#), [regional activities in the MENA region](#), [assessing the theory of change](#), [tackling the readiness approach](#), and [organising conferences](#). These have been excluded for this study due to the overlap with other countries, but the overview of all projects can be found [here](#).

LAND-at-scale – Egypt land governance study

Project Duration: 21st of October 2021–22nd of October 2022

Budget: € 13,888

Project Aim: The aim of this study is to analyse land governance practices and stakeholder needs in Egypt to support a participatory land tenure approach and build a supportive network for the LAND-at-scale programme.

Project Partners: Netherlands Enterprise Agency

Project Outcome: The study can be found [here](#).

LAND-at-scale – Egypt – Participatory Land-Use Consolidation for Climate Resilience and Inclusive Business Models

Project Duration: 21st of May 2024–31st of December 2026

Budget: € 1,485,000

Project Aim: The project aims to scale up participatory land-use consolidation in Egypt to tackle land fragmentation by testing inclusive business models, piloting climate-adaptive and private sector-driven approaches, building local and national capacities, and promoting learning and policy advocacy for broader adoption.

Project Partners: Deutsche Gesellschaft Für Internationale Zusammenarbeit GmbH (GIZ), Netherlands Enterprise Agency, and other local partners

Project Outcome: The project is still in the process, but it has already piloted several initiatives. The first wave includes 14 groups of farmers, each 10-20 farmers, in the regions of Menya and Beni Suef.

Other Projects or Initiatives

There are several other projects that have been implemented by CBI (the research agency of the Dutch government) in different sectors, an overview of which can be found [here](#). Similarly, there are other projects which have been implemented in the above budgets but have been excluded due to the purpose of the study. **Thus, the current list is not exhaustive**, and the full list of projects in Egypt can be found [here](#).

PUM Senior Experts programme launched to provide advice to SMEs in Egypt

Project Duration: 2025 TBC

Project Aim: To empower Egyptian SMEs with knowledge, mentorship, and practical solutions for sustainable growth and innovation.

Project Partners: PUM

Project Outcome: After a period of transition, PUM renewed its commitment in providing advice to SMEs (small and medium enterprises) in Egypt with an event at the Dutch Embassy in Zamalek, Cairo, on 20 February 2025. Currently, several projects are agreed upon and advised by PUM, and this will continue in the following years.

Zooming in on Land@Scale in Egypt

As mentioned above, this study will focus on the LAS projects in Upper Egypt as it provides the largest monetary contribution of Dutch agricultural development aid financing. Additionally, the project has spanned more than five years and tens of thousands of smallholder farmers, which provides a ready-to-use exploratory focus into the development of self-sustaining business models.

During the first phase, the Land@Scale project was implemented by WFP Egypt (World Food Programme). Afterwards, the second phase is currently being implemented by GIZ Egypt. Both phases focused on Upper Egypt and explored different approaches to target the smallholder farmers. Thus, to begin the assessment of the studies, extensive interviews were held with RVO (the Netherlands Enterprise Agency, who fund and oversee the project), WFP Egypt, and GIZ Egypt. These interviews provided additional background knowledge on the projects, their business models, as well as insights into the possibility of subsequent trade cooperation. Subsequently, linkages were created between Dutch counterparts and GIZ Egypt (the current implementor of Land@Scale Egypt) during one-hour meetings, and follow-up meetings with additional Egyptian companies have now been set with some of the Dutch partners.

The current LAND-at-scale programme in Egypt is a demand-driven land governance initiative funded by the Netherlands Enterprise Agency (RVO) and implemented in its current phase in partnership with GIZ. The project is designed as a strategic “add-on” to build on the existing successes achieved from previous interventions implemented by the Ministry of Agriculture and Land Reclamation (MALR) and World Food Programme (WFP), in Upper Egypt. This focus is on implementing a mixed land utilisation system to tackle the critical fragmentation of agricultural units, with average plots standing at only 2.2 feddans. Components of the programming are focused on strengthening fundamental aspects of land governance (e.g., registration, participatory land use planning, dispute resolution regimes, etc.). Through better institutional capacities and scaling up successful pilots, the GIZ-led component should help in bringing about structural, inclusive change that contributes to resilient food security and efficient agricultural production for local smallholder communities.

The initial WFP project called “Strengthening Climate Resilience and Food Security” was implemented in two phases over five years (2020–2025) with a budget of around €12 million. Target communities were selected following extensive consultation with the Government of Egypt, spanning 60 villages in five governorates: Assiut, Sohag, Qena, Luxor and Aswan. Specific selection criteria incorporated high poverty levels relative to the “Hayah Kareema” (Decent Life) initiative, closeness to inland storage, high wheat production levels and highest land fragmentation rates. In addition, villages were selected based on the existence of established Community Development Associations (CDAs) with previous experience in rural development. The WFP project work was based on integrated rural development approach with technical infrastructure and social innovation. This implementation was underpinned by land use consolidation, through which sets of 10–20 farmers operated their fragmented property in a collaborative manner to realise economies of scale. The project adopted a progressive reward approach, with 100 per cent funding in the first season but phasing out over four seasons when it reduced to 25 per cent and then eventually moved into a technical assistance mode only. For the machinery and technical updates, 65 canals were upgraded to minimise water seepage, and 23 solar-powered irrigation hubs were developed to substitute costly diesel pumps. Digital transformation was realised by launching the Nabatech mobile application, which offered an EWS (Early Warning System) and a digital marketplace for farmers. Finally, the project implemented a gender-transformative approach by extending in-kind revolving loans (e.g. ducks and beehives) to over 49,000 women for household income diversification.

In the following section, the perspectives of the project implementors and RVO will be considered, after which the study will focus on the created matches for future Dutch-Egyptian collaboration within the scope of an aid to trade model.

Chapter 3: Perspectives of the Project Implementors

In order to generate an accurate depiction on the current and previous implementation of the LAS project, interviews were held with RVO, the WFP team, and the GIZ team. The findings of these interviews alongside the reporting of the project were used to provide the following project background.

Disclaimer: The summaries and overviews of the interviews included in this report represent the author's understanding and interpretation of the conversations held. These views are intended only for general information purposes and should not be regarded as official statements or exact representations of particular interviewees or organisations. Furthermore, no names are mentioned to ensure the confidentiality of the interviewees. No rights can be derived from these summaries or references to the interviewed personnel.



“Participatory Land Use Consolidation (LUC) can generate the economies of scale necessary to sustainably introduce modern agricultural technologies that would be impractical on an average plot of merely 2.2 feddans.”

