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Fragility to Resilience in Central
and West Asia and North Africa



Partnership for Evidence-Based Agri-Food Policy Research

Multistakeholder Workshop Report

ICARDA, Cairo

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Introduction

On the 11th of June 2023, the International Center for Agricultural Research in the Dry Areas (ICARDA) and the Agricultural Research Center (ARC) of the Ministry of Agriculture and Land Reclamation of Egypt (MoALR) organized a Multistakeholder Workshop titled “To a Better Partnership for Evidence-based Agrifood Policy Research.” The workshop agenda is provided in Appendix 1. About 29 representatives of stakeholders attended the workshop, including high-level policymakers, researchers, and delegates of various agricultural and food policy organizations (Appendix 2).

Context and objective of the workshop

Policies are critical to improving agrifood systems innovations and are often implemented by a range of stakeholders. And bringing many stakeholders together for action is often a challenge. In this context, there is an urgent need to spur collaborations among government agencies, policymakers, policy research centers, universities, and individual researchers in Central and West Asia and North Africa (CWANA) including Egypt to promote research evidence-based policymaking. Therefore, the purpose of this workshop was to promote a national expert network of evidence-based policy research to design and implement a long-run country work plan for the resilient agricultural and agrifood systems in Egypt. The specific objectives were to:

- Identify the main decision-making actors responsible for designing input and output policies concerning grain crops.
- Distinguishing the main stages of the political decision-making process.
- Identify the impacts of such policies on stakeholders, farmers, and the national economy.

Opening Session

The opening ceremony of the workshop was marked by the speech of Dr. Mohamed Soliman, Chairman of ARC, who gave current developments of key staple cereals in Egypt. Dr. Mohamed Soliman pointed out that staple grains, specifically wheat, maize, and rice, represent enormous challenges in Egypt's agricultural policy. He explained that, although there is no problem with rice as the area planted for rice is defined by the government, Egypt faces challenges in increasing wheat and maize cultivated areas because the maximum possible expansion area for both crops is 210 thousand hectares. Accordingly, a vertical expansion strategy comes on top of the solutions that can contribute to increasing yield per unit of land and water by focusing on improving the yields of varieties; raising farmers' awareness of the proper cultivation packages associated with such varieties and implementing modern technology.

Dr. Mohamed Soliman further explained that Egypt ranked fifth at the world level in terms of wheat yield several years ago. He believes that if currently invested in the sector, Egypt can be ranked first or second. He emphasized that the Economic Affairs Sector should exclude farmers who do not abide by the recommended cultivation packages, as well as areas that are cultivated for the first time as test fields. He also underlined the gap that existed between the yield capacity of varieties planted in pilot plots and the average yield at the country level. He stressed the challenge of closing this gap, and especially that some farms can even achieve higher yields compared to those realized at pilot plots. Furthermore, Dr. Mohamed Soliman highlighted the key impacts of the Russo-Ukrainian War on Egypt. These include:

- Soaring world prices of wheat and maize that almost doubled from US\$ 150-200 to US\$ 400-450 per ton. The high world prices had a huge negative impact on these commodities.
- The Government of Egypt (GoE) is expanding oilseed planted areas, such as sunflower crops, and designing agricultural policy plans to substitute part of the area defined for field crops for that purpose. However, expanding sunflower is associated with lower profitability compared to other crops. Lower profitability can be addressed by encouraging the adoption of intercropping sunflower in orchards, or with sugarcane.
- The GoE is also expanding the soybeans planted area to 0.84 million hectares. However, only 210 thousand hectares could be gradually reached over three years: 63 thousand hectares, during the first year; 105 thousand hectares, during the second year; and 210 thousand hectares, during the third year. But the soaring world price of soybeans, which approached Egyptian pounds (EGP) 40 thousand per ton, (US\$ 1295/ton) resulted in cultivating more than 63 thousand hectares, during the first year.
- The GoE is expanding the fodder maize cultivated area for livestock and poultry as a response to the world grains crisis, which is expected to aggravate after the destruction of the Kakhovka Dam in Ukraine in early June 2023, where the World Grain Program is expecting that Ukraine will be able to export 40% of the grains' volume it used to export two years ago.

