

Draft Policy Recommendations

to be discussed by the COMCEC Agriculture Working Group, in its 21st Meeting

(12th -13th October 2023)

“Ensuring the Sustainability of Agricultural Inputs to Combat Food Insecurity in OIC Member Countries.”

The COMCEC Agriculture Working Group (AWG) has successfully held its 21st Meeting on 12th-13th October , 2023 in Ankara, Türkiye with the theme of “Ensuring the Sustainability of Agricultural Inputs to Combat Food Insecurity in OIC Member Countries.” During the Meeting, Agriculture Working Group, made deliberations on sustainability of agricultural inputs. Accordingly, the participants has come up with some policy recommendations.

The policy recommendations are as follows:

Policy Recommendation 1: Promoting conservation agriculture practices with a view to managing agricultural ecosystems for sustainable productivity, increased profitability and food security that protects natural resources and the environment.

Rationale: Soil management practices in sustainable agriculture are designed to make soils used in farming more productive, healthy and sustainable, to conserve natural resources, to increase soil fertility and to improve the quality of life of farmers. Conservation Agriculture mainly aims to increase productivity on arable land while at the same time rehabilitating degraded land.

The three principles of Conservation Agriculture are;

- Minimization of soil disturbance : Reducing mechanical interventions to the soil and switching to direct sowing without soil disturbance,
- Providing permanent organic cover on the soil surface: Ensuring permanent soil organic cover with crop residues and/or cover crops,
- Ensuring crop diversity: It is the realization of diversity in the crop pattern included in the crop rotation.

Policy Recommendation 2: Encouraging drip irrigation, water harvesting, drought tolerant crops, non convential water management and dry farming practices that support effective use of water resources and water saving, and the participation of agricultural producers in the application processes.

Rationale: Water is one of the main inputs for agricultural activities, and productivity can be enhanced with the right irrigation methods. In many cases, water resources, which are vital for the agricultural sector, are not used properly in agricultural activities, over-consumed and polluted with harmful chemicals in high doses, and many wrong practices threaten the ecosystem. Sustainable agriculture aims to use water efficiently and irrigation methods and water saving technologies are used to reduce the impact of agricultural activities on water resources. An appropriate irrigation method needs to be selected by considering factors such as soil characteristics of the land, quantity and quality of irrigation water, topographic situation, land shape and size, plant type, climate characteristics, irrigation costs and social and cultural characteristics of the region. Countries experiencing water scarcity will also turn to the use of non-traditional water resources to partially alleviate water scarcity. Non-conventional water resources are either produced as a product of specialized processes such as desalination or, when used for irrigation, require appropriate pre-use treatment and/or appropriate soil-water-plant management strategies. In water-scarce environments, such water resources are accessed through desalination of seawater and highly brackish groundwater, collection of rainwater, and use of marginal quality water resources for irrigation. Marginal quality water used for irrigation consists of wastewater, agricultural drainage water and groundwater containing different types of salts. In addition, drought has become endemic worldwide due to climate change. This situation raises serious concerns, and important work is being done on developing "drought-tolerant crops" through molecular breeding and genetically modified approaches. On the one hand, there is an increasing demand to produce enough staple food crops (wheat, rice and corn) to meet the growing population, and on the other hand, it is necessary to optimize the yield stability for main crops or locally important crops. Therefore, the production of drought-tolerance crops is becoming increasingly important.

Policy Recommendation 3: Supporting effectively use of organomineral fertilizers and organic pesticides, which provide greater productivity and production increases compared to the use of chemical fertilizers and pesticides, and also contribute to the improvement of plant health and soil.

Rationale: Organomineral fertilizers contain plant nutrients and organic matter together, which are found in chemical fertilizers, so that the nutrient content can be presented in a more standardized form. In organomineral fertilizers, plant nutrient minerals such as Nitrogen (N), Phosphorus (P), Potassium (K), Sulphur (S), Zinc (Zn) and organic matter from humic-fulvic acid and compost are combined together and used as base fertilizer. Organomineral fertilizers produced in the form of "organic matter + mineral fertilizer" by taking advantage of the positive effects of organic materials on soil fertility, on the one hand, reduce the loss of nutrients by washing and on the other hand, increase the effectiveness of the minerals used by improving the fertility elements of the soil. In addition, organic pesticides are considered important for plant and soil health. Generally derived from natural sources and minimally processed, organic pesticides are derived from plants such as neem, pyrethrum (pyrethrums), rotenone or ryania (botanical insecticides), or minerals such as boric acid, cryolite or diatomaceous earth.

Policy Recommendation 4: *Developing a smart agriculture system for effective monitoring and evaluation to better understand the impact of productivity increases and reducing cost as well as environmental compatibility*

Rationale: Smart Agriculture Technologies, which are used in planting, irrigation, agricultural spraying, making various measurements, and harvesting of lands, and which are used to operate many separate units such as drones, robots, sensors, data analysis systems, cloud systems, and Internet of Things as an integrated system, play a very important role for the sustainability of the agricultural sector. All innovative practices are within the scope of smart agriculture practices or agriculture 4.0. With the developing agricultural technologies, productivity increases while costs decrease. Through these technologies, it will be possible to make progress in terms of both the sustainability of the agricultural sector and the overcome climate change in countries where smart agricultural practices have become widespread.

