



COOPERATION FRAMEWORK FOR AGRICULTURAL DEVELOPMENT AND FOOD SECURITY IN THE CAREC REGION



24 November 2022

**COOPERATION FRAMEWORK FOR AGRICULTURAL
DEVELOPMENT AND FOOD SECURITY IN THE CENTRAL ASIA
REGIONAL ECONOMIC COOPERATION REGION**

CAREC Secretariat
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ABBREVIATIONS

ABEC	– Almaty-Bishkek Economic Corridor
ADB	– Asian Development Bank
CAREC	– Central Asia Regional Economic Cooperation
CITA	– CAREC Integrated Trade Agenda
FAO	– Food and Agriculture Organization
PPP	– public-private partnership
SPS	– sanitary and phytosanitary
STKEC	– Shymkent-Tashkent-Khujand Economic Corridor

I. INTRODUCTION

1. Like many other countries in the world, the Central Asia Regional Economic Cooperation (CAREC) Program member countries—henceforth referred to as the CAREC countries—are facing considerable challenges in ensuring food security.¹ A number of factors, including climate change, disasters induced by natural hazards, the coronavirus disease (COVID-19) pandemic, geopolitical tensions, and disruptions in cross-border food supply chains, have adversely impacted on food security in the CAREC region. Many of these factors will continue to pose significant risks to food security in the region.

2. Development of productive, resilient and sustainable agriculture is critical to ensure food security. In the CAREC region, it is also important for inclusive and sustainable economic growth. Agriculture accounts for over 20% of total employment and generates more than 10% of gross domestic product (GDP) in most CAREC countries. It is a major source of livelihood for a significant percentage of households in all CAREC countries.² As a supplier of food, agriculture has considerable impacts on nutrition and health outcomes. It is a major user of land and water resources and a significant source of soil, water and air pollution, and greenhouse gas emissions.

3. Agricultural development has significant implications for poverty reduction, gender equality, and youth employment. In most CAREC countries, the incidence of poverty and youth unemployment are higher in rural areas than in urban areas. There are significant gender pay gaps in agriculture, with women paid less than men. There are also gender gaps in technical and professional expertise on agriculture, with women underrepresented in agricultural education, research, and extension services. Compared to male farmers, female farmers experience greater constraints in accessing extension services, finance, new technologies, and markets for agricultural inputs and products. The prevalence of moderate and severe food insecurity is substantially higher in the adult female population than in the male adult population in several CAREC countries.

4. Since the 2010s, the CAREC countries have made considerable progress in agricultural development. This includes implementing institutional reforms in agriculture, adopting modern farming practices, and introducing green and/or digital agricultural technologies. These include organic/ecological farming, drip irrigation, and precision agriculture. During 2011–2020, agricultural value added grew rapidly and the sector contributed over 20.0% of real GDP growth in several CAREC countries. In Mongolia and Tajikistan, for instance, agricultural value added grew at an average annual rate of 8.5% and 6.5%, respectively. Per capita food production increased in most CAREC countries, notably in Mongolia (60.0%), Tajikistan (20.0%) and Georgia (17.0%).