Dr. Mohamed Soliman suggested the following solutions for the GoE:

- Importing grains from other countries.
- Increasing domestic production by raising yields at the farmer level to the same level realized in pilot plots (closing yield gaps).
- Offering fair prices and price incentives for farmers to encourage them to cultivate and deliver their crops outputs and control market prices.
- Designing a roadmap for an integrated system for Egypt's agriculture (grains, fodder crops, oilseed crops), to maximize production and realize optimum use of resources.

Dr. Aladdin Hamwiah, ICARDA Representative and Egypt Office Country Manager explained that awareness efforts exist for ICARDA to design, fund, and implement projects. He also pointed out

that ICARDA is one of 15 centers working under CGIAR that have now united, which helps ICARDA conduct more work and extend more funds. He also highlighted that they had the chance to meet representatives from the African Development Bank during Sharm El-Sheikh Conference, and they hope that Egypt gets a fair share of funds to back up its development plans.

Dr. Shaban Salem, Project Consultant and former Chairman of the Economic Affairs Sector, welcomed the attendants, introduced presentation sessions, and open the floor for discussions. He also indicated that the Kaleidoscope Model has been applied to achieve the workshop purposes by analyzing the key drivers of policy and institutional constraints in agri-food systems of Egypt. The presentation session addressed a few selected themes of high-level policy issues.

Theme one: Policies of Production Inputs

The first theme was focused on the seeds sub-sector in Egypt. The main issues discussed under this theme included:

- The wide yield gap in cereal production is a result of the yield capacity of varieties, yields realized at pilot plots and yields realized at farmers' fields. The impact this yield gap had on food security was also discussed.
- The role of research institutions, including research centers, universities, agricultural extension institutions, and the private sector in bridging the yield gap.
- Establishing an innovation platform that brings together concerned actors, including extension, research, and seed management entities, as well as farmers.

Key reflections from representatives of stakeholders

Prof. Dr. Samy Sarby, Emeritus Head of Research, Field Crops Research Institute (FCRI), and Coordinator of ICARDA's Sustainable Development Project introduced achievements of the "Sustainable Management Project" that has been implemented in 10 countries, including Egypt, and lasted for more than 12 years. To achieve a clear impact, the project was implemented in the three major wheat-production governorates that produce one-third of Egypt's total wheat production volume, namely Sharkia, Dakahlia, and Behera.

Prof. Dr. Samy Sarby further mentioned that when the renowned international expert visited Egypt during the 1980s and visited our research stations, he mentioned in his report that the main issue is how to make farmers realize the same yield realized in pilot plots, based on which the system of "National Campaigns" was set with the aim of extension campaigns that focus on teaching farmers how to fully apply the technical recommendation package.

Prof. Dr. Samy emphasized the need for expanding the scope of the national campaigns for grain crops so that one pilot plot is allocated for each village. He stated that a 25% vertical increase in wheat yield can be realized without exerting additional efforts. In case more efforts are exerted, and

a higher fund is allocated for research studies, yield can be increased by more than 40%. He also stressed the need for adopting "Climate Smart Agriculture" and "Precision Agriculture" innovations to meet these ambitions.

Prof. Dr. Samy highlighted results achieved from applying the technical recommendation packages in the implemented national mega projects, where the realized wheat yield under the “Future of Egypt for Sustainable Agriculture” project reached 7.86 – 8.57 ton per hectare in some regions, while reached 9.64 ton per hectare in other regions.

Prof. Dr. Saad Nassar, Minister of Agriculture's Economic Affairs Consultant presented a comparison between the state of wheat yield during the 1980s and the current state (Table 1). He also noted that wheat and maize breeding programs are among the highest in the world to bridge the yield gaps observed between actual and potential in these commodities.

