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ANNEX VI

of the Commission Implementing Decision on the multiannual action plan in favour of Egypt for 2022, 2023 and 2024

Action Document for the "EU Support to Food Security in Egypt"

MULTIANNUAL ACTION PLAN
This document constitutes the multiannual work programme in the sense of Article 110(2) of the Financial Regulation, and action plan/measure in the sense of Article 23(2) of NDICI-Global Europe Regulation.

1. SYNOPSIS

1.1. Action Summary Table

1. Title **OPSYS** **Basic Act**	EU Support to Food Security in Egypt Multiannual Action Plan in favour of Egypt for 2022, 2023 and 2024 OPSYS business reference: NDICI-GEO-NEAR/2022/EG/ACT-61339 ABAC Commitment level 1 number: JAD.1025937 Financed under the Neighbourhood, Development and International Cooperation Instrument (NDICI-Global Europe).
2. Team Europe Initiative	Yes Team Europe Initiative "Climate Change Adaptation through Integrated Water & Food Security" Team Europe "Global Food Security Response"
3. Zone benefiting from the action	The action shall be carried out in Egypt.
4. Programming document	Multiannual Indicative Programme for European Union support to Egypt for the period 2021-2027[1]
5. Link with relevant MIP(s) objectives/expected results	Priority 1: Green and sustainable development Priority area 2: Human development, economic resilience, and prosperity building through green and digital transition
PRIORITY AREAS AND SECTOR INFORMATION	
6. Priority Area(s), sectors	DAC code 311- Agriculture

[1] C(2022) 4049 final – 17.06.2022.
https://neighbourhood-enlargement.ec.europa.eu/system/files/2022-06/C_2022_4049_1_ANNEX_EN_V3_P1_1915690.pdf

7. Sustainable Development Goals (SDGs)	Main SDG: SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture. Other significant SDGs : • SDG 1: End poverty in all its forms everywhere – Target code 1.5 (By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters). • SDG 13 – Take urgent action to combat climate change and its impacts.
8 a) DAC code(s)	31110 - Agricultural policy and administrative management[2] 5% 31150 - Agricultural inputs[3] 15% 31182 - Agricultural research[4] 8% 31191 - Agricultural services[5] 72%
8 b) Main Delivery Channel	European Commission – Development Share of Budget – 42001 Indirect management via development agencies – 11004
9. Targets	☐ Migration ☒ Climate ☒ Social inclusion and Human Development ☐ Gender ☒ Biodiversity ☐ Human Rights, Democracy and Governance

10. Markers (from DAC form)

General policy objective	**Not targeted**	**Significant objective**	**Principal objective**
Participation development/good governance	☐	☒	☐
Aid to environment	☐	☒	☐
Gender equality and women's and girl's empowerment	☒	☐	☐
Reproductive, maternal, new-born and child health	☒	☐	☐
Disaster Risk Reduction	☒	☐	☐
Inclusion of persons with Disabilities	☒	☐	☐
Nutrition	☐	☐	☒
RIO Convention markers	**Not targeted**	**Significant objective**	**Principal objective**

[2] Agricultural sector policy, planning and programmes; aid to agricultural ministries; institution capacity building and advice; unspecified agriculture.
[3] Supply of seeds, fertilizers, agricultural machinery/equipment.
[4] Plant breeding, physiology, genetic resources, ecology, taxonomy, disease control, agricultural biotechnology; including livestock research (animal health, breeding and genetics, nutrition, physiology).
[5] Marketing policies & organisation; storage and transportation, creation of strategic reserves.

	Biological diversity	☐	☒	☐
	Combat desertification	☒	☐	☐
	Climate change mitigation	☒	☐	☐
	Climate change adaptation	☐	☒	☐
11. Internal markers and Tags	**Policy objectives**	**Not targeted**	**Significant objective**	**Principal objective**
	Digitalisation	☐	☒	☐
	Tags digital connectivity digital governance digital entrepreneurship digital skills/literacy digital services	YES ☒ ☒ ☐ ☐ ☐	NO ☐ ☐ ☒ ☒ ☒	
	Connectivity	☐	☒	☐
	Tags digital connectivity energy transport health education and research	YES ☒ ☐ ☐ ☐ ☒	NO ☐ ☒ ☒ ☒ ☐	
	Migration	☒	☐	☐
	Reduction of Inequalities	☐	☐	☒
	COVID-19	☒	☐	☐

BUDGET INFORMATION

12. Amounts concerned	Budget line(s) (article, item): 14.020110 Total estimated cost: EUR 100 000 000. Total amount of EU budget contribution EUR 100 000 000. The contribution is for an amount of EUR 100 000 000 from the general budget of the European Union for 2022. The commitment of the EU's contribution to this action will be complemented by other contributions from Team Europe partners. It is subject to the formal confirmation of each respective partners' meaningful contribution as early as possible. In the event that the Team Europe Initiatives (TEI) and/or these contributions do not materialise, the EU action may continue outside a TEI framework. As of September 2022, a number of EU Financial Institutions and EU Member States have expressed their interest to take part in the initiative, in particular: -the European Investment Bank (EIB) with nearly EUR 1 000 000 000; -the European Bank for Reconstruction and Development (EBRD) with nearly EUR 400 000 000;

	-Germany (GIZ and KfW) with EUR 530 000 000; -France (AFD) with EUR 205 000 000; -Spain (FIEM) with EUR 18 000 000; -The Netherlands with EUR 25 000 000; -and Italy (AICS), implementing the rural development programme "EU Zira3a", worth EUR 27 300 000 and co-funded by the EU with Italy's contribution of EUR 3 300 000.
MANAGEMENT AND IMPLEMENTATION	
13. Implementation modalities (type of financing and management mode)	Project Modality **Indirect management** with the entity(ies) to be selected in accordance with the criteria set out in section **Error! Reference source not found.**.

1.2. Summary of the Action

The Action seeks to support Egypt in addressing the food crisis caused by the Russian war of aggression against Ukraine and the subsequent disruption of the grain (mainly wheat but also maize and sunflower) distribution channels, availability and rising prices on the world market by increasing both the grain production and storage capacities of Egypt.

Egypt imports around 40 % of its food needs. It is the world's largest wheat importer, with Ukraine and Russia covering more than 80% of its import needs prior to the war. Egypt relies on wheat to produce the heavily subsidised "baladi" bread, which is consumed by most Egyptians, making it the most strategic commodity for the country's food security.

As the Egyptian population grows quickly (about 2% per year), the total wheat demand is also growing. Today, Egypt consumes about 18 million tonnes (Mt) of wheat yearly, with the national production covering about 8-9 Mt and the 9-10 Mt gap being imported (6 Mt by the State, 3-4 Mt through the private sector)[6].

To face this growing wheat demand, Egypt is investing to:

1) Increase the national production by cultivating new lands (land reclamation –"horizontal expansion") and by improving its land productivity (increasing the yields – "vertical expansion").

2) Increase and improve the wheat storage capacity in order to reduce grain losses and ensure sufficient strategic storage, notably in case of international market disruptions as we are witnessing with the Russian war of aggression against Ukraine.

The Action aims to support the government's efforts by supporting:

1) The sustainable increase of Egyptian grain (mostly wheat) production through:
    - A comprehensive support for the multiplication of certified seeds based on existing improved varieties as well as the contribution to the development of new varieties, better tolerant to climate change, including drought and salinity.

[6] Values reported by Ministry of Supply and Internal Trade (MoSIT).

- A support to the mechanisation of the wheat cultivation and other strategic grain crops by providing the Ministry of Agriculture with agriculture machinery pooled for the benefit of small and medium holder farmers in the old lands (Nile valley and delta).

2) The sustainable increase of grain storage capacity mostly for locally produced but also imported wheat. In this respect, the Action will take a three-step approach:
   - A detailed feasibility study that will cover the technical, economic, social and environmental dimensions of the grain storage (mostly wheat), which will allow for the prioritisation of the silo construction needs.
   - The construction of about 0.47 Mt increased grain storage capacities (mostly wheat) based on the prioritisation previously established. This will include the construction of strategic silos (0.42 Mt) located in key areas but also farm silos (0.05 Mt) to reduce the heavy losses (above 20-25%) presently witnessed in the open-air storage areas. Work on grain losses at production and storage levels will help reinforce national production.
   - The completion of the ICT (Information and Communications Technology), already partially put in place by the Ministry of Supply and Internal Trade (MoSIT), in order to allow real time tracking at central level of the strategic wheat reserves and better anticipate the needs notably in terms of imports.