Policy Recommendation 5: *Improving circular agriculture practices through using a minimum amount of external input or reusing agricultural wastes to ensure fertilizer and renewable energy production.*

Rationale: Circular agriculture means keeping agricultural biomass and the wastes and residues generated by food processing processes within the food system as reusable resources. Circular agriculture includes practices that ensure the future of food supply and access to safe food. The basic principle of circular agriculture is the optimal use of land or resources to meet the need. In order to make the best use of the fields to be planted, diversity is increased by planting successive crops and adding mixed crops to the rotation. The residues (leaves and stems) of the crops produced in these fields are used as feed for livestock and bio-fertilizer for the soil. In this sense, circular agriculture practices presents a wide range of benefits such as recycling and waste reduction, biodiversity conservation, climate change mitigation, etc.

Policy Recommendation 6: Encouraging the use of closed farming methods and technologies by private sector enterprises with a view to ensuring better control of environmental factors, increased productivity and continuous production in the off-season.

Rationale: Closed farming is a method of agriculture in which plants are grown in a controlled environment. When growing plants in controlled environments such as greenhouses, vertical farms, soil less farming systems, etc., the use of land, water, pesticides and other chemicals required to grow the plants is reduced. Closed farming technologies offer advantages such as better control of environmental factors, increased productivity and continuous production in the off-season.

Policy Recommendation 7: Strengthening the coordination and sustainability of initiatives among public institutions and organizations by taking into account the data and evidence-based risk predictions developed by the initiatives at the beginning of the implementation processes

Rationale: Different approaches among authorities and regulations regarding land use plans and sustainability of the ecosystem lead to the priority targets determined within the framework of water resources management, sustainable agricultural input use, natural disaster risk management, and biodiversity protection. Therefore, foresight-based approaches focusing on the development of the legal and institutional structure and the provision of needed financial resources need to be developed. Taking into account the data and evidence-based risk

predictions developed by the initiatives at the beginning of the implementation processes will strengthen the effectiveness of institutional and technical capacity.

Policy Recommendation 8: Supporting small-scale farmers, peasants and households in effective management their agricultural activities by capacity building, training, access to market information and customised financial products to optimize their decision-making process also disseminating technology and facilitating eco-friendly but relatively costly solutions.

Rationale: Small-scale farmers, peasants, and households, as a separate segment of any national economy include for significant number of contributors to food production in most of the OIC regions. Although majority of the smallholders are aware about the technological advances either in irrigation, organic practices, they are financially marginalized to access these tools on the grassroots level. Supporting them in effective agricultural management ensures a more consistent food supply, increasing rural development, health and nutrition, and improving overall national food security. This issue is not related only to the improvement of local agriculture but also addresses broader issues of economic development, sustainability and regional resilience. It is an investment in the well-being of communities and contributes to global efforts to eradicate hunger and poverty. Creating accessible financial tools and incentives could create diffusion of these practices also help financial inclusivity.

Policy Recommendation 9: Increasing to use Certified Seed Production and Improved Seeds in Agricultural Production in order to enhance productivity and to support food security.

Rationale: Certified seed production is a process that guarantees quality and genetic integrity. These seeds are typically certified and made available for sale by an official authority. Certified seeds are produced, stored, and marketed in compliance with established standards. This process ensures that agricultural products are more reliable in terms of consistency, productivity, and quality. Additionally, Improved seeds are the seeds of plants developed using genetic engineering and traditional selection methods. These seeds are developed to increase crop productivity, enhance disease resistance, and adapt to climatic conditions. Improved seeds contribute significantly to increasing food production, helping to feed the growing population.

Certified seed production and improved seeds are integral components of sustainable agricultural practices. These seeds require less water, fertilizers, and chemical pesticides, reducing environmental impacts. Furthermore, the increase in productivity necessitates less land use, thus contributing to forest conservation.

Instruments to Realize the Policy Recommendations:

COMCEC Agriculture Working Group: In its subsequent meetings, the Working Group may elaborate on the above-mentioned policy areas in a more detailed manner. Working Group may work on a prioritization and sequencing of the policy areas.

COMCEC Project Funding: Under the COMCEC Project Funding, the COMCEC Coordination Office calls for projects each year. With the COMCEC Project Funding, the Member Countries participating in the Working Groups can submit projects to be financed by the COMCEC. For the above-mentioned policy areas, the Member Countries can utilize the COMCEC Project Funding and the COMCEC Coordination Office can support financing the successful projects in this regard. These projects may include training programs, study visits, workshops, organizing seminars, peer-to-peer experience sharing, needs assessments and producing promotional materials/documents.