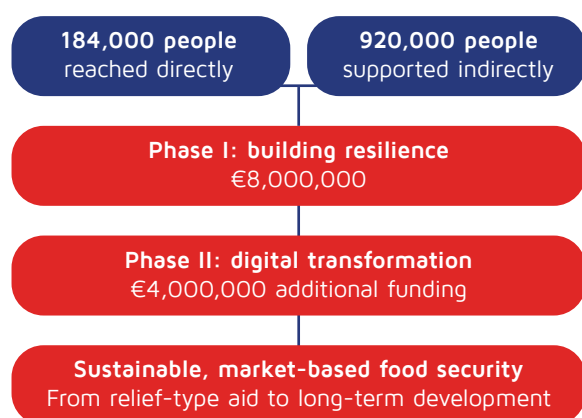
As the donor and assessor of the project, the RVO (and its LAS project coordinators) highly stress the importance of the Land@Scale project, both globally, and zooming in on Egypt. In order to kickstart the LAS programme in Egypt, there was numerous research conducted and issued by RVO, such as the studies by David Sims. Similarly, over the years and through the different project leaders, numerous learning lessons have been generated from the implementation. An overview of the past and current project structure was elaborated upon, especially how the current LAS intervention is part of GIZ's larger international AIP. The key purpose of the programme is to address the persistent problem of agricultural land fragmentation in Upper Egypt through participatory land use consolidation, directly building from the work already done by WFP and MALR over the past 6 years. Specialised committees are used to mediate land disputes and manage group finances, ensuring transparency and preventing bias. According to RVO, the current LAS projects are crucial overcome the structural bottleneck of land fragmentation. RVO sees Participatory Land Use Consolidation (LUC) as a process that can generate the economies of scale necessary to sustainably introduce modern agricultural technologies that would be impractical on an average plot of merely 2.2 feddans. The governance structure of these consolidation groups rests upon four pillars: conflict resolution, digital solutions, and private- and financial-sector partnerships. Such a strategy allows smallholder farmers to possess the legal right to use their farmlands as collateral, and resolve disputes through clear, special committees.

A recurring consideration within the development of the project has been the necessity of gaining farmer trust and confidence that the implementing organisations are not attempting to change the century-old habits and farming practices of the smallholder farmers but are rather providing a framework which can be used to strengthen the current agricultural environment. Accordingly, one of the major challenges highlighted by RVO is that individual farmers must understand how to shift their mindset away from short-term gains (commonly associated with traditional aid) and see the long-term profit margins negotiated through collective bargaining and formal contracting mechanisms. Though 14 land use consolidation groups have been established successfully in all the three governorates, Menya Beni Suef and Assiut, whether the results produced at each site can be sustained depends on social cohesion. Importantly, project coordinators at RVO said they do not yet have a clear view of whether the Dutch private sector can be direct offtakers for the produce as the current project structure and agricultural landscape within Egypt instead relies on a number of local Egyptian partners, such as Mahaseel, Mozare3, and others to provide (digital) solutions. This once again raises the question of the right entry point of additional Dutch companies within the project, given the complexity of interacting with the large number of smallholder farmers.

“A recurring consideration has been the necessity of gaining farmer trust — ensuring implementing organisations are not attempting to change century-old habits and farming practices, but are providing a framework to strengthen the current agricultural environment.”

WFP Team

Through the WFP and the Egyptian Ministry of Agriculture and Land Reclamation, a complete package of support was implemented aiming to empower communities of smallholder farmers in Upper Egypt to build resilience and adapt to climate change. This project, in two phases over the years 2020 to 2025, was also uniquely positioned within national priorities and aspirations represented in key projects including the Decent Life Presidential Initiative as well as Hayah Kareema initiative and Nexus for Food Water and Energy (NWFE). It was set in a context of extreme macro-economic turmoil, with cumulative food inflation hitting 177% between 2021 and 2025, compounded by three rounds of currency devaluation that considerably diminished the purchasing power of rural households. Given these external stressors, farming families were finding it harder to obtain their basic daily needs and the inputs that are required for agricultural purposes, hence clearly indicating the need for some sort of interventions aimed at improving resilience. The project focused on 60 of the poorest villages in five governorates: Assiut, Sohag, Qena, Luxor and Aswan. Selection of communities based on high poverty, extreme fragmentation of land and higher proportions of wheat production.



The project directly reached more than 184,000 rural men and women across both phases, which supported an estimated 920,000 community members indirectly. Phase I (8 million euros) was on the underlying resilience through community building, Good Agricultural Practices and increasingly climate-adaptive agriculture assets. The second phase, with an extra funding of 4 million euros, enlarged the focus to digital transformation, greater financial inclusion and innovative management of agricultural residues. In this second phase, bioconversion approaches were applied to convert agrowaste into protein-rich animal feed and clean energy in response to the approximately 35 million tonnes of agricultural waste generated each year in Egypt – the majority of which is either discarded or combusted. The general mindset of the project was to move communities from short-term, relief-type support to long term market-based sustainable development. After more than a decade of building trust in Upper Egyptian communities,

the WFP and its partners managed to localise more resources to create sustainable food security.

STRUCTURAL ISSUES

Extreme land fragmentation and acute water scarcity represent key structural handicaps facing the agricultural sector in Upper Egypt. Roughly nine out of 10 Egyptian farmers are smallholders, with the vast majority dependant on plots measuring less than 0.4 hectares, a state that limits economies of scale and fails to allow modern machinery. In addition, it is categorised as a “water-scarce” country and more than 85% of its available freshwater supply goes to agriculture where flood irrigation is commonly used. Climate change is likely to further compound these problems, with yields for staple crops such as maize and sugarcane anticipated to decrease by more than 10 percent by 2050 owing to increased temperature and water scarcity. Faced with these challenges, the project focused on the implementation of a series of upgrades to both the physical and institutional side. This included the renovation of 65 irrigation canals leading to average water savings of somewhere between 30% and 35% for each of approximately 2,198 smallholder farmers that adopted the improved systems. It also installed 23 solarpowered irrigation stations as part of turning the agricultural sector to reduce energy costs and carbon footprints, thereby avoiding an expenditure of more than 102,600 litres of diesel while easing farmers’ financial burden.