Therefore, the project will mainly contribute to the achievements of SDG 2 (zero hunger) as well as SDG 1 (no poverty) and SDG 13 (climate action). The corresponding OECD's Development Assistance Committee (DAC) purpose codes[7] of the project are all related to agriculture (311) and more specifically to the codes:

- Agricultural services (31191), which includes storage and creation of strategic reserves.
- Food crop production (31161), for the support to the grain production.
- Agricultural inputs (31150), which covers the supply of seeds and agricultural machinery/equipment.
- Agricultural research (31182), which covers plant breeding and development of genetic resources.

In Egypt, the project will be part of the Team Europe Initiative (TEI) "Climate Change Adaptation through Integrated Water & Food Security" and will also contribute at the global level to the TEI "Global Food Security Response[8]".

It will also be in line with the EU-Egypt Partnership Priorities 2021-2027[9] as adopted in June 2022 and contribute to the achievement of the three priority areas of the Multi-Annual Indicative Programme European Union – Egypt (2021-2027), i.e.: Priority 1: "Green and sustainable development", Priority 2 "Human development, economic resilience and prosperity building through green and digital transition" and Priority 3 "Social Cohesion, Modern and Democratic State".

2. RATIONALE

2.1. Context

Altogether 40 % of Egyptian food demand is met by imports. Egypt is among the countries most affected by the Russian war of aggression against Ukraine as it relies heavily on imports for its supply of wheat, maize,

[7] https://webfs.oecd.org/oda/DataCollection/Resources/DAC-CRS-CODES.xlsx.
[8] https://civil-protection-humanitarian-aid.ec.europa.eu/news-stories/stories/global-food-crisis-5-things-you-need-know_en
[9] https://data.consilium.europa.eu/doc/document/ST-2803-2022-ADD-1/en/pdf.

soybean and edible oil and a significant portion of these imports come from Russia and Ukraine. For instance, in 2020, Russia and Ukraine accounted for 86% of Egyptian imports of wheat.

An estimated 27.9 million people in Egypt experienced moderate or severe food insecurity in 2019 (3-year average of 2018–2020), an increase of 2.2 million, or 8.6 percent compared with 2015 (3-year average of 2014–2016). The number of undernourished in Egypt reached 5.4 million people in 2019, an increase of 1.3 million, or 31.7 % compared with 2015.

The main channel through which the conflict in Ukraine is affecting Egypt is inflation, especially food. Headline inflation in May reached its highest level in three years (13.5% y/y, compared to 8.8% in February according to the Central Bank of Egypt). This was driven especially by the continued rising global food prices. Food price inflation was nearly double headline inflation in May (24.8% y/y). Prices for cereals and breads were 32.4% higher than a year ago. In Egypt, the poorest families are estimated to spend almost half (45%) of their income on food.

Egypt already faced significant challenges related to poverty and development before the war and its consequences now threaten to push millions more Egyptians into poverty. This situation makes it all the more important for the Egyptian government to ensure the availability of subsidised food and especially the subsidised "baladi" bread as it represents a significant part of the caloric intake of the poorest people. The government imports yearly about 6 Mt of wheat for the production of the baladi bread.

According to the latest information disclosed by the Minister of Supply and Internal Trade (MoSIT), the current Egyptian wheat reserves are sufficient for about six months after the government procured nearly 4 Mt of locally produced wheat.

Given the severity of the situation, the country seeks to decrease its wheat demand and imports by 10 percent:
- By banning the export of key commodities, including wheat and flour (finally lifted in September).
- By substituting part of the wheat used for the production of the subsidised baladi bread with locally produced sweet potato.
- By raising the flour extraction percentage (to 87.5% from 82%) for the wheat used to produce subsidised bread.

Altogether, Egypt plans to save around 500 000 tonnes (t) of imported wheat, and to import 5.5 Mt of wheat for the 2022/23 fiscal year. For instance, Egypt has recently purchased 350 000 t from France and contracted to buy 180 000 t of wheat from India[10] and is in talks with Bulgarian, Romanian and Russian suppliers for a wheat purchase agreement.

On top of the efforts of the Egyptian government to increase the national production and control the national demand, the population increase makes it necessary, in the short to medium term, to increase the wheat storage capacities of the country. Egypt has already substantially increased its storage capacity from 1.2 Mt in 2014 to 3.4 Mt in 2022 mostly thanks to the support received from the Gulf States. However, further capacity increase is needed and the Government aims at reaching a total of 5 Mt storage capacity within the next 5 years through the construction or expansion of big silos[11] (1 Mt) and the construction of 60 vertical "farm silos" of 10 thousand tonnes (0.6 Mt).

The holding company for silos and storage has already a developed plan for their strategic priorities for extending/adding new capacities in the short to medium term. To help the Egyptian authorities to increase

[10] Egypt had initially agreed to buy 500,000 tonnes of wheat from India but in May, India decided to ban wheat exports while only making allowances for countries with food security needs like Egypt.
[11] About 20 silos with capacities ranging from 30 to 120 thousand tonnes.

resilience response to both internal and external shocks, and secure wheat supply that provides subsidised bread under "the bread subsidy programme" for more than 60% of the population, the EU facility will support building new infrastructure for additional wheat capacity of about 470 000 t representing about 30% of the expected total increase to reach 5 Mt capacity (exact capacity to be built using the facility will be confirmed by the feasibility study report). It is worth mentioning that such types of infrastructure are usually funded through the budget of the Government of Egypt's, supported by loans from International Development Partners (IDPs), as the financials of such projects are not economically viable/attractive for commercial banks.

In parallel and complementary to the EU approach, the World Bank (WB) has approved at the end of June 2022 a USD 500 million loan to bolster Egypt's efforts to ensure that poor and vulnerable households have uninterrupted access to bread, to strengthen Egypt's resilience to food crises and to support reforms in food security policies, including to improve nutritional outcomes. The WB's project[12] will mainly allow for the purchase of imported wheat (0.7 Mt for USD 380 million). It will also contribute to the objective of 1.6 Mt increase in storage capacity that Egypt wants to reach by 2027 by adding about 0.6 Mt capacities through the construction/extension of mainly in Upper Egypt (USD 117.5 million). The remaining USD 2.5 million will be dedicated to the project and knowledge management.

Thanks to the WB and EU project, about 1 Mt additional wheat storage capacity will be added to the existing 3.4 Mt, positively impacting the Government of Egypt on the below dimensions:

- Improving efficiency in stock management through reducing losses of wheat (food waste in Egypt is estimated at approximately 20 % of the total wheat supply from domestic production and imports).
- Increasing resilience to internal and external shocks through enhanced manoeuvrability, thanks to higher storage capacity. These capacities will enable efficient management to the supply chain, increased bulk purchases that would eventually lead to increased competitive prices, and secured wheat supply on the medium term.
- Sustaining the "Bread Subsidy Programme" in the medium term, hence maintaining social stability in terms of critical food supply for the majority of the population.

The action is fully in line with the new EU-Egypt partnership priorities for the period 2021-2027[13] as its implementation will strengthen the transition to sustainable food systems and strengthen food security in Egypt.

2.2. Problem Analysis

1) Grain production

Short problem analysis

Agriculture is a sector of foremost importance in Egypt: although it accounts for 11.3% of the GDP, it engages 28% of national workforce, and 45% of all employed women. Besides, the sector has an important role in fighting poverty, and a 1% increase in agriculture GDP can reduce poverty by 3%. At the same time, Egypt is a net food importer, buying 40 % of the food consumed from abroad, for a total value of more than USD 3 billion per year.

Agriculture represents the main source of income in rural areas, but this income is acutely insufficient to guarantee a decent life to households, particularly in Upper Egypt. Around 90% of Egyptian farmers are smallholders owning less than 0.4 hectares and suffering from low land productivity and limited government support. They are thus led to over-exploit their holdings and increase fertiliser usage to increase production,

[12] https://projects.worldbank.org/en/projects-operations/project-detail/P178926.
[13] https://data.consilium.europa.eu/doc/document/ST-2803-2022-ADD-1/en/pdf

while facing growing water scarcity and land quality deterioration. Moreover, farms are exposed to external factors such as rises in prices of agricultural inputs, crop loss due to extreme weather events and longer-term climate change impact. Rural communities also endure a lack of quality services, inadequate skills and exclusion from the financial system.

The Russian war of aggression against Ukraine has further emphasised the need to strengthen the local agricultural systems and the development of less input-intensive and more climate resilient agricultural practices, in particular by improving water management, supporting water reuse and shifting towards less water intensive varieties, crops and agricultural practices, with the aim of fostering local agro-food systems' sustainability, encouraging agro-environmental measures and reducing dependency on imports.