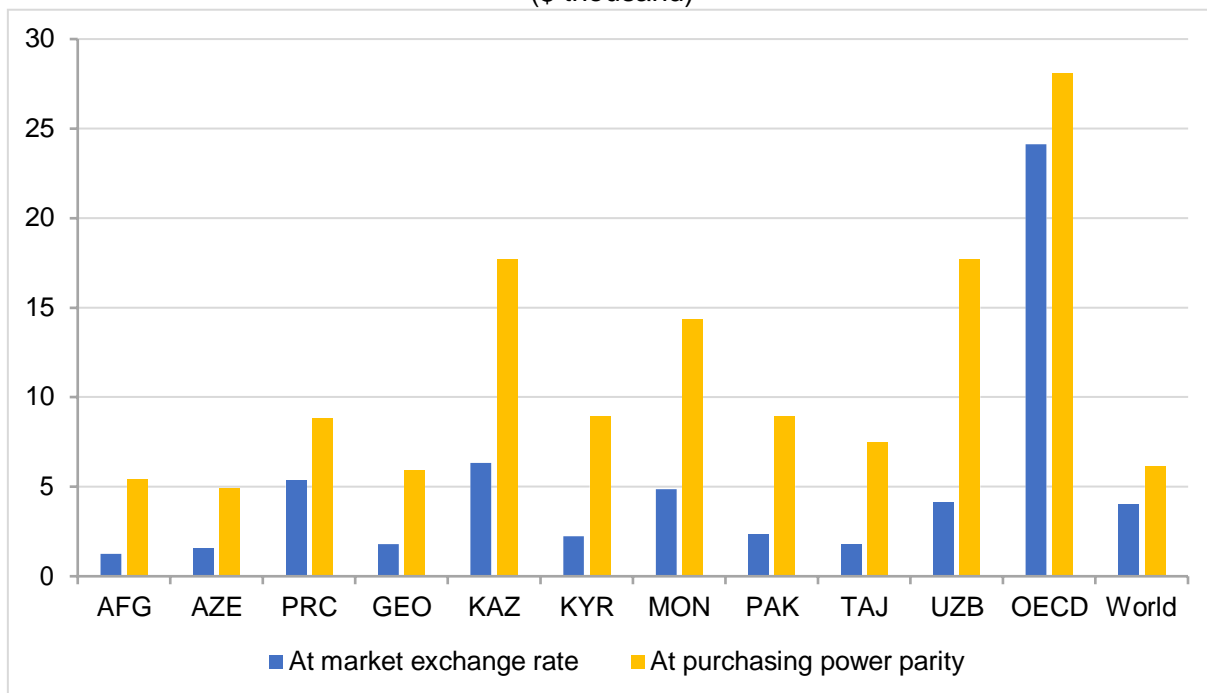
5. There are still many intertwined issues in the agricultural sector of the region. In most CAREC countries, agriculture predominantly consists of small farms. The mechanization levels are low, and the use of modern and sustainable farming practices and technologies is limited. There are major inefficiencies in the sector, and productivity is relatively low. Productivity, measured as agricultural value added per worker, is lower in many CAREC countries than in the

¹ The Food and Agriculture Organization of the United Nations (FAO) defines food security as a situation when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life (FAO 2001). Based on this definition, the four dimensions of food security can be identified: (i) availability, (ii) access, (iii) utilization, and (iv) stability (Committee on World Food Security 2014).

² Agriculture is a major source of livelihood for most rural households and many households in small towns. The share of rural population in total population ranges from 31% in Mongolia to 74% in Afghanistan (ADB, 2022).

world on average. It is substantially lower in all CAREC countries than in the member countries of the Organization for Economic Cooperation and Development on average (Figure 1). The yield of food crops is also generally low in the CAREC countries, with the yield of wheat in the People's Republic of China (PRC) and the yield of maize and rice in Tajikistan being notable exceptions (Table 1). Agricultural value added (at 2015 prices) per cubic meter of water used in agriculture is less than \$1 in all CAREC countries except the PRC, which is about \$2.³ The irrigation water requirement ratio, which is the ratio of irrigation water requirement to irrigation water withdrawal and is often used as a proxy indicator of the efficiency of water use, is below 60% in the six of the seven CAREC countries for which data needed to compute this indicator are available.⁴ The six countries are Azerbaijan, Georgia, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan.

Figure 1. Agricultural Value-Added Per Worker in CAREC Countries, OECD and World, 2019^a
(\$ thousand)



AFG = Afghanistan, AZE = Azerbaijan, GEO = Georgia, KAZ = Kazakhstan, KYR = Kyrgyz Republic, MON = Mongolia, OECD = Organization for Economic Cooperation and Development, PAK = Pakistan, PRC = People's Republic of China, TAJ = Tajikistan, UZB = Uzbekistan.

^a Includes value added produced in forestry and fishing.

Note: Turkmenistan is not included in the figure due to lack of data.

Source: Asian Development Bank (2022).

³ Asian Development Bank. 2022. *Agriculture and Food Security in the CAREC Region. A Background Report for the Cooperation Framework for Agricultural Development and Food Security in the CAREC Region*. Manila. (Unpublished). (see Table 2.7).