Apart from physical infrastructure, the project also tackled the systemic issue of traditional agricultural cooperatives that tended to be disorganised and limited their contribution to basic fertiliser distribution. Instead, the WFP decided to invest in strengthening Community Development Associations (CDAs), its grassroots partners that could support 80% to 90% of project activities. These CDAs were trained in strategic planning, financials and leadership on the job to be able to function as professional service providers for their village. To solve the agricultural waste crisis, it implemented bioconversion technologies and set up 397 green forage conversion units and 141 largescale composting units. The units allowed farmers to transform crop residue into highprotein and nutrient requirement animal feed, decrease their feed cost by up to 40%. Another 97 home-built biogas systems were installed through micro-loans, at rural homes which sold clean cooking fuel and liquid fertiliser, alongside natural pesticides. The project worked around lengthy official approval processes and resistance to change in some traditional communities by successfully institutionalising these innovative practices via demonstration fields and local influencers. Endline assessments showed that 95% of all supported households have a high potential for effective measures to reduce climate stresses in their area.

MARKET CHALLENGES

The market-related challenges faced by Egyptian smallholders are substantial, particularly for the total absence of reliable property market data and for extreme information asymmetry. In the case of farmers being distanced from the end market, planting decisions are made by seed available or gut feeling rather than demand, which continues creating price volatility and losses. The project sought to close this gap through digital solutions, most prominently among these is the “Nabatech” application, which was developed in collaboration with E-finance. It offers a responsive Early Warning System for extreme weather, crop-specific technical recommendations to smallholder farmers as well as create an integrated digital marketplace of inputs and produce. Older farmers face a challenge of digital illiteracy, but over 157 CDA staff were trained to be the intermediaries and “Tamweel Ambassadors”, helping farmers register and use the modern financial tools. More than 3,500 smallholder farmers registered on the platform by August 2025 and soil sensors began being deployed across governorates (Sohag, Luxor and Aswan) to provide precision agricultural data.

The professionalisation of CDAs into Small and Medium Enterprises further facilitated market access as well. With UNIDO, the project set up processing facilities including tomato sun-drying units in Qena and pomegranate peeling units in Assiut to mitigate post-harvest losses and value-add local produce. These facilities enabled farmers to go from selling raw commodity products at a lower margin into processing their maize for sale by food processing companies and exporters, thereby obtaining significantly higher margins. CDAs managed to market various products, starting from dates and medicinal herbs through handicraft items in the presence of high-profile fairs such as Sahara International Agricultural Exhibition and Food Africa. In fact, deals close to 7 million EGP were facilitated during Sahara Expo 2024 alone and over 1,300 visitors learned how climate-resilient initiatives will be possible through the project. This project also successfully mediated over 200 contracts in sesame farming for the farmers, creating formal market integration through guaranteed buyers and fair pricing models. More than 1600 beneficiaries received financial literacy training on profit and loss, business plan formation and keepers of customers to support these efforts. These interventions led to more than 600 beneficiaries received nearly 32 million EGP as concessional loans from the Egyptian Agricultural Bank.

“Women are responsible for about 50% of agricultural labour but account for only 5% of national landholdings — as low as 2% in parts such as Beni Suef.”

As discussed in the initial chapters of this study, in Egypt, land tenure is a complex bureaucratic hurdle, with very few properties registered on paper. The vast majority of transactions are made using “Urfi” contracts, which are informal preliminary sales agreements normally witnessed by neighbours and widely accepted socially but at times inadequate for securing formal bank credit. Despite its economic devastating potential, the sector remains an untapped investment hub because almost 84 billion USD worth of agricultural land has no formal titling to enable it to be used as collateral. Moreover, there are great gender inequalities in land access; women are responsible for about 50% of agricultural labour but account for only 5% of national landholdings nationally and as low as 2% in parts such as Beni Suef. Women are often pressured by social norms to sell their inherited land to male relatives who demand that assets remain within the family lineage. Because of this absence of ownership, women are barred from around many decisions and official monetary services. The WFP started tackling those inequities with a gender-transformative strategy, targeting 99% of its capacity-strengthening/micro-loan initiatives at women. These incorporated zero-interest lower in-kind loans for raising ducks along with beekeeping, which allowed women to develop self-raised projects. The project introduced the ‘Land Use Consolidation’ model to address the natural inefficiencies stemming from fragmented land ownership. This strategy saw assembling 10–20 smallholders to run their pieces of land together, consequently aiding in synchronising the planting and harvest cycles and employing larger equipment (like laser levellers). It led to a 20%–50% increase in harvests from resource-limited strategic crops e.g., wheat, sorghum), thus being recognised as an example of social innovation. Longterm sustainability of the project was guaranteed by provisions for farmers to be selfsupporting over a period of four seasons, one season at a time, through level reductions: input and machinery subsidy was phased out from 100% support in year 1 to zero–100% self-sufficiency by year 4. Phase II introduced Handicraft as a specific income generating activity for women in Luxor and Aswan, using palm waste recycling. With this training, more than 1,300 women learned these methods and saw a transformative earning increase of 100% from previous years. These women, who sold hundreds of art works at national exhibitions, showed how value-addition activities could transcend the barriers posed by limited land ownership. In the end, the project success in terms of social cohesion and collective land management has presented a tested model to be used by national policy dialogues on how best to provide food security for smallholder communities who may be most at risk.

The agricultural interventions currently being carried out by GIZ in Upper Egypt build up on six years of groundwork between WFP and the Ministry of Agriculture and Land Reclamation (MALR). WFP first engaged with Egypt’s adaptation fund in 2013, focusing on food security by adapting Smoothing the Environment, and implementing it through a set of durable villages for 60 villages selected from Assiut, Sohag, Luxor, Aswan, and Qena. More specifically, WFP learnt that Community Development Associations (CDAs) are much more

effective grassroots partners than traditional agricultural cooperatives. They tend to be understaffed, outdated in terms of the technical services they provide (e.g. land mapping), and largely restricted to basic fertiliser distribution at best. On the flip side, due to their flexibility and scalability potential over development models widely at large, CDAs were implied in roughly 80% –90% of WFP operations.

WFP originally designed its model to move farmers to self-reliance by way of a three-year cycle of subsidy. It started with 100% free resources, then turned to 60% funded and finally farmers graduated on their own management of production. In this model, physical interventions mainly consisted of upgrading the irrigation canals that were fully subsidised by the project. However, the farmers themselves were purposefully tasked with maintaining and growing these assets because it created a sense of accountability nearest to home. WFP also successfully implemented, in a tender with the private company Mozare3, contract farming for certain crops (like sesame) involving more than 200 farmers in 2024.