Table 1: A comparison of the state of wheat productivity in Egypt

The situation in Egypt during the 1980s	Current situation
The population was 40 million.	The population is more than 100 million.
The wheat cultivated area was 0.63 million hectares.	The wheat cultivated area is 1.47 million hectares.
The average yield of wheat was 3.2 ton per hectare.	The average yield of wheat is 6.4 – 6.8 ton per hectare.
Total wheat production was around 2 million tons.	Total wheat production is around 10 million tons.
Self-sufficiency in wheat was 25%.	Self-sufficiency is close to 50%.

Prof. Dr. Saad Nassar explained strategies that can help in achieving expansions in wheat cultivation. These include:

- Abiding by crop rotation (double or treble) to preserve the quality of the land and soil.
- Abiding by the variety map developed to match varietal demands by producers.
- Increasing the percentage of approved seed coverage to reach 100% by next year.
- Subsidizing farmers by providing them with certified seeds free of charge.

Prof. Dr. Saad Nassar also addressed the issue of subsidizing agriculture in Egypt. He highlighted that subsidy can be permitted in the framework of the Free Trade Agreement if the subsidy matches conditions allowed in the green box, such as subsidizing production inputs, agricultural extension system, and many other operations.

Prof. Dr. Mahmoud Hassan, Director of the Agricultural Extension and Rural Development Research Institute (AERDRI) mentioned that, although AERDRI employs 256 researchers, none of

them participate in the national campaigns. He stressed the Institute's readiness to participate positively and effectively in the national campaigns.

Prof. Dr. Hamdi Al Mowafi, Field Crops Research Institute (FCRI) attributed the reason for improvements realized in yield per acre of rice to the activation of multidisciplinary teams, which resulted in increasing rice yield from 5.48 – 9.52 ton per hectare.

Fertilizers

The Russo-Ukrainian crisis led to higher prices of natural gas, and consequently higher prices of nitrogenous fertilizers in the global market, which in turn resulted in higher prices of agricultural products all over Europe due to the higher costs of transportation, logistics, electricity, and fertilizers. To mitigate the challenges, some innovations were suggested:

- Using liquid ammonia to mitigate the impact of pressure on nitrogenous fertilizers. To optimize the benefits from this alternative, it is critical to estimate the amount of liquid ammonia used, or the recommended amount; estimate the increase in yield per hectare because of using liquid ammonia; determine the types of soil suitable for fertilization with liquid ammonia; and estimate the response of new high-yielding crop varieties to fertilization with liquid ammonia.
- Determining the needs of fertilizers for new high-yielding crop varieties.
- Revisiting the fertilizers distribution policy based on land holding area to overcome the problem of linking the distributed fertilizers to wheat planted area (like the ration cards for individuals).
- Expanding the use of liquid fertilizers and fertilizers suitable for modern irrigation systems wherever applicable.
- Orientating to organic fertilizers (compost, humus, etc.) to ease the pressure on mineral fertilizers and protect the soil from pollution.
- Linking fertilizers' distribution policy to grain crops' delivery policy.

Reflections from representatives of stakeholders

Prof. Dr. Saad Nassar, Minister of Agriculture's Economic Affairs Consultant questioned whether the fertilizer rations are still the old ones or have been updated. Regarding the fertilizers map, he stressed the need to consider achieving a balance between nitrogen, phosphorus, and potassium elements (NPK). He also stressed the need to provide subsidized fertilizers to farmers.

Prof. Dr. Abd Raboh Ismael, ARC Staff member and former Consultant of the Nile Company for Seeds Production explained that expansions in newly reclaimed lands face problems in providing

production inputs, especially potassium fertilizers, which are expensive and unavailable in the market.

Prof. Dr. Mohamed El-Khouly, Director of the Soil, Water and Environment Research Institute (SWERI) discussed the global fertilization balance ratios and explained that, while they are estimated at 5: 3: 1 for nitrogen, phosphorus, and potassium, Egyptian ratios are estimated at 17: 2: 1. Accordingly, the goal should be focusing on achieving the global balance ratio, which positively reflects the health of everyone, soil, and plants. Matching the global fertilization balance ratios requires educating farmers about such ratios considering the available elements, whether in the valley or the delta. He presented a review of the existing information databases, including:

- The Fertilizer Map was designed in Damietta Governorate, Kafr Saad District, Kafr El-Batekh Village, through which demand for fertilizer (the amount of fertilizer to be added) was linked to elements available in the soil.
- Soil Fertility Map for sandy, clay, and other soil types.
- Use of alternatives available to reduce pressure on nitrogenous fertilizers, such as biofertilizers, organic farming, and soil-nourishing bacteria, and the need to design tables for farmers, based on which they can adopt the required combination of different fertilizers.