Wheat farming is wide spread in Egypt. Thanks to its geographical characteristics, Egypt can cultivate wheat along the Nile Valley from the South of the country to the Delta. Its national wheat germplasm contains a wide range of characteristics. The national varieties are suitable for selected regions, such as *Gemmeiza 7* cultivated mostly in the South and the Middle Delta, resistant to rusts, and moderately resistant to salinity, or for all governorates such as *Sids 14*, resistant to rusts and water deficit, with early maturing (152 days). Wheat grain yield ranged from about 5 t/ha in Upper Egypt to 10 t/ha in Lower Egypt (at 10% grain moisture).

Many limitations, nonetheless, affect the productivity and the national grain self-sufficiency obliging Egypt to heavily depend on imports. The main limitations to a higher productivity are the:

i) Fragmentation of the landholding.
ii) Limited access to modern agricultural techniques and in particular:
    a. Certified seeds of productive varieties;
    b. Modern cultivation equipment like agricultural machineries for ploughing, sowing, pest control and harvesting;
    c. Modern irrigation techniques[14].
iii) Lack of crop rotation.

In addition, the rapid population growth is affecting negatively the agricultural sector and the national wheat production. In the last decade almost 170 000 hectares of productive land were utilised to expand urbanisation that affects not only the available area but also water availability and drainage. The lack of old lands, therefore, is limiting the development of the productivity that is also affected by the fragmentation of the landholding, which is a consequence of the inheritance system. Furthermore, in most areas wheat cultivation is realised using old techniques that includes basin cultivation, use of animals, water wheels, use of manual sowing and harvesting tools.

Climate change is becoming one of Egypt's most significant challenges for agriculture. Rising sea levels along the Mediterranean coastline are compacting soil areas and increasing salinity in the Nile Delta, where most of Egypt's high-value and strategic crops are grown. Studies indicate that wheat and corn production would be among the crops affected, thereby increasing Egypt's dependence on food imports and its vulnerability to global price volatility. At the same time, freshwater resources necessary for sustainable agricultural production are under increasing pressure as a result of climate change and unsustainable extraction and use. The breeding and cultivation of grain crop varieties tolerant to high salinity, higher temperature and water stress could mitigate such phenomena and allow for the adaptation of Egyptian agriculture to climate change.

Many diseases such as rusts (*Puccinia spp*.), septoria (*Septoria tritici*), tan spot (*Pyrenophora triticirepentis*), fusarium (*Fusarium spp*.), powdery mildew (*Blumeria graminis f.sp. Tritici*), the bunts and smuts (*Tilletia tritici*), take-all (*Gaeumannomyces graminis*) and root rots (*Cochliobolus sativus*) affect wheat. These diseases

[14] According to FAO, in 2016 sprinkler and drip irrigation accounted for around 5% and 6% of irrigation practices in Egypt, respectively.

require accurate pest control that negatively affects the production costs and the environment. In addition, the common use of non-certified seeds increases the susceptibility to pests. Yield loss estimates for each disease vary from season to season but the use of certified seeds has proved efficient in both limiting the losses due to wheat diseases and thus the use of pesticides.

New cultivation techniques have also been introduced such as raised-bed wheat production that it is associated with a 25 % increase in yields, 50% lower seed costs, 25% percent in water use and lower labour costs but they are not widespread. Thus introducing such techniques and highly productive seeds at a larger scale would help Egypt increasing its national production making the country less relying on import and more self-sufficient and resilient to external shocks.

However, the introduction of such techniques require the mechanisation of Egyptian agriculture. Today, smallholder farmers have very poor access to modern machineries. For instance in Sharqia, one of the largest wheat producing governorates, with about 500 000 feddans[15] of wheat, only 5% of the area is harvested mechanically, the rest being harvested manually. Out of these 5%, 4% are harvested through the public service provided by the Ministry of Agriculture and Land Reclamation (MoALR) while the remaining 1% is harvested through machinery owned by the private sector.

Identification of main stakeholders and corresponding institutional and/or organisational issues (mandates, potential roles, and capacities) to be covered by the action.

The main stakeholder of the grain production and agricultural machinery is the Ministry of Agriculture and Land Reclamation (MoALR), which plays a crucial role in the rural development of the country in assisting, through the extension services, smallholder farmers in each Governorate. It also monitors the distribution of fertilisers, upgrade the efficiency of assets in the various Governorates, and provide guidelines to the farmers for the application of pesticides in the crops.

Among the relevant agencies of the MoALR, the Action will support the Agricultural Research Centre (ARC), which, over the past two decades, has achieved many results including the development of new varieties, improved agronomic practices, maintenance of the national herds and better food processing techniques. Its overarching goal is to maximise the economic return per unit of land and water.

Within the national agricultural development strategies, ARC assumes the following major functions:

(i) Conducting applied and basic research to generate a continuous flow of technologies that help increase productivity and reduce production cost;

(ii) Transfer of new technologies to the farming community through extension service; and monitoring their adoption by the end users;

(iii) Human capital development as a continuous process.

According to its founding law, ARC is required to develop its infrastructure, set its priorities, train its research personnel and support staff and upgrade its physical capabilities, with a view to achieve greater sustainability. Over the past two decades, ARC research personnel have increased. New central laboratories and institutes have been added to improve performance in the on-going plan, which is built on the following pivotal themes:

(i) Sustainable development of research and extension capabilities;

(ii) Upgrading technology transfer channels; and

(iii) Utilising, to the maximum level possible, the findings of science and technology developed abroad.

[15] 1 feddan = 0.42 hectare.

Other partner agencies of the MoALR further support this effort along with the Ministry of Water Resources and Irrigation (MoWRI), universities and other research centres. Multidisciplinary is the major feature of its work and key to its success.

MoALR, through its Agricultural Mechanisation Sector provides a wide range of agricultural mechanisation services to the farmers through about 135 Hiring Services Stations (HSS) covering many villages in the Nile valley and delta. The mechanisation sector has about 6 000 employees. The MoALR budget covers the costs of the management staff while the operation costs, including the salaries for the operators are covered by the revenues collected from renting the machines to the small and medium holder farmers. The MoALR however lacks investment budget to expand the existing service to more farmers.

The Agricultural Cooperative Associations (ACA) do not play a significant role to promote the use of mechanisation and especially for smaller machineries. However based on the experience of the previous intervention of the Italian cooperation the project will involve the ACA to the extent possible.

The private sector provides limited agricultural services (medium tractors for chisel, ploughing and levelling) and most farmers are not satisfied with the quality of services by the private sector due to their high cost compared with those applied by the public service.

2) Strategic grain storage

Short problem analysis

Egypt is considered to maintain a moderate level of hunger as a country with reference to the 2021 Global Hunger Index, yet food affordability and quality remain key areas for improvement. The agriculture sector, which is considered the main domain for tackling this pressing challenge, plays a crucial role in the Egyptian economy contributing to ~11% of the country's GDP. Food security is a challenging subject on the Government of Egypt (GoE)'s agenda that has led the Egyptian authorities to direct investments in the food value chain throughout the last few years, and to support several initiatives to develop the agricultural sector.

However, external shocks such as the COVID-19 pandemic and climate change have been exacerbating the food security challenges coupled by huge food losses estimated to reach up to 50% along the food supply chain according to a study done by Rungis in 2021. The "small farmers" with lands less than 2 feddans still constitute the bigger part of the Egyptian market (more than 75%), which makes the sector even less resilient to external shocks. Egypt is placed 62nd out of 113 countries by the Global Food Security Index.

On the large population side, the GoE represented by the Ministry of Supply & Internal Trade (MoSIT) is providing the more vulnerable families with a subsidised food system via ration cards. Part of this system, is the bread subsidy programme which offers beneficiaries 150 loafs of bread per month at 0.05 EGP/loaf (actual cost ~0.6 EGP/loaf) produced by ~30 000 bakeries (ref. US Foreign Agricultural Service report, 2022). This serves more than 60% of the Egyptian population and costs the GoE about USD 3 billion annually and expected to nearly double with the surging inflation according to the World Bank. GoE had plans in 2021 to start reform of the bread subsidy programme so as to ensure better targeting to the families that need it most. However, the Russian war of aggression against Ukraine has put those plans on hold.

Wheat is considered the main input that is used to produce the subsidised bread and occupies a big share of the Government's annual import bill with more than 50% of the consumed wheat being imported (IFPRI). It is also considered a staple food element that is responsible for 35-39% of the per capita caloric consumption. In this context and to sustain a secure supply of wheat, the GoE established in 2015 a National Project of Silos and the Ministry of Supply & Internal Trade (MoSIT) has almost tripled its storage capacity through the extension of capacities in existing silos sites and the construction of new ones (reaching ~3.4 Mt in 2022 vs

1.2 Mt in 2014). Yet, still traditional storage methodologies (open-air facilities that are unable to protect wheat from moisture / infections leading to high level of losses[16]) are used given the need for further capacities. Increasing wheat storage capacities will create a more resilient and efficient wheat value chain and create further manoeuvrability for MoSIT to assure the security of wheat supply in the country.