In relation to digital innovation, WFP coordinators explained how local implementations like Nabatech were created for weather forecasts, agro-advisory services and a marketplace for crops across the countries. However, there remain to be implementation challenges such

as restricted internet accessibility, localised technical difficulties, combined with poor digital competences amongst older participants. As a result, WFP found that in-person training was of considerably higher value than purely remote models because the human touch is essential to adequately showcasing new methods and improving uptake rates. The interview also mentioned that smallholders are still having difficulty applying direct exporting without intermediaries. In the end, WFP considers these interventions to be one of its essential stabilisation instruments which though not always in tangible trade do stimulate local markets by reducing poverty and offering migrants-faced with illegal migration- a safe means of subsistence. Similar to the opinion of RVO, it seemed to be challenging to pinpoint an exact entry point from which the smallholder farmers can be linked to additional Dutch companies – especially if considering off-takers or input providers. For the former, it still remained difficult to gather and certify the agricultural produce for export. For the latter, the Dutch inputs remain to be unaffordable for smallholder farmers – instead favouring private companies due to the benefits of economies of scale for such private organisations. Similarly, the Egyptian ministry remained as a close project partner, which necessitates the consideration of the ministry in potential matches.

For GLZ, agricultural development in Egypt is defined by a strategic shift away from charity-based models towards a participatory market-driven approach that emphasises institutional professionalisation and innovation. As the implementing partner for the Dutch-funded LAS component under their broader Agricultural Innovation Project (AIP), GLZ acknowledges that sound land tenure and market access go hand in hand as fundamental drivers of smallholder farmer income increase. This collaborative viewpoint is about how to shift rural communities in Upper Egypt from dependence on extensive subsidies into become more self-sufficient agribusinesses that can compete and be active partners in international value chains.

There were several shifts in the project philosophy from the initial project launch under WFP. For example, the earlier intervention approach occasionally faced issues due to 100% free inputs being supplied to farmers, which led to a lack of accountability and motivation to continue after funding had been provided. Thus, GLZ developed a costsharing model whereby farmers have to contribute at least 20% of costs (and usually much more through labour). This is expected to drive smallholders out of short-term thinking that focuses on immediate gains and encourage an awareness on how contracts work and how contractual profit margins operate. The project is divided into two seasons; the first one includes individual preparation and electing management groups, and the second season focuses on climate smart solutions for agriculture such as solar energy to run pumps, irrigation using modern technology.

The professionalisation of Farmer Organisations (FOs) is an important topic within GLZ's implementation. Currently, traditional cooperatives suffer from capacity limitations or act merely as fertiliser distributors. Hence, GLZ wants to turn FOs into Business Development Services (BDS) units. In such units, there is dedicated staff for finance, for marketing, and for digital tools who are able to handle complicated tasks including contract farming, quality control, and inclusive sourcing. This institutional anchoring is seen as critical to addressing the current mistrust between smallholder producers and private sector buyers.

GLZ further sees innovation as one of the main tools to improve productivity while meeting stringent, international standards. Due to their very high potential for export to European and American markets, the project targets Medicinal and Aromatic Plants (MAPs), onions, garlic and peppers. GLZ believes that digital transformation, shown through applications like Nabatech or Agricash, could potentially narrow the substantial imbalance of information that besets the sector. Nonetheless, they recognised

a key 'digital literacy' barrier and pointed out that IT tools can support access to market information more transparently, but only approximately 10% of smallholders in Upper Egypt are currently competent enough to use such platforms.

SECTORAL FOCUS

According to the studies carried out by GLZ for the AIP, the preferred chosen crop sectors are Medicinal and Aromatic Plants (MAPs) (namely chamomile, fennel, basil, and marjoram) peppers (green and chilli), as well as onion and garlic group. These sectors were identified following a rigorous prioritisation methodology that assessed a longlist of 29 horticultural crops against three main criteria: market growth potential, development impact and inclusiveness, and the feasibility of interventions to catalyse change. Geographically, the actions will be concentrated in Minya and Beni Suef, two governorates with a significant concentration of the selected crops and also key hubs for Upper Egypt's agricultural production.

These sectors are chosen primarily due to their high market growth and export potential. The MAPs sector is predominantly oriented towards international trade, as around 80% of production GoEs to the European, American and Far Eastern markets. Due to the rich aroma and oil concentration, which is prominent in sweet-smelling plants, these types of plants are demanded as a raw material in food industry, perfumery industry and pharmaceutical industry. Onions, for example, are Egypt's third-largest export crop and garlic has seen an increasing global demand, with Egypt becoming one of the world's leading exporters. Strong prospects for global expansion were also highlighted in peppers if the value chain is developed to cover high-end varieties for both fresh export and pickling.

The other key criteria for their selection were high development impact potential and inclusion of vulnerable groups. Smallholder farmers with fragmented plots of three feddans or less primarily manage these sectors and represent the project's main target beneficiaries. Moreover, women's representation was a key criterion for selection; the studies emphasised that these value chains have high female labour shares, especially in labour-intensive activities such as harvesting and post-harvest hand-sorting, grading and packaging. Between 2013 and 2021, more than one third of the workforce in sectors such as chamomile consists of women (around 75%). Women are also significantly involved in the manual peeling and preparation necessary for processing factories along the onion/garlic chains.

Lastly, these industries were chosen due to the potential for innovation and value creation. The GIZ (2022c, 2022d, 2022e) studies showed that these value chains suffer from poor conventional practices, such as flood irrigation and low-level post-harvest handling, that can be fixed through technological and process innovations to reduce waste and improve yields. Low hanging fruit that can be added in with respect to profitability through value adding activities include things like MAPs for essential oils extraction, onions into flakes and high-quality pickles and pastes from peppers. These sectors were considered to possess the required level of preparedness by market actors (farmer organisations, processors, etc.) to implement solutions associated with enhanced food safety and quality standards.

POTENTIAL DUTCH TRADE LINKAGES

The LAS project is viewed by GIZ as a gateway to indirect trade and regional stability. While direct exports by smallholders remains to be a challenge, project coordinators see the strengthening of the

value chain as a means to make Egyptian produce more competitive in the face of high rejection rates associated with biological or pesticide contamination. Nonetheless, GIZ found that Dutch seeds are too costly for local smallholders. Instead, the current seed suppliers from the Netherlands are kept to a minimum, instead opting for local input suppliers as Mahaseel or SEKEM. In some instances, Dutch service providers are utilised in the areas of irrigation and digital training. Similar to the perspectives of RVO and WFP, GIZ also mentioned that there are many local Egyptian competitors that provide similar technologies to Dutch companies. Additionally, when it comes to input provision, the current Dutch prices are not affordable for the average smallholder farmer. For the export potential, more work needs to be done from the consolidation perspective. In the end, the overall LAS interventions are considered as a stabilisation tool that reduces rural poverty and creates local economic alternatives to illegal migration.