Prof. Dr. Mazhar Aly Fawzy, Faculty of Agriculture, Cairo University stressed the importance that Fertilizer Map must be dynamic, considering the limited land and water resources. Prof. Dr. Mazhar raised the issue of intercropping maize with soybeans, pointing out that the outcome would be ideal production volumes that can contribute to addressing the problem of poultry and livestock feed.

Prof. Dr. Rehab Abdel Rahman, Seds Research Station (SDS) inquired about the Fertilizer Map that was designed and applied in Kafr al-Batekh village at Damietta Governorate, stating that national campaigns already consider technical recommendations regarding fertilizer ratios for crops.

Prof. Dr. Ahmed El-Qott, Field Crop Research Institute (FCRI) demanded a review and upgrade of farmers' field schools, as well as maximizing their role in the field of extension. He stressed the need for the Fertilizer Map to be dynamic to respond to climate changes. He pointed out that, so far, the private sector has not adopted purchasing raised-beds farm machinery to help spread this technology on a large scale in farmers' fields. In connection with this, Prof. Dr. Rehab Abdel Rahman, from SDS explained that the lack of spread of the raised-beds farming machinery is attributed to the need for high-capacity tractors due to the heavy weight of such machinery. However, the problem has now been solved, and raised-bed machines can be available for use on a large scale.

Water

Prof. Dr. Saad Nassar, Minister of Agriculture's Economic Affairs Consultant emphasized the importance of devoting great attention to water rations and water quality. Efficient use of water resources has been promoted through:

- Promoting the adoption of water use rationalization Methods.
- Issuing Ministerial decrees defining bananas, rice, and sugarcane cultivated areas.
- Promoting the adoption of modernized irrigation systems in new lands.
- Issuing Ministerial decrees for modernizing irrigation systems in orchards in the Valley and the Delta.

Theme two: Agricultural Production Policies

External Shocks

The agricultural sector in general, and the grains sector in particular, were exposed to several external shocks that led to negative impacts on food crops' production, including the COVID-19 crisis, the Russo-Ukrainian war, and the US dollar crunch. Such negative impacts led to governmental interventions through adopting a package of policies to mitigate the impact of such crises, the most important of which include:

- Setting price incentives to encourage farmers to grow and deliver grain crops (wheat and rice).
- Contract farming policy.
- Expand the cultivation of yellow maize and soybeans to overcome the poultry and livestock feed crisis.
- Expand the cultivation of oilseed crops to improve the level of self-sufficiency in vegetable oils.
- Allocate part of the reclaimed land areas in mega projects to expand the cultivation of grain crops.

Key reflections from representatives of stakeholders

Prof. Dr. Abd Raboh Ismael, ARC Staff member and former Consultant of the Nile Company for Seeds Production has provided the following comments:

- Emphasize the need for the government to treat farmers the same as investors, as they have the right to make gains from their land holdings. This year, the government announced remunerative procurement prices for crops, which encouraged farmers to buy approved seeds, and now there is no surplus in seeds.

- The government must subsidize farmers like other countries, where the European Union subsidizes sugar beet farmers; while the US subsidizes cotton farmers; Japan subsidizes rice farmers, and Brazil subsidizes its farmers. So, why does the government of Egypt not subsidize its farmers?
- Farmers are late in crop planting dates (e.g., maize) due to relatively low profitability compared to competing crops.
- Need for state competition with the private sector in seed production. He pointed out that companies achieve 100% self-sufficiency in seeds. So, why doesn't the state intervene to compete with companies and bear the burdens of an undesired increase?
- Need for addressing the problem of crop transportation between governorates. For example, inspectors from the Ministry of Supply and Internal Trade confiscates the seeds loaded on carts and transfers them to be milled in wheat and rice mills, despite the formal documents stating that they are certified seeds, including formal inspection and approval papers officially issued by the Central Administration for Seed Inspection and Certification.
- Need for setting guarantee prices for crops, activating contract farming, and promoting the reapplication of crop rotations.