The storage system of wheat at farm level is one of the challenges that Egypt has to face to minimise the losses while maintaining the quality. Storage of wheat collected from farmers in the existing shonas (a shona is an open yard where wheat collected from farmers been stored in sacks) needs to be improved and wheat should be rather stored in Vertical Farm-level Silos (VFS) having capacities suitable to store the production harvested from a cultivated area of one village (capacity of about 10 000 tons). In the VFS wheat is stored in safe and hygiene conditions while preventing the high losses rates (>25%) witnessed in the open-air shonas.

Along the wheat value chain, the biggest losses are registered in the farm management (8%), in the harvest (9 %), in the storage (10 to 20%) and during consumption at restaurants (8%). Therefore, those are the most important key-points to tackle that could reduce not only imports but also loss of water and energy improving the management of natural resource in line with Egypt National Climate Change Strategy 2050.

Therefore, the entire wheat value chain, from the production to the storage, distribution and consumption, needs to be enhanced and better managed through:

(i) the introduction of new cereal varieties having higher productivity and adapted to the soil and water conditions;

(ii) the provision of proper mechanisation services;

(iii) a better collection and storage system particularly at farm level to minimise losses.

The Russian war of aggression against Ukraine has further worsened the situation for GoE given that ~80% of its imports of wheat in the calendar year 2021 were from Russia and Ukraine. The Government is currently unable to fulfil the supply rates from the two countries due to the war. The situation has led the Government to adopt quick regulatory measures on the local wheat market, in addition to seeking financial support to maintain the sector's resilience during the crisis. On the national level, Egypt has increased its procurement target of local wheat to 5 Mt in 2022 versus 3.6 Mt in 2021. In addition, the government has increased its pricing for local farmers by ~8% along with incentivising the farmers with subsidised fertilisers for the upcoming season. Lately, MoSIT has temporarily banned exports of wheat.

On the financial level, the GoE is under pressure with the increase in wheat prices from an average of USD 280 per Mt in the first five months in 2021 compared to USD 317 per Mt in November, before reaching USD 500 per Mt in Q1 of 2022. A swift action was necessary to dilute the impact on the short term and assure resilience on the longer term.

<u>Identification of main stakeholders and corresponding institutional and/or organisational issues (mandates, potential roles, and capacities) to be covered by the action.</u>

The Ministry of Supply & Internal Trade (MoSIT) is the responsible line ministry with regards to securing supply and strategic reserves of basic commodities (ex: wheat, maize, edible oil, poultry, etc.), in addition to managing internal trade within Egypt.

With regards to wheat in particular, MoSIT is responsible for the wheat procurement, storage and supply within the country through its specialised authorities. It develops strategies, policies, pricing and regularly monitors the market to assure price stabilisation. On that front, MoSIT oversees Egypt's strategy and

[16] Minimum of 10% to 20% loss rate but likely to be around 25%.

objectives for diversification of its import sources and maximising the local production. Moreover, MoSIT is the responsible ministry for the Bread Subsidy Programme, making wheat procurement, storage and supply one if not its top priority.

In doing so, the MoSIT has specialised authorities including the General Authority for Supply Commodities (GASC) - accountable authority for the procurement of strategic commodities (both imports and locally produced) – and the Egyptian Holding Company for Silos and Storage (EHCSS) that is contracted by GASC to assure efficient wheat storage for imported and locally procured wheat. In addition, for the storage of imported wheat at the ports, MoSIT has storages facilities at various ports across Egypt managed through the General Company for Silos & Storage (GCSS). GCSS is an independent company, yet 51% ownership by EHCSS that gives the Holding Company the capacity to head the Board.

MoSIT, as the line Ministry, will play a key role in the project's implementation and for the coordination between the main stakeholders.

The Egyptian Holding Company for Silos and Storage (EHCSS) is the responsible authority for managing the storage of wheat across the country. The Holding company owns several silos across the country with a strategic target to provide 5 million metric tons of silos capacity over the next five years (current capacity is 3.4 million metric tons). EHCSS is also responsible for the development of infrastructure management systems for all silos to enhance efficiency; in addition, the company is focused on loss reduction during the storage and transportation to the milling process.

The EHCSS, as the specialised and mandated authority for the development of new silos infrastructure and the expansion of the existing ones, will be the implementing agency representing the MoSIT and the Government of Egypt.

The main stakeholder for the establishment of the Vertical Farm-level Silos is the Ministry of Supply & Internal Trade (MoSIT) and the affiliated Egyptian Holding Company for Silos and Storage (EHCSS) that is the responsible authority for managing the public storage of wheat across the country to ensure the production of the subsidised bread.

2.3. Lessons Learned

As concerns the proposed Action, past experience from both EU and its European development agencies can be leveraged to identify key lessons learned. The Agence française de développement (AFD) has an ongoing cooperation with the MoSIT on the development of a network of modern wholesale markets in Egypt, to contribute to food security by limiting the food losses in the value chain. This objective of reducing food losses is the priority of this Ministry. A feasibility study is ongoing for the construction of the first modern wholesale markets in Egypt. This cooperation has revealed the limited experience of MoSIT with International Financial Institutions' procedures, which are perceived as time consuming by the counterparts. Accordingly, it seems important to have a strong project management structure including experienced engineering services and a full-time project coordinator to ensure a smooth implementation.

The Italian Agency for Development Cooperation (AICS), through the Italian-Egyptian Debt Swap programme is supporting the Ministry of Supply and Internal Trade financing the establishment of six Vertical Farm-level Silos (VFS): this type of silos represents an advanced system for wheat storage, aiming to replace the traditional flat storage system at field level called Shona having poor storage quality (open-air storage). The six VFS supported by AICS are located in three Governorates, namely Sharqia (Nazlat Al-Khayal, Minya Al-Qameh, Toukh Al-Qarmous and Abu Hammad), Menoufia (Qena) and Minya (Al-Adwa). The six VFS are expected to be completed by the end of 2022. Due to several difficulties faced during the project, (poor technical specifications and design, lack of clear identification of project sites, non-availability of essential

services like water and electricity), its completion faced heavy delays and witnessed strong increase in market price.

Therefore, among the lessons learned taken from past experience, the following should be considered essential:

i. A detailed and accurate technical and economic feasibility study should be carried out, including clear technical specifications and realistic estimated prices in line with the prevailing prices in the local and international markets. This is to avoid later, during the tendering process, the risk not to receive offers in line with the allocated resources, demanding therefore the project to re-tender and wasting more time.
ii. Make sure that the pre-selected sites do not have obstacles, whether with regard to the ownership of the land or to logistic obstacles, such as road access, availability of adequate required utilities.

In addition to the establishment of the above Vertical Field-level Silos, within the same project, the Italian Cooperation is also supporting the establishment of an ICT (Information and Communications Technology) system aiming to ensure real time tracking and management of the fluxes. This ICT system will be implemented in two phases, the first phase, is currently being implemented and in phase of testing to be completed by the end of the year. To date, this phase has already linked 22 points of wheat cycle, which connect seaports, part of big modern silos, intermediate silos and some flourmills.

The total cost of the project (six VFS + ICT), is around USD 47 million funded by AICS for USD 45 million through the Italian-Egyptian Debt Swap programme and EGP 40 million by the Egyptian government.

AICS has also a longstanding cooperation with the MoALR through the implementation of successful rural development programmes such the EU funded "EU-Joint Rural Development Programme" establishing good networks with national stakeholders at governmental level and locally in the governorates.

Regarding the agricultural machinery, a previous implemented programme named "SAMSIMIFA[17] Sustainable Agricultural Mechanisation System Improvement in Minya and Fayoum Governorates" was implemented by AICS in partnership with the MoALR, ARC and the International Center for Advance Mediterranean Agronomic Studies (CIHEAM) in Bari. The project had a significant impact on the production of 26 000 farmers through mechanising their production:

- Productivity increased by 9-12 % using seed drill machines over traditional hand sowing.
- Productivity increased by 14-23 % using raised seedbed machines over traditional hand sowing.
- Sowing time was reduced by 25-35 minute per feddan.
- Cost of sowing was reduced from EGP 750 per feddan for manual sowing to 200 using raised bed sowing machine.
- Quantity of seeds using raised bed sowing machine was reduced (from 60-70 kg/feddan using manual sowing to 40-45 Kg/feddan using raised bed machine).
- 25% of irrigation water was saved using raised bed machine.
- Irrigation time was reduced saving 25% of fuel for pumping irrigation water.