Egyptian Partners

The initial study approach included potential interviews with some of the Egyptian partners of the project (such as Mahaseel, Mozare3, Limetree, the Ministry, or even smallholder farmers). However, after speaking with the project implementors, it was deemed favourable to have potential matches between Egyptian and Dutch partners to be mediated by GIZ to ensure transparency. Accordingly, no interviews were directly held with the Egyptian partners.

Chapter 4: Matchmaking Approach



Selection of Companies

On the basis of the initial interviews held with RVO, WFP, and GIZ, NABC mapped potential matches from the Dutch perspective, namely divided into three buckets: input providers, technology providers, or potential off-takers. On this basis, several Dutch companies were approached for the potential matchmaking. For input providers, a meeting with East West Seed was organised. There were other types of inputs considered (additional seeds via Rijk Zwaan, or biological protection via Koppert). However, since these companies were already present within the Egyptian market, no concrete match was made due to the Egyptian companies' familiarity with GIZ. Regarding technology providers, the interviews made it apparent that there exists a current saturation within the Egyptian market for cheaper alternatives to Dutch technology providers. Nonetheless, meetings were scheduled with FutureWater, SkilledEd, and FarmerLink. Finally, regarding potential off-takers, no matches were created. Due to the current groupings of the Fos, it was not possible to generate a clear-cut overview of the crop quantities and types. Accordingly, no direct off-takers were approached. Instead, organisations such as Growers United were approached, but did not have current interest to collaborate with smallholder farmers in Egypt due to the renowned difficulty in certification and challenges in customs.



Implementation of Matchmaking

To implement the matchmaking, the Dutch companies were put into direct contact with GIZ, moderated by NABC. The selection to communicate directly with GIZ instead of additional Egyptian companies was due to the necessity of streamlining communication through the project implementor. When a match proved to be interesting, GIZ subsequently connected the Dutch partner with additional Egyptian partners.

The initial terms of reference for the study included matchmaking between a minimum of 8 Dutch companies with at least 60 Egyptian companies. After conversations with RVO and the Dutch Embassy in Egypt, it became apparent that the referenced 60 Egyptian counterparts were the cooperatives developed and collaborated with during the span of the Land@Scale project. However, following the interviews, it became apparent that such FOs are not easily approachable on an online basis, instead requiring on-the-ground visits, and sometimes lacking communication in the English language.

For example, only about 10% of smallholders in Upper Egypt can leverage online platforms if their digital and functional illiteracies are taken into account. Furthermore, the interviews with the project implementors clarified how even identifying four literate individuals that can run digital marketing and finance for a group of 15 farmers within the Land Use Consolidation (LUC) groups has been very difficult. In addition, the process of matchmaking with farmer cooperatives does not work in practice because Egyptian agricultural cooperatives are largely inactive. Such bodies are often referred to as “the executive arms of government” filled by elderly peers who are the messengers of a low-capacity form of simply sanctioning the distribution of subsidised fertilisers rather than performing market mediation functions. In some instances, these cooperatives tried to serve as mediators, but were not able to assure quality control or secure long-term contracts with private clients. Lastly, smallholder farmers and LUC groups are still not at a stage of scale enough to export produce into the Netherlands. Extreme land fragmentation, with average holdings falling to as low as 2.2 feddans is a hindrance to these groups from achieving the economies of scale required in order to meet international market standards for higher volumes and stricter quality norms (such as Maximum Residue Levels or MRLs). Project coordinators have decided that smallholders will not be able to export directly without the massive support of intermediaries to fill the production volume and traceability gaps.

Thus, since the cooperatives are not formal business entities and are inaccessible without being in Upper Egypt, it was deemed to not be possible to

matchmake with 60 Egyptian companies. Due to the lack of formality of the farmer groups, it was decided to keep the matchmaking with GIZ. This alternative approach was also discussed with the Embassy of the Kingdom of the Netherlands to the Arab Republic of Egypt. Instead, GIZ was used as an intermediary (since they are the ones currently implementing the project, and WFP have already completed their involvement in the first phase). GIZ employs and collaborates with several Egyptian service providers, some of which can still be connected to Dutch counterparts.

MATCHMAKING MEETINGS

East-West Seed

East-West Seed is one of the world’s premier producers of tropical vegetable seeds that helps improve the livelihoods of smallholder farmers. It supplies high-quality, climate resilient seeds along with hands-on agronomic training. It is known for its moral compass and a specific focus on rural agricultural development. The meeting with East-West Seed (EWS) focused on the possibility of building links between quality input suppliers and smallholder communities in Upper Egypt. Although EWS has concentrated its local operations on sweet corn and onion through their existing northern private sector distributors, the company seeks to identify small-scale producers via the Agricultural Innovation Project (AIP). According to GIZ, the AIP does not provide direct inputs for priority crops such as MAPs, onions and garlic; it aims to be a source of technical guidance instead pointing out that sourcing certified seed through digital platforms is key to high yields. A large aspect of the training is stressing the importance of certified seed providers, which is conducted via platforms that sell to smallholder farmers (CropSa, Mahsooly who have both a mobile app and a website where they are receiving bulk orders from the smallholder farmers). Within the AIP programme, the trainers are not promoting brand names directly to make it easier for the farmers.

Soil salinity is a major technical takeaway from discussions, and also specific to Upper Egypt: rising soil salinity levels are linked to agricultural calendar shifts driven by climate change. Changing the “Old Lands” to drip irrigation raises salinity issues because the soil needs blanching with more water, which traditional systems do not always allow for. Similarly, the dripping equipment tends to only last for only two years or so, which does not make the initial monetary investment worthwhile. This echoes wider fears about the economics of modern irrigation systems in conventional crop growing regions.

Finally, in addition to the high costs of logistics and the challenges around quality control, the discussion spanned several structural obstacles like long-standing

“bad faith” between producers and buyers that have prevented them from onboarding smallholder farmers. Due to the high influx of smallholder farmers in Egypt, the discussion explained how several formal institutions such as financing banks, off-takers, and private organisations tend to turn a blind eye to the potential of working with smallholders. This is due to the bureaucratic hurdle of upkeep when working with smallholder farmers, as well as the difficulties in traceability, consistency and certification. Since smallholders mostly rent their land, it is nearly impossible to obtain additional financing; a barrier that has also come up in assessments for land governance. Nonetheless, EWS believes the smallholder segment presents an opportunity to share critical technical knowhow. It is planned to follow up connections with digital platforms, such as Mozare3, Cropsa, Mahsooly, and Mahaseel, in integrated models between contract farming and input distribution. Accordingly, additional meetings are planned between local Egyptian providers and EWS, following the introduction by GIZ.