International Crises and their Impacts on Transboundary Diseases

The international crisis affected Egypt in so many ways. The spread of army worms and associated harmful impacts could be a good example. Prof. Dr. Mohamed Hassan El-Bakry, Misr High-Tech Company explained the need to focus on genetic engineering in producing varieties that tolerate water scarcity and have less fertilizer needs. He also indicated the genetic engineering can be used for pest control as well, because of the armyworm's rapid adaptation and mutation to resist pesticide effectiveness.

Prof. Dr. Raman K. Safgel and Prof. Dr. Mohamed Hassan El-Bakry (Misr High-Tech Company) during a side discussion at the office of Prof. Dr. Mohamed Soliman, Head of ARC, the issue of encountering problems in seed production over the next two years related to the negative impacts of the Russo-Ukrainian crisis, collapse of the Kakhovga Dam in Ukraine crisis, and the current Sudanese crisis are expected to continue. These issues were raised during the workshop and can influence the following issues:

- Difficulty in finding proper sites for contracting to produce seeds.
- The high commercial price of maize in the market exceeded EGP 20 thousand per ton (US\$ 467.5 per ton), indicating that total maize revenue per hectare is EGP 148 thousand, (US\$ 3460), at an average yield of 7.14 ton per hectare.
- Seed production, especially for single cross hybrids are becoming a challenge. The yield capacity of parents is quite low because of low traits and sensitivity to weather conditions, where yields may sometimes not exceed 0.7 ton per hectare, and 1.78 ton per hectare at the highest estimates.

To address these problems, it was suggested:

- Set a trigger procurement price for farmers for seed production and delivery that is not less than EGP 40 thousand (US\$ 1295), as an equilibrium point. This is because seed production requires maintaining variety purity through seedbed preparation; timely completion of tillage operations; irrigation; supplementary pollination measures, if required; weed control; pest and disease control measures; identification and removal of the contaminants, off-types, obnoxious weeds, objectionable crop plants, diseases with seed-borne nature, disposal of the parents before harvesting, drying, etc.
- To overcome the challenge, which will be very difficult in the valley and the delta, it is possible to expand maize production in the lands of East Owainat, Dabaa Axis, etc., provided that milling machines are made available due to the lack of labor in such areas.

Theme three: Grain Pricing Policies

The key issues discussed under the grain pricing policies were agricultural price policies, policies of compulsory and voluntary delivery of grain crops, and contract farming policies. The workshop participants discussed these key policy issues. The key summaries are provided below.

Reflections from representatives of stakeholders

Prof. Dr. Saad Nassar, Minister of Agriculture's Economic Affairs Consultant commented on the issue of pricing strategic crops, explaining that indicative prices announced by the government should consider the following factors:

- Covering production costs and realizing a remunerative profit.
- International prices of grains.
- Equating incomes realized from grain crops with those realized from competing crops.
- Maintaining the purchasing power of farmers.

Prof. Dr. Saad Nassar explained that distortions in rice pricing this year occurred due to:

- The government has set an indicative price for paddy rice at EGP 7 thousand per ton (US\$ 226.54 per ton).
- Merchants purchased the crop from farmers directly from the field for EGP 10 thousand per ton (US\$ 323.62 per ton).
- The Ministry of Supply and Internal Trade then purchased rice from merchants for EGP 16 thousand per ton (US\$ 517.8 per ton).
- The crop grain delivery by farmers to the government should be voluntary because there is no need to force farmers to deliver their produce when they have no desire to do that.
- It is necessary to subsidize agricultural production because it can lead to increasing supply in the market thus reducing consumer prices, and hence alleviating burdens on consumers.

- Applying the contract farming system where it can be feasible.