It demonstrated that a well-planned strategy of utilisation by the Hiring Service Stations (HSS[18]), would lead to maximising the use of the same machines in favour of the small and medium farmers. Furthermore, an accurate identification of the characteristics of the areas will define the right dimensions of the machines to be acquired. The project also demonstrated that agricultural cooperatives could play an increased role for the mechanisation of the smallholdings. The project indeed provided some cooperatives in Minya and Fayoum

[17] https://samsimifa.org/en_about.php
[18] The public structure established by MoALR to share the agriculture machineries between farmers, notably the smallholder farmers who cannot afford to invest in agriculture machineries.

with small agricultural machinery to provide services to their members. The project provided also technical and administrative training to the members of the cooperative to ensure proper management of the provided machinery. From the preliminary evaluation of this initiative, success could be noted. Such approach should be first evaluated before it can be replicated and rolled out in the rest of the country.

In the framework of the European Union Joint Programming in Egypt, Italy with AICS is the leader of the sector of agriculture and rural development. Co-ordination between the different EU Member states and other actors is also taking place through a specific Development Partner Group on agriculture and rural development, which is co-chaired by FAO and the AICS. Additionally, a joint Technical Committee has been created between the Ministry of Agriculture/Foreign Relation and the Italian Co-operation in Cairo through the Ministerial Decree n. 1967, dated 2013 to ensure the overall co-ordination and supervision of all activities related to the agriculture and rural development sector. However if regular meetings are taking place at individual level, no meetings are organised at committee level.

Finally, as concerns the construction of both strategic and Vertical Field-Level Silos, donor coordination with organisations having ongoing or foreseen programmes (World Bank and the European Investment Bank) will be an integral part of the project. Such coordination will include policy engagement on subjects such as food losses through the food supply chain and land productivity improvement.

3. DESCRIPTION OF THE ACTION

3.1. Objectives and Expected Outputs

The Overall Objective (Impact) of this action is to improve the food security and the resilience of the food system in Egypt.

The Specific(s) Objective(s) (Outcomes) of this action:

1. Grain production in Egypt is increased sustainably with better resilience to climate change.

2. The grain storage and its monitoring capacity, for locally produced but also imported grain, is enhanced.

The Outputs to be delivered by this action contributing to the corresponding Specific Objectives (Outcomes) are as follows.

Contributing to Outcome 1 (or Specific Objective 1):

1.1 Seed selection and breeding: the national breeding strategy for grain is enhanced.
1.2 Seeds multiplication and packaging: the national system to produce improved and certified seeds for grain is enhanced.
1.3 Grain production: small and medium farmers producing cereals are trained in Good Agricultural Practices (GAPs).
1.4 The public sector of agricultural machinery is strengthened to sustain grain production of small and medium farmers.

Contributing to Outcome 2 (or Specific Objective 2):

2.1 Strategic silos[19] are constructed or expanded with EU support.

[19] Strategic silos are silos with capacities equal or above 60 000 tonnes.

2.2 Vertical Farm-level Silos (VFS) are constructed with EU support.
2.3 MoSIT's system to allow real-time tracking of national wheat reserves is expanded.
2.4 A grain losses reduction strategy covering the production and storage levels is developed.

The objectives of the Action contribute to the general objective of the Team Europe Initiative "Climate Change Adaptation through Integrated Water & Food Security" in Egypt, which is "Egypt further adapts its food system and water resources management to the challenges of climate change and a quickly growing population". It is also part of the TEI "Global Food Security Response" of the EU.

3.2. Indicative Activities

Indicative activities related to Output 1.1 - Seed selection and breeding: the national breeding strategy for grain is enhanced:

- Support and improve the existing national breeding strategy[20]:
  - Assess the needs for new varieties.
  - Assess the capacities of national counterparts in the breeding sector (including assessment of infrastructure and equipment).
  - Assess the risks that certified seeds may bring in terms of genetic erosion and loss of traditional varieties as well as farms debt level and commercial power. Identify relevant mitigation measures.
- Support the selection of most productive varieties with the aim of optimising water efficiency[21]. The selection of suitable varieties will be based on the assessment of varieties available at national and international level and the selection of those that are most adapted to the different local pedo-climatic characteristics of Egypt.
- Supply the Agricultural Research centre (ARC) with laboratory equipment, tools, chemicals and greenhouses for its breeding facilities.
- Conduct a capacity-building programme on breeding technology[22] for public and private local stakeholders.
- Develop breeding guidelines for the establishment of experimental plots and pilot field plots.

[20] Certified seed is a strategic input for agricultural development. Egypt is part of the OECD Seed Schemes, the international Standard for seed trade for cereals and oil & fibre species (https://www.oecd.org/agriculture/seeds/documents/oecd-seed-schemes-rules-and-regulations.pdf).

[21] In that respect, a research institute shall provide technical support, also with the implementation of ad hoc experimental trials for the irrigation scheduling, the identification of the most suitable wheat varieties with the aim to optimize the water consumption.

[22] Modern plant breeding is based on genomic information, and, for instance, molecular markers and sequences of genes conferring disease resistance have a great potential impact on modern breeding. Molecular information describing the most relevant sources of resistance are available in the scientific literature, however transferring these data from a publication into a real breeding programme requires specific scientific knowledge as well as the capacity of developing and applying molecular markers associated to genes of interest. These competence and capacities can be acquired through a training of one year for 2-3 researchers in the labs of a research institute. Besides molecular marker technologies and their actual application to breeding programmes, the training will also focus on bioinformatics tools to access to genomics knowledge (genome browser, databases) of major crops to keep updated on the latest research outputs. Transferring of expertise will lay on the application of the relevant knowledge and technologies on some case studies related to main crop diseases and major adaptive traits to introduce directly resistance genes into Egyptian or adapted varieties. Overall, this activity will provide knowledge to develop and run a lab in Egypt for molecular based selection for major crops.

Indicative activities related to Output 1.2 - Seeds multiplication and packaging: the national system to produce improved and certified seeds for grain is enhanced:

- Develop a training module and a training plan on the certification of seeds for the national administrations involved in the certification process. The training will cover all dimensions (administrative, legal; technical and scientific) of grain-breeders applications for certification. A training plan will be prepared and delivered.
- Map the available areas for the multiplication of the selected improved varieties of each crop (wheat, maize, soya bean and sunflower) in the Nile valley and delta.
- Develop a multiplication strategy with public entities and the private sector for each of the selected areas to ensure a quick availability of the certified seeds to the small and medium farmers in those areas.
- Supply ARC with equipment and machines to expand the multiplication of certified seeds by the public sector.
- Develop a guideline on Good Agricultural Practices (GAPs) for an efficient multiplication of the certified seeds by the private sector (farmers), including farming practices that limit the impacts on biodiversity.
- Rehabilitate the processing plants of MoALR to increase and improve their capacity for the packaging of certified seeds.

Indicative activities related to Output 1.3 - Grain production: small and medium farmers producing cereals are trained to Good Agricultural Practices (GAPs):

- Identify GAPs to be promoted among small and medium farmers producing grain, including farming practices that encourage sustainable water use and enhance co-benefits for biodiversity and soil sustainability through agro-environmental measures.
- Train farmers[23] on demonstration farms for the developed GAPs.
- Roll out an extension and training programme[24] on GAPs to grain-farmers.

Indicative activities related to Output 1.4 - The public sector of agricultural machinery is strengthened to sustain grain production of small and medium farmers:

- Conduct a need assessment to identify the type and quantities of the agricultural machineries for the production of strategic grain crops[25] by small and medium holder farmers. This assessment should include a consultation with final beneficiaries (farmers and cooperatives).
- Procure the agricultural machinery for the HSS to support the grain production by the small and medium holder farmers and their cooperatives.
- Conduct an assessment to develop a training programme to raise the capacities and skills required for a sustainable management of the agricultural machineries.
- Prepare and deliver training programme for managers, technicians (including concerned cooperative members) and store keepers of the HSS.
- Develop a sustainability plan (including operation & maintenance) of the purchased machineries.

Indicative activities related to Output 2.1 - Strategic silos are constructed or expanded with EU support:

[23] Contracted by MoALR.
[24] Good Agricultural Practices will be explained through training programmes, demonstration fields, and farm school days.
[25] The assessment in the inception phase will guide the identification of the most adequate machinery taking into consideration the power of the machine in relation to the characteristics of the soil, the area of the cultivation and the crops.