FarmerLink

ExoLink has developed a traceability digital platform called FarmerLink, which is designed for supply chain and farm management to provide tools for smallholder farmers and agribusinesses to secure end-to-end product traceability relief from the Farm Level all the way through the consumer (to achieve EUDR compliance). Mobile tools enable offline crop and plot tracking, enabling farm management and access to financial services, as well as post-harvest follow up.

FarmerLink was accordingly matched with GIZ to tackle data and supply chain issues hindering more fragmented agricultural sectors. They explained how the platform structures data around inputs, yields and post-harvest handling to ensure full traceability from farm to exporter. This is specifically important for onions, garlic, peppers and MAPs (Medicinal and Aromatic Plants), which have a very high reject rate for biological contamination or MRL non-compliance in EU markets.

GIZ noted that a common topic of the discussion was the structural weakness of Egyptian agricultural cooperatives, most of which focus on fertiliser distribution rather than functioning as market mediators. For this purpose, GIZ and Land@Scale work through CDAs to better anchor project activities. In countries other than Egypt, FarmerLink was used to present local organisations with opportunities to mature into more professional units, enabling them to manage more complex activities such as managing contract farming and “inclusive sourcing”, which is all made possible via the application and its associated marketplace. The experience of FarmerLink further emphasised how smallholder markets are frequently characterised by a “mistrust” between producers and the private sector. However, it was found that digital traceability can establish the credibility required for lasting buyer commitments.

In terms of its features, the FarmerLink app creates

digital maps for each individual land polygon (with specific boundaries), keeps track of what inputs are purchased from which partner, and records participation in technical training sessions. For these competitive export crops that GIZ is assisting, this “coding” system pays off. Financing the platform is estimated to be about 1 Euro per farmer annually for basic registration and processing, while advanced modules such as surveys and traceability range from 1,500 to 2,000 Euro. As a result of the meeting, it was suggested that one of the LAS GIZ farmer committees that has a clear “digital appetite” could be pilot users of the mobile application. The long-term aim is to plug the platform into existing digital systems, such as the 8-million-farmer “Agrimasr” database or GIZ’s “Nabatech” app to facilitate a single entry point for smallholders with access to credit, inputs and guaranteed offtake agreements. Once again, the conversation re-emphasised the current saturation of the Egyptian agricultural sector with digital tools.

Skilled

Skilled, is a social enterprise developing blended-learning solutions, delivered remotely for training populations in disaster and developing areas. It uses mobile platforms and offline apps meeting the low-entry barriers, to enable learning of sustainable agricultural practices and business development approaches along innovation, negotiation, storytelling among others.

The focus of the introduction between GIZ Egypt and Skilled was on the potential use of an e-learning platform for technical agricultural training in Upper Egypt. Skilled launched a browser and Android based app that allows for the delivery of structured learning modules with user management and statistics about performance. One of the developed applications is for another impact cluster in Egypt called BUCRA, focused on the Sharkiya region. Much of the conversation revolved around ways that such a digital tool might fit into or even be created to support the existing BUCRA project framework, specifically for sharing GIZ’s technical materials on organic farming, food safety and good agricultural practices (GAP). GIZ had previously made a large number of training materials, such as videos and PowerPoints to prepare people for the agricultural job market.

Yet, one of the main challenges highlighted by the meeting is that this SME population in Upper Egypt suffers from a high level of digital and functional illiteracy. Only about 10% of smallholders in these regions can currently work with online platforms, GIZ representatives say. This is compounded by wider project baseline and gender assessment data, which shows that 62% of female farmers in the region are illiterate and that mobile use has been confined to basic communication with families and friends. Once again, GIZ re-emphasised the difficulty of getting just four literate and reputable persons together from fifteen farmers in each of the Land@Scale LUC groups.

As a result, the GIZ and Skilled instead decided to shift

the near-term strategy from illiterate smallholders to “first-order” graduates (recent university graduates from governorates like Luxor) with both the required digital skills and stable internet connections to be knowledge brokers. Existing integrated environment and license costs a few thousands per model, but the suggested business model scales with subscription cost based on user volume. The follow-up agreement is for SkillEd to send across a guide on how to build a course so GIZ can start framing curriculum starting solely around generating job opportunities for graduates. This strategy attempts to generate a knowledge community that eventually connects with farmers via trained local experts, rather than through direct interaction over digital platforms, as the innovation must be sensitive to the socio-cultural conditions of the Nile Valley. Following the first meeting, curricula information has been shared by GIZ, and a follow-up meeting has been arranged.

FutureWater

FutureWater is an international research and consultancy institute based in Wageningen, the Netherlands. Established in 2002, it offers science-based solutions for managing water. It employs quantitative methods (geographic information systems, satellite observations, simulation models) in the fields of climate adaptation, water scarcity, hydrology and irrigation.

During the matchmaking meeting, FutureWater discussed the use of a new satellite-based application called “CROPTIMAL,” which provides daily, highly localised irrigation advice. The tool integrates crop-specific information with live weather station data as well as open-source WAPOR (Water Productivity Open-access Portal) satellite information to quantify by how many out of 100 millimeters of water through irrigation or precipitation is needed for a field. The recommendations, for example, were sent to users through WhatsApp or via SMS, an accessible and economical service. It also includes anything from a manual rain gauge for farmers to subtract natural rainfall from the recommended irrigation time, so fields do not get over-saturated.

Egypt’s water-scarce designation highlights the need for such a tool, as agriculture alone gobbles up more than 85% of limited freshwater in the country. In “Old Lands” 95% is still traditional flood irrigation, which is inefficient by nature and increases soil salinity as well as diseases of the plants, GIZ said. But a major technical limitation became evident: CROPTIMAL uses drip or sprinkler systems, and in cases of flood irrigation the precise volumes of water enter are difficult to pinpoint. GIZ is working towards more modern forms of irrigation through a number of projects, but equipment costs are still too high for most smallholders, representing another barrier of transforming aid into trade.