Grain Trade Policy

Key discussion points for grain trade policy:

- Exchange rate policy (floating of the Egyptian pound).
- Import diversification policy (in the case of wheat).
- Win-Win deals.

Reflections from representatives of stakeholders

Prof. Dr. Saad Nassar, Minister of Agriculture's Economic Affairs Consultant commented on the role of floating of the Egyptian pound in drawing future agricultural sustainable price policies for wheat to increase national supply and consequently voluntary procurement based on the efficient utilization of the various agricultural resources such as water, land, and labor. Pricing strategic crops, explaining that indicative prices announced by the government should consider the equivalent price of wheat and maize as imported crops. However, the floating pushes the local prices of wheat and maize and negatively affect the consumer price from one side and getting the farmers to have more profits for the two crops. He also told that the government of Egypt suggested that it will adopt the Win-Win deals in the future to solve the problem of overcoming the shortage of dollars to meet the financial needs required to import wheat. Concerning the Import diversification policy (in the case of wheat), Prof. Dr. Saad Nassar said that Egypt imports about 80% from both Russia and Ukraine and the government of Egypt decided to looking for other importers such as India to satisfy the demand for wheat.

Impacts of the Implemented Policies on Farmers, Stakeholders, and the Government

The main issues discussed about the impact of policies include announcing the procurement prices of wheat, maize, and rice, the main challenges facing the implementation of the delivery system, and lessons learned from the actual implementation of the delivery system. Key improvement options are proposed to improve the grain system in Egypt. These include:

- Expanding the production of supporting crops, such as legumes (beans and lentils), potatoes, and oilseed crops to reduce the pressure on key staple grain crops and improve the "Consumers' Food Basket".
- Launching a platform to achieve harmony between the governmental sector, private sector, and research institutions (both academic and research entities) to curb the production gap in grains.
- Activating the role of modern technologies and Artificial Intelligence in advancing the grains system through promoting the adoption of smart irrigation to save water, new systems for adding fertilizers with water (fertigation), remote sensing, performing multiple

operations in one step, such as hoeing, fertilization and spraying for pest control, and targeted control of infected foci only with the help of drones.

Conclusions and Future Steps

The multi-stakeholder workshop highlighted the main challenges and opportunities for promoting evidence-based policymaking and fast-tracked innovation adoption in the Egyptian agrifood sector. The SWOT and the role of the government are identified as following:

Strengths

- The presence of a dynamic grain crops variety map at the governorate's levels.
- Increasing the production of certified seeds at both the private and public sectors levels.
- There is sufficient local production of nitrogenous fertilizers to cover the needs of grain crops.
- The spread of raised bed technology that saves irrigation water.

The role of the government:

- Supporting farmers by providing them free seeds.
- Increase the percentage of coverage with certified seeds to reach about 100% next year.
- Separating the fertilizer distribution policy from the grain procurement policy (especially wheat).
- Expanding the use of machines needed for raised bed technology widespread.

Weaknesses

- Limited expansion of both wheat and corn planted areas (the possible increase is at the maximum within 210 thousand hectares).
- There is a difference between the productive capacity of the varieties, the productivity of the extension fields, and the average productivity at the national level.
- Lack of full implementation of the modern technical recommendations package.

The role of the government

- Design an integrated package of technical recommendations and make them available to farmers free of charge through the Agricultural Extension Service.
- Increase the number of national campaigns and field schools to cover all villages in the Republic and implement the package of technical recommendations.
- Rapid completion of the preparation of a dynamic fertilizer map that suits the soil at the governorate level and responds to climate changes.

Opportunities

- The possibility of achieving a vertical increase in wheat productivity of 25% without any horizontal increase in the cultivated area.

The role of the government

- Increasing investments allocated to spending on research, which can lead to increasing productivity to more than 40%.