- Undertaking a feasibility study covering the technical, financial, economic, environmental and social dimensions of the strategic silos identified as priority for the Egyptian authorities:
    - The initial target set by MoSIT is to add about 420 thousand tonnes of capacity through the construction or extension of six big silos. The feasibility study shall assess and confirm the possible figure according to the allocated grant taking into consideration criteria of eligibility. These criteria comprise the sustainability of the infrastructure and the maximisation of the social impact.
    - The feasibility study will provide the detailed design, the risk assessment as well as the Environmental and Social Impact Assessment (ESIA) according to both Egyptian regulation and international standards.
- Provision of engineering services covering the detailed design, the Environmental and Social Impact Assessment including the Risk Assessment, the construction, the supervision and the monitoring of the Environmental and social Management Framework.
- Procurement and installation of the infrastructure component of the strategic silos (big silos and in the shortlisted governorates according to the results of the feasibility study and within the available budget. The infrastructure will include civil work[26]s and electro-mechanical components, utilities, networks, and associated facilities. The detailing of the values will be validated at the feasibility study stage.
- Project coordination, works supervision and hand-over of the constructed strategic silos to EHCSS.

Indicative activities related to Output 2.2 – Vertical Farm-level Silos (VFS) are constructed with EU support:

- Undertaking a feasibility study covering the technical, financial, economic, environmental and social dimensions of the VFS identified as priority for the Egyptian authorities:
    - The initial target set by MoSIT is to add 50 thousand tonnes of farm level storage capacity through the construction of five Vertical Farm-level Silos (VFS). The feasibility study shall assess and confirm the possible figure according to the allocated grant taking into consideration criteria of eligibility. These criteria comprise the sustainability of the infrastructure and the maximisation of the social impact.
    - A feasibility study on the farm-level silos will be conducted focussing on ongoing experience with the construction of VFS[27]. A consultation of final beneficiaries (farmers and cooperative should be foreseen).
- Provision of engineering services covering the detailed design, the construction, the supervision and the monitoring of the Environmental and social Management Framework.
- Procurement and installation of the infrastructure component of VFS in the shortlisted governorates according to the results of the feasibility study and within the available budget. The infrastructure will include civil works[28] and electro-mechanical components, utilities, networks, and associated facilities. The detailing of the values will be validated at the feasibility study stage.
- Project coordination, works supervision and hand-over of the constructed VFS to EHCSS.

[26] The Egyptian government will cover civil works costs.

[27] Regarding the realisation of VFS, building upon the ongoing activities of the project funded by the Italian Egyptian Debt Swap III "Establishment of Vertical Farm-level Silos complexes and Implementation of an Information & Communication Technology (ICT) system for the wheat management sector", the Italian Agency for Development Cooperation proposes to expand the realization of small silos with a capacity of 10 000 ton, in small farmer areas, combing optical sorters to identify and expunge the infested caryopses or seeds, physical technologies to contain the development of moulds / insects and maintain the optimal atmosphere conditions, stabilise / rehabilitate flours especially whole meal / high-lipid content by heat treatments.

[28] The Egyptian government will cover civil works costs.

Indicative activities related to Output 2.3 - MoSIT's system[29] to allow real-time tracking of national wheat reserves is expanded:

- Assess the needs for hardware and networking equipment to complete the ICT of the MoSIT for 111 wheat storage points (63 silos, 23 VFS and 25 mills).
- Procure and connect the specified wheat storage points to the existing system[30].
- Launch the service for specified storage points.

Indicative activities related to Output 2.4 - A grain losses reduction strategy covering the production and storage levels is developed:

- Develop a grain losses reduction strategy with national counterparts and private sector. This should include a consultation with farmers and cooperatives.
- Provide recommendations to reduce grain losses.

3.3. Mainstreaming

Environmental Protection, Climate Change and Biodiversity

Outcomes of the Environmental and Social Impact Assessment (ESIA) screening (relevant for projects and/or specific interventions within a project). The ESIA screening classified the action as Category A[31] (ESIA will be undertaken).

Outcome of the Climate Risk Assessment (CRA) screening (relevant for projects and/or specific interventions within a project). The CRA screening concluded that this action is at risk[32] (CRA will be undertaken).

Gender equality and empowerment of women and girls

As per OECD Gender DAC codes identified in section 1.1, this action is labelled as G1. This implies that the Action will mainstream gender equality in all components, through gender-sensitive indicators, activity designs, training materials, and ensuring equal participation of women. This will be ensured in all possible aspects of the Action, for instance through the training components by ensuring that a significant share of the trainees are women. In addition, women will benefit from the support to the production of certified seeds.

Human Rights

The Action's approach is in line with SDG commitments and puts a particular emphasis on protecting the human right to food and nutrition (RtFN) by supporting the Egyptian subsidised bread system, which benefits most Egyptians but also by supporting small-scale food producers in realising their livelihoods and accessing natural resources.

Disability

[29] Information and Communications Technology.
[30] The ongoing ICT system of MoSIT aims to facilitate the management and control of the flux of the wheat between the supply sources and final consumers. Within its first phase, the AICS project titled "Wheat Transactions Governance Project", the silos management system (SMS) for the entire infrastructure of 350 storage nodes, has launched the services, and deployed the system on the operational environment of 22 storage points. The action will allow for the implementation of a second phase of the SMS to be deployed for additional 111 storage points through a work package.
[31] This classification will be confirmed by ongoing prefeasibility work.
[32] This classification will be confirmed by ongoing prefeasibility work.

As per OECD Disability DAC codes identified in section 1.1, this Action is labelled as D1. This implies that the Action will promote inclusion of persons with disabilities in three main ways: by considering persons with disability as a priority group when possible, for instance in financial inclusion and entrepreneurship support and by making project activities accessible, for instance through barrier-free training formats and materials, with adequate funding earmarked in that respect.

Democracy

This programme builds on the commitment of the Commission to adopt a human rights based approach to development cooperation. Improving the resilience of the Egyptian food system and focusing on smallholder family farmers will contribute to ensure the fundamental right to access to food. The Action will also contribute to sustain the "Bread Subsidy Programme" in the medium term, hence contributing to maintain social stability in terms of critical food supply for the majority of the population.

Conflict sensitivity, peace and resilience

One of the main objectives of the Action is to improve the resilience of the Egyptian food system, and notably of its wheat value chain, to global shocks, as it is currently witnessing with the Russian war of aggression against Ukraine. Accordingly, the capacity of local wheat production and local storage will be enhanced to offer better self-sufficiency and longer strategic reserves in case the ongoing conflict or other external shocks further affect the wheat value chain in Egypt. The increased sustainability of wheat supply will contribute to the continuity of the "bread subsidy programme", which is a fundamental of pillar of the Egyptian social system.

Disaster Risk Reduction

Because of the climate change, decrease of grain production is observed in big grain exporters or producers (USA, Canada, France, India, etc.) that affects the global wheat market supply. Supporting the reinforcement of the grain value chain in Egypt will decrease the pressure coming from the impacts of the climate change on the sector. If the project will support the adaptation of the Egyptian food system to climate change and reduce the dependence of Egypt to grain imports, it cannot per say be considered as a disaster risk reduction project.

3.4. Risks and Assumptions

Category	Risks	Likelihood (High/ Medium/ Low)	Impact (High/ Medium/ Low)	Mitigating measures
External Environment	Global crises, such as COVID-19 pandemic waves, hamper the implementation of activities.	Medium	Medium	Digitalisation of activities and online remote capacity development; collaborating with governmental entities and service providers to explore all implementation alternatives.

Planning, Processes and System	Lack of full political support to the programme, for instance if the programme objectives are not considered a political priority anymore.	Low	High	Political dialogue and close communication with line Government entities; policy advice; consultations; transparent procedures; involvement of relevant social actors. It is expected that the current food crisis will motivate government officials to find solutions in order to ensure a smooth programme implementation.
	Lack of coordination among involved institutions.	Medium	Medium	Coordination supported by the programme. A participatory approach will facilitate a full coordination between concerned parties.
	Longer than planned time for granting government security clearances for project interventions and partners.	Medium	High	Starting the process of approval requests as soon as possible; to the extent possible, involve the administration at central and local level in the design of activities and identification of local partners.
	Lack of qualification of institutional staff.	Low	Medium	Providing intensive training programmes for institutional staff.
People and the organisation	EHCSS with limited experience on implementation of project financed by the EU.	Medium	Medium	A strong engineer will need to be required. The implementation of the World Bank project in parallel with a component of project management will support the capacity building of the teams of EHCSS.
	List of silos shared by EHCSS not responding to priority needs.	Low	High	To ensure the relevance of the needs for the capacities of storage, the feasibility study will include a technical assessment of the flows of production and consumption. The construction of silos should ensure that they will be filled/used downstream.
	Identification of the VFS sites.	Medium	Medium	Preselection of sites and ensure that land is belonging to the MoSIT/EHCSS
	Land availability for the construction of silos.	Low	Medium	To ensure that land to build the silos is available, not involuntary resettlement is needed and belongs to the silo's owner.