GIZ discussed that this can be overcome by piloting the tool on demonstration plots that are already converted to drip irrigation with cultivated crops as pomegranate, citrus or aromatic; The dashboard is designed for “intermediary” service providers, local agronomists, or even private firms to manage the profiles of farmers and disseminate advice. For a group of at least 50 farmers, FutureWater calculated the cost to be around 2 USD/ farmer per month. The output of the meeting was to further connect FutureWater with “Innovator Co,” a local Upper Egypt service provider in remote sensing to implement a free pilot demonstration. The project intends to showcase that the technology’s costcutting potential and yield benefits through a side-by-side comparison will encourage risk-averse farmers to pay in order for access to this type of technology in the future.

Trade Opportunities

These matchmaking meetings gave a perspective on the current potential avenues for collaboration, while resulting in potentially at least 4 additional meetings (i.e., EWS with Mahaseel, Mozare3, Cropsa, FutureWater with Innovator Co., and FarmerLink and SkillEd with GIZ). For example, there are opportunities in consolidating the produce of different cooperatives and smallholder farmers, creating export opportunities to the Netherlands. However, according to the interviews, there are restrictions in (a) the composition of the land use consolidation farmer groups (who take time to agree on planting specific crops etc), (b) ensuring consistency among the different farmer groups in the quality of the crops, (c) monitoring and meeting European export standards (especially when it comes to the usage of fertilisers and agrochemicals), and (d) the lack of a system in which the outputs can be quantitatively and qualitatively measured and traced.

These challenges bring in a different point in which Dutch companies can 'pitch in'. For example, for the lack of tracking, an introduction was made between GIZ and FarmerLink (who provide traceability for thousands of smallholder farmers and allow contract farming to be conducted within the application). The application can also be used to monitor fertilisers and other additives.

To ensure consistent soil quality and crop selection, tools such as those developed by FutureWater can be adapted. To standardise and share training ideas, tools such as those developed by SkillEd can be used. However, a challenge lies in technology adoption by smallholder farmers. For example, for the digital training application, it was expressed by GIZ that it is more applicable to graduates of different programmes within the Agriculture Innovation Project rather than Land@Scale due to the degree of education attained by the smallholder farmers.

What is apparent from the conversations with the different bodies (from RVO, GIZ, WFP, and the companies), the current stage at which the farmer groups are established are not yet applicable for international trade. Instead, the opportunities lie in connecting the Egyptian service providers (such as Innovator Co. or Limetree) with the Dutch service providers to transmit knowledge. There are definitely opportunities for Dutch counterparts to partake in project extensions or novel pilot plots within the larger scope of international agricultural projects within Egypt, but once again, this raises the challenge that such projects are funded through subsidies and that the end-receiver (i.e., smallholder farmers) are not investing capital into the business transaction.

As for the import/export opportunities, Dutch inputs were deemed as too expensive, and Egyptian exports were deemed as not subpar to European regulations considering the current status of the LUCs and the time invested with them. This can be explored in a further follow-up study in Upper Egypt.

Similarly, it became apparent that many of the Egyptian agricultural cooperatives are not proactive, most are old governmental colleagues, and the smallholder farmers and LUCs are not yet at a stage at which they have sufficient volume and quantities to export to the Netherlands. Similarly, inputs from the Netherlands were deemed by GIZ as too expensive for the smallholder farmers. Instead, the current entry point to collaboration with Dutch companies lies in the knowledge sharing aspect: whether in increasing the reach of the training, improving land registration and monitoring (which subsequently provides the LUCs, buyers, and governments with a more evidence-based oversight of the farmlands), and the development of a stable contract farming method which avoids farmer and buyer mistrust due to market prices. The challenge with such solutions and services is that they are not limited to Dutch providers. For example, there are several Egyptian companies that are attempting to create digital tools for smallholder farmers, many of which are employed by the government (Mozare3, Mahaseel, M7awy, E-finance). This is of course a limitation if there is a degree of government influence. There is also the chance that the local applications are more affordable to smallholder farmers given the limited incomes and the language barriers. Thus, it is necessary to brainstorm about further avenues for collaboration and matchmaking, which can be followed up after submission of the study.

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Barriers

Although the in-depth scoping studies and ongoing assessments of the AIP and Land@Scale are a valuable first step, they are just the start of many years of structural change. These studies have mapped value chains and piloted models such as land use consolidation, but the actual implementation has only affected 1 to 3% of cultivated lands in the target villages. The process thus is evolutionary, starting from the foundational research patterns to scaling up of successful pilots. However, while project coordinators accept that (identified) lessons/solutions are actually an “eye opener” and will trigger “new thinking and policy dialogue”, they also caution that this cannot provide a holistic, at once solution for (the vast) sector.

“These studies have mapped value chains and piloted models such as land use consolidation, but the actual implementation has only affected 1 to 3% of cultivated lands in the target villages.”

It is challenging to convert an aid-based model into a sustainable trade loop because the LAS project has been programmed in dependency through initial subsidy structures. The WFP model depended on making the inputs 100% free, and transitioning farmers to a participatory market-oriented approach

(where they will have to pay up to at least 20% of their cost themselves) represents a significant mindset shift that cannot be sustained post-aid withdrawal. In addition, project interviews state that smallholder farmers are not yet ready to export directly as they have insufficient quantities and uniformity of quality with regard to technical traceability required by international standards (e.g. Maximum Residue Levels [MRLs]) unless sophisticated intermediaries are used.

This change is complicated by the saturation of Egypt's local market, which causes prices to fluctuate dramatically. Staple crops are grown primarily for local markets from locally self-generated seed; succulent horticulture, such as peppers and tomatoes can be bought grown-time on a cycle of production. Most production is sold through local markets and information on distant demand is non-existent causing ‘availability-driven’ cultivation where over-supply continuously crashes prices to cover levels which barely meet costs. Challenges regarding the size of supply chain actors are still paramount to realising this opportunity, most simply in comparison to competitors such as the US, stressing the need for Egyptian producers to improve their quality and food safety standards even further when supplying (many smallholders have currently rejection rates of infection in MAPs close to 50% to 60%). Thus, though the projects build resilience, formal international trade continues to be stymied by a crowded local market (with one report estimating a 53 percent self-sufficiency rate in bananas) and limited “trust” among producers and the private sector.

Actionable Follow-Up Opportunities

Moving away from an aid-based model and towards a Netherlands to Egypt sustainable trade cycle means overcoming different layers of gaps on scale, trust, data and institutional capacity. The following analysis summarises the obstacles and the prospects for a “win-win” based on information from interviews with stakeholders and project documentation.