Threats

- The global prices of wheat and corn almost doubled, because of the Russian-Ukrainian crisis, and the Covid-19 crisis, and some major producing countries-imposed restrictions on exports (the case of wheat in India)

The role of the government

Adopting a package of policies to mitigate the impact of these crises, through:

- Activating contract farming and implementing the crop rotation policy.
- Declaration of crop fair prices for and developing a price incentive policy to encourage farmers to grow and procurement grains (wheat - rice).
- Launching a platform to achieve harmony between the government sector - the private sector - research institutions (universities and research centers) to narrow the grain gap.
- Expanding the cultivation of yellow corn and soybeans to meet the poultry feed crisis.
- Allocating an area of the reclaimed land in major projects to expand the cultivation of these crops.
- Providing support to farmers like the European Union (sugar beets), USA (cotton), Japan (rice), and others.

Appendix 1

Multistakeholder Workshop Agenda

TO A BETTER PARTNERSHIP FOR EVIDENCE-BASED AGRI-FOOD POLICY RESEARCH

Date: June 11, 2023 Time: 10:00 – 01:00 Venue: ARC, 9 Gamaa Street, Giza	Purpose: To promote a national expert network of evidence-based policy research to design and implement a long-run country work plan for the resilient agricultural and Agrifood Systems in Egypt.
Time	Agenda
09:30 - 10:00	Registration
	Opening Session
10:00 - 10:10	Dr. Mohamed Soliman, Chairman of the Agricultural Research Center.
10:10 - 10:20	Dr. Alaa Hamawi, Country Manager of ICARDA office, Cairo, Egypt.
10:20 - 10:30	Dr. Shaban Salem, Project Consultant and Former Chairman of the Economic Affairs Sector/MoALR.
Session 1	Workshop Key Points
10:30 - 12:30	<p>Dr. Shaban Salem, Project consultant</p> <p>1. <u>Main Objectives of Round Table Discussions:</u></p> <ul style="list-style-type: none"> • Identify the principal actors responsible for designing input and output policies of grain crops. • Distinguish key phases of the policy-making process in the grain crops sub-sector. • Understand the impacts of policies and actions taken by policymakers on stakeholders and farmers. <p>2. Kaleidoscope Model</p> <p>3. Main Issues for Discussion</p> <p>First: External shocks of the cereal sector:</p> <ul style="list-style-type: none"> • Soaring international prices of grain crops. • COVID-19. • The Russo-Ukrainian crisis. • US Dollar Crunch. <p>Second: Policies of Production Input</p> <p>A. Seeds Sub-sector:</p> <ul style="list-style-type: none"> • Seeds production and distribution policy. • Seed varieties policy. <p>B. Fertilizer Sub-sector:</p> <ul style="list-style-type: none"> • Natural gas and domestic fertilizer industry. • Distribution policy of domestic supply of fertilizer for both small and large-scale farmers. • Impacts of international prices of fertilizers on the supply and prices of domestic fertilizers. • Relationship between requirements of fertilizers and grain delivery to the

	<p>government.</p> <p>C. Grain Trade Policies</p> <p>D. Irrigation Water Policies for the Grains Sub-sector</p> <ul style="list-style-type: none"> • Water use efficiency • Modernization of irrigation systems <p>Third: Output Policies</p> <p>A. Policy actions taken by the government:</p> <ul style="list-style-type: none"> • Agricultural price policies • Voluntary delivery policy • Compulsory delivery policy • Contract farming policy • Win-win deals policy <p>B. Impacts of policy actions on farmers, stakeholders, and the state:</p> <ul style="list-style-type: none"> • Announcing delivery price (Wheat, Maize, Rice). • Main challenges to the delivery system. • Lessons learned from actual application of the delivery system.
12:30 - 12:45	Coffee Break
Session 2	Workshop Key Points
12:45 - 01:30	<p>Recommendations and Proposed Mechanisms for Improving the Agrifood System in Egypt Interventions and Opinions of:</p> <p>Prof. Dr. Saad Nassar, Minister of Agriculture's Economic Affairs Consultant</p> <p>Prof. Dr. Samy Sarby, Emeritus Head of Research, Field Crops Research Institute (FCRI), and Coordinator of ICARDA's Sustainable Development Project</p> <p>Prof. Dr. Abd Raboh Ismael, ARC Staff member and former Consultant of the Nile Company for Seeds Production</p> <p>Prof. Dr. Mohamed El-Khouly, Director of the Soil, Water, and Environment Research Institute (SWERI)</p> <p>Prof. Dr. Mazhar Aly Fawzy, Faculty of Agriculture, Cairo University</p> <p>Prof. Dr. Rehab Abdel Rahman, Seds Research Station</p> <p>Prof. Dr. Ahmed El-Qott, Field Crop Research Institute (FCRI)</p> <p>Prof. Dr. Raman K. Safgel & Prof. Dr. Mohamed Hassan El-Bakry (Misr High-Tech Company)</p>