	Environmental impacts, including fire and explosion risk.	Medium	High	Silos present a high explosive and fire risk and these infrastructures should be considered as industrial infrastructures. Accordingly, a strong attention on the Hazard Risk Assessment as part of Environmental Social Impact Assessment will be required for the construction and for the subsequent operation and maintenance. An ESMF (Environment and Social Management Framework) will be developed in a preliminary phase to ensure the alignment of all the Action's stakeholders.
	ICT system not adapted.	Medium	Medium	First stage of the system completed and successfully tested.
	Certified seeds foster loss of biodiversity, seeds genetic erosion, loss of traditional varieties as well as have a negative impact on farms debt level and commercial power.	Medium	Medium	Engagement with MoALR to ensure traditional seeds can continue to be grown. Explore the development of local seed exchanges, community seed banks and seed fairs. Involve farmers and cooperatives in the needs assessment.
	Selection of final beneficiaries (e.g. farmers, cooperatives) is biased and not sufficiently inclusive.	Medium	Medium	Establishment of clear and fair criteria for selection; involvement of the EU Delegation in selection processes; regular monitoring by the EU Delegation, the implementing partners and local entities involved; feedback mechanisms at beneficiaries' levels.
	Cereals production will not be bought by the Egyptian authorities at farmer's advantage.	Medium	High	Propose the establishment of pre-production contracts to ensure a minimum market guaranteed price.
	The agricultural machinery will be mismanaged.	Medium	High	A management plan will be prepared and tested to ensure the correct use and management of the procured machinery.

	Agricultural machineries not responding to the needs of the farmers' majority (i.e. will small landholding and limited means).	Medium	Medium	Selection of adequate machinery suitable for the cultivation by small and medium holder farmers. MoALR's Hiring Machinery Stations will provide cost-effective agricultural services.
Communication and information	Because the programme will be implemented through indirect management, the EU is less visible as a partner.	Medium	High	A strict implementation of contracts' visibility provisions; clear communication and visibility plans shared with the EU Delegation; EU presence to be foreseen and the agreement to any communication activity by the EU Delegation.

External Assumptions

The Action assumes that Egypt will continue to enjoy relative stability in spite of the geopolitical and global contexts.

3.5. Intervention Logic

The underlying intervention logic for this action is that to contribute to the food security and resilience in Egypt, grain productivity and grain storage should be enhanced in order to offer a "buffer" to the agri-food value chain of Egypt as a response to ongoing and future global shocks.

To increase the production of grain it is relevant to:

- Support the MoALR in enhancing the national breeding strategy.
- Support the MALR in enhancing the national seed production and to supply small and medium farmers with certified seeds characterised by increased yield and resistance to abiotic and biotic stress.
- Support to small and medium farmers in good agricultural practices, including sustainable water management and measures to benefit biodiversity.
- Enhance the mechanisation in the rural lands in order to reduce the production costs and increase the productivity.
- Store the produced grain crops in safe silos in order to avoid losses and maintain quality witnessed in open-air shonas.
- Reduce the grain losses along the whole food value chain through the implementation of a food losses strategy.

To increase the grain storage, it is relevant to support the MoSIT prioritising and enhancing the grain storage infrastructures in Egypt. As the case may be, this infrastructure component might be accompanied by technical assistance. The construction work will be done according to international standards to ensure sustainable and safe investments.

3.6. Indicative Logical Framework Matrix

Results	Results chain: Main expected results	Indicators	Baselines (values and years)	Targets (values and years)	Sources of data	Assumptions
Impact	To improve the food security and the resilience of the food system in Egypt.	1 % of increase of strategic wheat reserve capacities for the production of subsidised bread thanks to the EU intervention 2 Number of people directly benefiting from EU supported interventions that aim to reduce social and economic inequality, disaggregated by sex (GERF 2.39/MIP)[33]	1 0 (2023) 2 0 (2023)	1 10 (2027) 2 8,000,000 (50% female) (2027)	Reports from MoALR and MoSIT Progress and final project reports	*Not applicable*

[33] For this indicator, it corresponds to the number of farmers and their family (with an average of 5 persons per family) who directly benefit from the intervention.

Outcome 1	1. Grain production in Egypt has been increased sustainably with better resilience to climate change.	1.1 Share of farmers using certified wheat seeds (%) 1.2 Areas of agricultural and pastoral ecosystems where sustainable management practices have been introduced with EU support (ha) (MIP /GERF 2.2)[34] 1.3 % of increase of the average grain yield	1.1 40 (2023) 1.2 0 (2023) 1.3 0 (2023)	1.1 80 (2027) 1.2 400 000 (2027) 1.3 20 (2027)	Reports from MoALR Progress and final project reports Field visits reports	Increasing production remains a priority for the Egyptian government.
Outcome 2	2. The grain storage and its monitoring capacity, for locally produced but also imported grain, has been enhanced.	2.1 Tonnage (Mt) of additional wheat storage capacity 2.2 Percentage of national wheat reserves covered by the real time monitoring system of the MoSIT (%)	2.1 0 (2023) 2.2 25 (2023)	2.1 0.47 (2027) 2.2 80 (2027)	Progress and final project reports Field visits reports	Better grain storage and monitoring remains a priority for the Egyptian government

[34] It correspond to the area either farmed with the certified seeds or benefitting from the mechanisation support, the training on GAPs or the improved farm level storage capacities (VFS)

Output 1 related to Outcome 1	1.1 Seed selection and breeding: the national breeding strategy for grain has been enhanced.	1.1.1 Number of cultivars of strategic grain crops tolerant to salinity and/or drought which breeding are accelerated thanks to the EU intervention.	1.1.1 0 (2023)	1.1.1 5 (2027)	Progress and final project reports Field visits reports	The political situation allows different needs assessments to be conducted to improve the strategy.
Output 2 related to Outcome 1	1.2 Seeds multiplication and packaging: the national system to produce improved and certified seeds for grain has been enhanced.	1.2.1 Area (ha) cultivated for the multiplication of certified seeds 1.2.1 Number of certified seeds processing plants of MoALR with increased and/or improved capacity.	1.2.1 1 000 (2023) 1.2.1 0 (2023)	1.2.1 2 000 (2027) 1.2.1 4 (2023)	Progress and final project reports Field visits reports	Training beneficiaries remain in post.
Output 3 related to Outcome 1	1.3 Grain production: small and medium farmers producing cereals have been trained in Good Agricultural Practices (GAPs).	1.3.1 Number of small landholders (grain growers in this case) reached with EU supported interventions aimed to increase their sustainable production, access to markets and/or security of land (GERF 2.1 / MIP)	1.3.1 0 (2023)	1.3.1 1 600 000 (2027)	Progress and final project reports Field visits reports	The small and medium farmers accept the implementation of new practices.
Output 4 related to Outcomes 1	1.4 The public sector of agricultural machinery has been strengthened to sustain grain production of small and medium farmers.	1.4.1 Area (ha) with mechanised grain production thanks to the EU intervention 1.4.2 Percentage of Hiring Service Station (HSS) with additional small agricultural machineries thanks to the EU intervention (%)	1.4.1 0 (2023) 1.4.2 0 (2023) 1.4.3 0 (2023)	1.4.1 60 000 (2027) 1.4.2 75 (2027) 1.4.3 2 000 (2027)	Progress and final project reports	People trained stay on/ pass on their new skills

		1.4.3 Number of Hiring Service Station (HSS)and cooperatives staff trained on machineries management and maintenance				
Output 1 related to Outcome 2	2.1 Strategic silos have been constructed or expanded with EU support.	2.1.1 Status of the feasibility study & detailed project perimeter for the strategic silos 2.1.2 Tonnage (kt) of strategic storage capacity installed	2.1.1 Planned (2023) 2.1.2 0 (2023)	2.1.1 Available (2027) 2.1.2 420 (2027)	Feasibility study reports Progress and final project reports External Evaluator Report Field visits reports	The feasibility study confirms the relevance of new constructions /expansions.
Output 2 related to Outcome 2	2.2 VFS have been constructed with EU support.	2.2.1 Status of the feasibility study & detailed project perimeter are defined for the VFS 2.2.2 Number of open air storage (shonas) replaced with VFS of 10 kt capacity thanks to the EU intervention	2.2.1 Planned (2023) 2.2.1 0 (2023)	2.2.1 Available (2027) 2.2.1 5 (2027)	Field visit report Mid-term/final evaluation reports Provisional acceptance reports Final acceptance reports	The feasibility study confirms the relevance of new constructions .