THE SCALE AND READINESS GAP: SMALLHOLDERS AS END-USERS

The biggest obstacle to a direct trade link is that the typical small farmer in Egypt, who makes up 90% of the agricultural labour force but usually manages less than one feddan, was “not ready” for direct export. This can be attributed to several structural reasons:

1. **Land parcelisation:** Land is extremely fractionalised (the average holding size in Egypt is 2.2 feddans) not allowing the economies of scale required to meet international buyers’ needs for large-volume sales.
2. **Educational and Digital Barriers:** Many women farmers are also illiterate (62% in Upper Egypt) and, with estimates of digital literacy at only 10%, sophisticated elearning or digital trade platforms will prove challenging to adopt without intensive on-the-ground assistance.
3. **Financial Constraints:** Smallholders do not have the liquidity to pay for pre-harvest costs but many Dutch inputs such as seeds are priced out of reach for this segment. Furthermore, they cannot get easy access to loans as they are renting the land which they farm.
4. **Credibility and Trust:** There is a chasm of “distrust” between farmers and buyers: farmers miss contracts when spot market prices are higher, whereas exporters are unwilling to commit unless they see the end-product quality first.
5. **Value-Added Processing:** There are several elements of LAS which add value to the current value chain, such as local pomegranate peeling, tomato drying or MAPs distillation units. Such avenues are not used to their full potential: if adequate numbers in quantity are reached, farmers can access higher margins while also supplying Dutch and international industries with semi-processed ingredients that meet their quality specs. However, this necessitates a difficult consolidation of resources.

THE “INSTITUTIONAL” GAP

Interviews point to the fact that, although the Government of Egypt is a key partner, conventional government sponsored agricultural cooperatives are too often ‘undercapacitated’ and mainly consist of simple fertiliser distribution. In the LAS project design, a focus has been on accordingly professionalising non-governmental intermediaries such as:

1. **CDAs as Grassroot Anchors:** Compared to cooperatives, CDAs have greater flexibility and are perceived to be more trustworthy; CDAs were also

involved in 80–90% of local activities according to the WFP.

2. **BDS Units and FOs:** In addition to CDAs, GIZ goes one step further by morphing farmer organisations to Business Development Services (BDS) units. Each of these units includes technical, marketing and financial experts who are able to handle the management of contract farming or “inclusive sourcing” for smallholders.

Nonetheless, there are regulatory bottlenecks since FOs are not formalised under the current NGO law, limiting their ability to transition to a trade model as required for formal business activity.

THE DATA AND TRACEABILITY GAP

Currently, there is a wide lack of data across smallholder farmers, especially to generate evidence-based farming. Thus, it is here, through the provision of technology as a service rather than just selling commodities, that Dutch innovation can extract a “win-win”:

1. **Export Traceability:** Tighter compliance regulations exist in European and Dutch markets regarding Maximum Residue Levels (MRLs) and food safety standards (e.g., Global GAP). This is an example of how platforms like FarmerLink can factually provide the necessary coding and traceability to make smallholder produce export ready.
2. **Resource Efficiency:** Currently, many of the farmers use too much water, which decreases the availability of resources and the efficiency. Accordingly, Dutch firms like FutureWater, who give “Croptimal” irrigation advice through WhatsApp, are yet more examples of the resource efficiency imperative which is vital in a waterscarce nation where 85% of demand comes out of agricultural paddles.

Chapter 5: Conclusion



Conclusion

The key element of the long-term sustainability of the Dutch-Egyptian trade cycle is bringing together Dutch policy interests in both economic expansion, public procurement and technology transfer with Egyptian capital needs.

The bilateral structured and offsetting capital-aid projects between the Netherlands and Egypt are founded on local economy partnership rather than aggregate economy reconstruction. As project coordinators stated, the added value of this project for the Dutch trade agenda is that it relates to three main policy interests in trade, stability and migration. The programme helps to address rural poverty and, by raising smallholder incomes by an estimated 20–30%, provides an important stabilisation tool that creates economic alternatives to illegal migration.

To move forward, smallholders should not become independent exporters, but instead build a “Business Case” for intermediaries. Dutch companies can function as technology and service providers (in solar, water, and data), while Egyptian BDS units function as aggregators offering the private sector a reliable traceable high-quality supply of crops such as onions, peppers, and MAPs. Nonetheless, reaching such an operating dynamic necessitates additional monetary and time investments to create a strong foundation for a self-sustaining trade cycle.

For smallholder farmers to export directly, gaps of substantial trade need filling. The major blockage here is a “scale and readiness” gap where the extreme fragmentation of land stops smallholders being able to meet the volume other global markets desire. In addition, it suffers from a deep trust and credibility gap given decades of defaults on contracts if only the price of the relevant market moves, exacerbated by the absence of formal registration (only 5%–10%) for properties to which loan collateral can be set against. Further, there is still a linear gap on the data and traceability side since most of these smallholders can hardly meet compliance through rigorous documentation on food safety.

These gaps have been touched upon in the matchmaking sessions. A prime illustration of this collaboration is the cooperation with FutureWater to launch Croptimal, a satellite based system offering farmers daily irrigation advice through WhatsApp in water-scarce areas to help them achieve better yields and waste less vital water resources. Although this service is specifically targeted as drip irrigation plots, it can potentially expand through local intermediaries. SkillEd is another match which offers an e-learning application. EWS could potentially provide a more affordable route for high-quality seeds through partnerships with local Egyptian organisations providing services to the wider smallholder farmer community. Lastly, FarmerLink (ExoLink) provides a data-structuring platform to

increase traceability and supply chain transparency – which is vital in ensuring that Egyptian produce is export-ready for Dutch buyers.

“The sustainability of the trade cycle going forward hinges on whether these BDS units can act as mediators between smallholder producers and the private sector.”

Possible follow-ups to these matches are professionalising the intermediary layer of the value chain. The sustainability of the trade cycle going forward hinges on whether these BDS units can act as mediators between smallholder producers and the private sector, facilitating not only Egyptian produce that meets international standards but also providing Dutch firms with new opportunities for technology and services exports. In the case that the farmer groups are involved in exports, Dutch organisations and testing labs can further be involved to ensure compliance. Similarly, for any cooperatives or BDS who prefer to have organic certification, there are opportunities for Dutch organic pesticide suppliers to step in. As aforementioned, there is always a large opportunity in the training and digital tools avenue, although this is hindered by competition with local Egyptian companies.

The (potential) opportunities will further be developed as the LAS project progresses, presenting additional learning opportunities and avenues for Dutch companies to step in.

Chapter 6: Bibliography

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