Appendix 2
List of Attendants

№	Name	Organization	Position
1	Prof. Dr. Saad Nassar	Agricultural Minister's Economic Affairs Consultant	High-Level Consultant
2	Prof. Dr. Mohamed Soliman	Agricultural Research Center (ARC), MoALR	Chairman of ARC
3	Prof. Dr. Shaban Ali Salem	Former Chairman of the Economic Affairs Sector (EAS), MoALR	Project Consultant
4	Dr. Aladdin Hamawieh	International Center for Agricultural Research in the Dry Areas (ICARDA)	Country Manager of ICARDA's Egypt Office
5	Dr. Samy Sabry	Field Crop Research Institute (FCRI), ARC, MoALR & ICARDA	Emeritus Head of Research at FCRI/ARC & Coordinator of ICARDA's Sustainable Development Project
6	Dr. Mohamed El-Sherbini	Arab Organization for Agricultural Development (AOAD)	GIS Expert
7	Dr. Mahmud Hasan	Agricultural Extension and Rural Development Research Institute (AERDRI), ARC, MoALR	Director of AERDRI
8	Dr. Mohamed El-Khouli	Soil, Water and the Environment Research Institute (SWERI), ARC, MoALR	Director of SWERI
9	Dr. Dalia Yasin	Agricultural Economic Research Institute (AERI)	In Charge of Conducting AERI's Work
10	Dr. Eman Abd-Allah	Agricultural Economic Research Institute (AERI)	Head of Research Studies
11	Dr. Tareq Mahmoud	Agricultural Economic Research Institute (AERI)	Head of Research Studies
12	Dr. Hamdy El-Mowafe	Field Crop Research Institute (FCRI), ARC, MoALR	Head of Research Studies
13	Dr. Ahmed Fawzi El-Qott	Field Crop Research Institute (FCRI), ARC, MoALR	Associate Professor
14	Dr. Abd-Raboh Ismael	ARC Staff member and Former Consultant of El-Nile Company for Seed Production	Senior Head of Research Studies
15	Prof. Dr. Mazhar Aly Faozy	Faculty of Agriculture, Cairo University	Professor of Field Crops
16	Dr. Mohamed Hasan El-Bakry	Misr High-Tech Company	Private Sector
17	Dr. Raman K. Safgel	Misr High-Tech Company	Private Sector

18	Dr. Sawsan Tawkaz	ICARDA	Egypt office
19	En. Ibrahim Hasan Mohamed	Korkeva Seeds Company	Director General
20	Prof. Dr. Mohamed Abd El Maaboud	Faculty of Agriculture, Cairo University	Professor of Field Crops
21	Ahmed Yassin Hashem	Fine Seeds International Company	Director General
22	Dr. Megahed Helmy Ammar	Field Crop Research Institute	Deputy Director for Research
23	Dr. Khaled Ibrahim Gad	Field Crop Research Institute	Deputy Director for Extension
24	Dr. Ibrahim El Hadidi	Ega Seed International Company	Chairman of the company
25	Dr. Ayman Abd El Aal	Head of central agencies for research stations	Chairman
26	Dr. Ahmed Medhat Mohamed El Naggar	Faculty of Agriculture, Cairo University	Professor of Field Crops
27	Dr. Waleed Mohamed Basiuny	Agricultural Research Center	Chief of Research
28	Dr. Mostafa Attia Emara	Agricultural Research Center	Chief of Research
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