					Progress and final project reports	
Output 3 related to Outcome 2	2.3 MoSIT's system to allow real-time tracking of national wheat reserves has been expanded.	2.3.1 Number of wheat storage and distribution points connected to the ICT	2.3.1 22 (2023)	2.3.1 133 (2027)	Progress and final project reports	The development of the system does not encounter new technical constraints.
Output 4 related to Outcome 2	2.4 A grain losses reduction strategy covering the production and storage levels has been developed.	2.4.1 Status of the grain losses reduction strategy	2.4.1 Planned (2023)	2.4.1 Adopted and its recommendations released to relevant stakeholders (2027)	Progress and final project reports	All stakeholders (including farmers and cooperatives) reach a consensus on the strategy to be developed.

4. IMPLEMENTATION ARRANGEMENTS

4.1. Financing Agreement

In order to implement this action, it is not envisaged to conclude a financing agreement with Egypt.

4.2. Indicative Implementation Period

The indicative operational implementation period of this action, during which the activities described in section 3.1 will be carried out and the corresponding contracts and agreements implemented, is 84 months from the date of adoption by the Commission of this financing Decision.
Extensions of the implementation period may be agreed by the Commission's responsible authorising officer by amending this financing Decision and the relevant contracts and agreements.

4.3. Implementation Modalities

The Commission will ensure that the EU appropriate rules and procedures for providing financing to third parties are respected, including review procedures, where appropriate, and compliance of the action with EU restrictive measures[35].

4.3.1. Indirect Management with pillar-assessed entities

4.3.1.1. Indirect Management with a pillar-assessed entity

A part of this action may be implemented in indirect management with a pillar-assessed entity, which will be selected by the Commission's services using the following criteria:

i. adequate operational and financial capacities,

ii. presence in the country and

iii. solid experience in the sectors covered by the Action (farm level grain storage and grain production), including at local level and with the involvement of communities.

The implementation by this entity entails the implementation of part of the Specific Objectives/ Outcomes:

1. Grain production in Egypt has been increased sustainably with better resilience to climate change.

2. The grain storage and its monitoring capacity, for locally produced but also imported grain, is enhanced.

4.3.1.2. Indirect Management with a pillar-assessed entity

A part of this action may be implemented in indirect management with a pillar-assessed entity, which will be selected by the Commission's services using the following criteria:

i. adequate operational and financial capacities,

ii. presence in the country and

iii. solid experience in the sectors covered by the Action (strategic grain storage), including at local level and with the involvement of communities.

The implementation by this entity entails the implementation of part of the Specific Objective/ Outcome:

[35] www.sanctionsmap.eu Please note that the sanctions map is an IT tool for identifying the sanctions regimes. The source of the sanctions stems from legal acts published in the Official Journal (OJ). In case of discrepancy between the published legal acts and the updates on the website, it is the OJ version that prevails.

2. The grain storage and its monitoring capacity, for locally produced but also imported grain, is enhanced.

4.3.2. Changes from indirect to direct management (and vice versa) mode due to exceptional circumstances

In case of exceptional circumstances outside of the Commission's control, the Action will be implemented in direct management through grants. In such case, the applicants targeted will be selected by the Commission's services using the following criteria:

i. adequate operational and financial capacities,

ii. presence in the country and

iii. solid experience in the sectors covered by the Action (grain storage and production), including at local level and with the involvement of communities.

4.4. Scope of geographical eligibility for procurement and grants

The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act and set out in the relevant contractual documents shall apply, subject to the following provisions.

The Commission's authorising officer responsible may extend the geographical eligibility on the basis of urgency or of unavailability of services in the markets of the countries or territories concerned, or in other duly substantiated cases where application of the eligibility rules would make the realisation of this action impossible or exceedingly difficult (Article 28(10) NDICI-Global Europe Regulation).

4.5. Indicative Budget

Indicative Budget components	**EU contribution (amount in EUR)**
OS 1 Grain production in Egypt has been increased sustainably with better resilience to climate change composed of	25 000 000.00
Indirect management with a pillar-assessed entity(ies) – cfr. Section 4.3.1	25 000 000.00
OS 2 The grain storage and its monitoring capacity, for locally produced but also imported grain, is enhanced. composed of	75 000 000.00
Indirect management with a pillar-assessed entity(ies) – cfr. Section 4.3.1	75 000 000.00
Evaluation – cf. section 5.2 **Audit** – cf. section 5.3	Will be covered by another Decision.
Communication and visibility – cf. section 6	Will be covered by another Decision.
Totals	100 000 000.00

4.6. Organisational Set-up and Responsibilities

A Steering Committee (SC) will be set up in the first six month of operation of the Action to oversee and guide the overall direction and policy of the Action. It shall meet twice a year. It could also be convened whenever the project implementation requires strategic decisions. The SC shall be chaired by the Government line ministries involved and comprise representatives of other relevant ministries and Government entities, representatives of the implementing partners a representative of the EU Delegation. The SC has the right to invite other stakeholders whenever deemed appropriate, including representatives of the private sector and NGOs.

A Technical Committee will be set up for each component of the Action and shall meet at least twice a year and whenever needed.

As part of its prerogative of budget implementation and to safeguard the financial interests of the Union, the Commission may participate in the above governance structures set up for governing the implementation of the action.

4.7. Pre-conditions

For the Component on the grain storage, the pre-condition for the start of the construction work is the confirmation of the relevance and feasibility of the activity by the feasibility study funded under this Action.

5. PERFORMANCE MEASUREMENT

5.1. Monitoring and Reporting

The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process, and part of the implementing partner's responsibilities. To this aim, the implementing partner shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes introduced, as well as the degree of achievement of its Outputs and contribution to the achievement of its Outcomes, and if possible at the time of reporting, contribution to the achievement of its Impacts, as measured by corresponding indicators, using as reference the logframe matrix.

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

Data will be gender disaggregated and, when possible, include data on persons with disabilities involved in the Action. Feedback from the involved communities will be collected through community hubs, CSOs and feedback mechanisms and will be integrated in the monitoring exercises.

5.2. Evaluation

Having regard to the nature of the action, a mid-term and a final evaluation will carried out for this action or its components via independent consultants contracted by the Commission.

The mid-term evaluation will be carried out for problem solving, learning purposes, in particular with respect to possible changes in the needs of the final beneficiaries and adjustment of project activities.

The final evaluation will be carried out for accountability and learning purposes at various levels (including for policy revision).

The Commission shall form a Reference Group (RG) composed by representatives from the main stakeholders at both EU and national (representatives from the government, from civil society organisations (private sector, NGOs, etc.), etc.) levels. If deemed necessary, other donors will be invited to join. The Commission shall inform the implementing partner at least three months in advance of the dates envisaged for the evaluation

exercise and missions. The implementing partner shall collaborate efficiently and effectively with the evaluation experts, and inter alia provide them with all necessary information and documentation, as well as access to the project premises and activities.

The evaluation reports shall be shared with the partner country and other key stakeholders following the best practice of evaluation dissemination. The implementing partner and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, in agreement with the partner country, jointly decide on the follow-up actions to be taken and any adjustments necessary, including, if indicated, the reorientation of the project.

The financing of the evaluation shall be covered by another measure constituting a financing Decision.

5.3. Audit and Verifications

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audit or verification assignments for one or several contracts or agreements.

6. STRATEGIC COMMUNICATION AND PUBLIC DIPLOMACY

All entities implementing EU-funded external actions have the contractual obligation to inform the relevant audiences of the Union's support for their work by displaying the EU emblem and a short funding statement as appropriate on all communication materials related to the actions concerned. To that end they must comply with the requirements set out in the 2022 guidance document "*Communicating and raising EU visibility: Guidance for external actions*" (or any successor document).

This obligation will apply equally, regardless of whether the actions concerned are implemented by the Commission, the partner country, service providers, grant beneficiaries or entrusted or delegated entities such as UN agencies, international financial institutions and agencies of EU Member States. In each case, a reference to the relevant contractual obligations must be included in the respective financing agreement, procurement and grant contracts, and contribution agreements.

For the purpose of enhancing the visibility of the EU and its contribution to this action, the Commission may sign or enter into joint declarations or statements, as part of its prerogative of budget implementation and to safeguard the financial interests of the Union. Visibility and communication measures should also promote transparency and accountability on the use of funds. Effectiveness of communication activities on awareness about the action and its objectives as well as on EU funding of the action should be measured.

Implementing partners shall keep the Commission and the EU Delegation/Office fully informed of the planning and implementation of specific visibility and communication activities before the implementation. Implementing partners will ensure adequate visibility of EU financing and will report on visibility and communication actions as well as the results of the overall action to the relevant monitoring committees.

For communication on Team Europe Initiatives, the EU and its Member States can rely on the specific guidance on the Team Europe visual identity.