⁴ The average of this indicator for Asia and the world is about 60%.

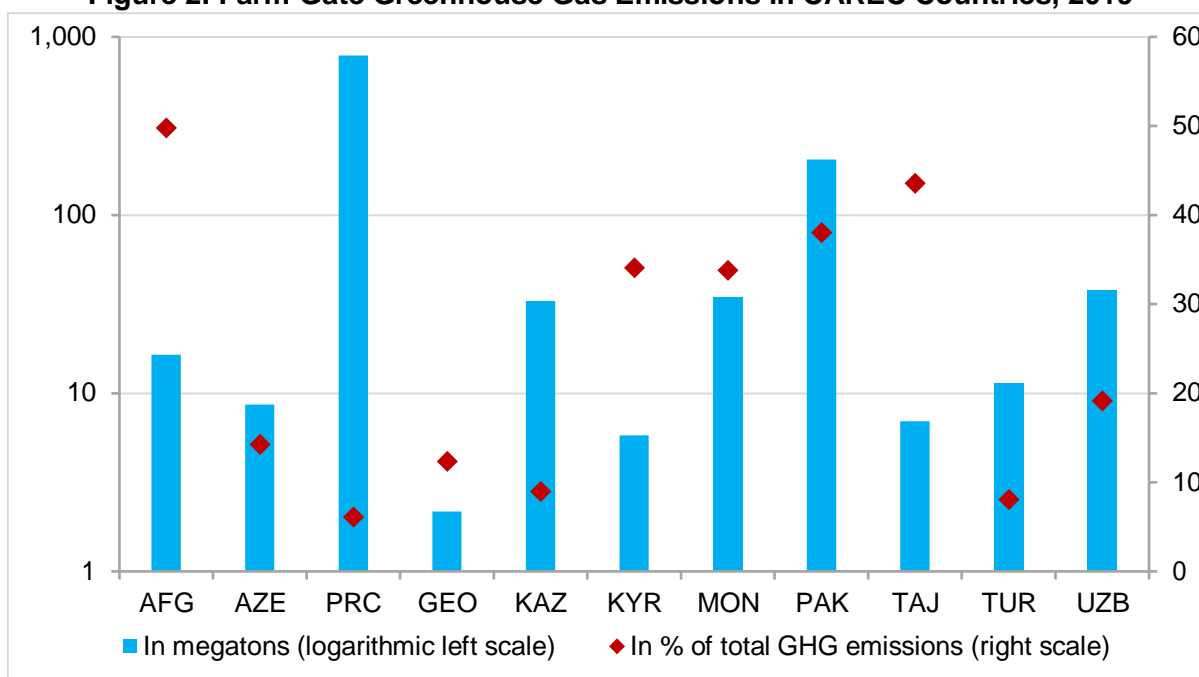
Table 1. Yield of Selected Food Crops in CAREC Countries, European Union and United States, 2020
(tons per hectare)

	AFG	AZE	PRC	GEO	KAZ	KYR	MON	PAK	TAJ	TUR	UZB	EU	US
Apples	10.6	10.3	21.2	3.6	7.3	5.0	n.a.	8.3	5.4	11.2	10.5	24.4	38.9
Maize	1.9	9.3	6.3	3.1	5.9	6.8	n.a.	6.0	13.5	0.9	9.8	7.3	10.8
Rice	3.0	3.1	7.0	n.a.	5.4	3.7	n.a.	2.5	8.9	1.1	6.2	6.7	8.5
Potatoes	15.9	18.2	18.5	13.3	20.7	17.4	13.9	24.6	20.8	20.0	33.9	35.1	50.8
Wheat	1.9	3.1	5.7	2.2	1.2	2.5	1.2	2.9	3.2	1.7	4.6	5.5	3.3

AFG = Afghanistan, AZE = Azerbaijan, CAREC = Central Asia Regional Economic Cooperation, EU = European Union, GEO = Georgia, KAZ = Kazakhstan, KYR = Kyrgyz Republic, MON = Mongolia, n.a. = not applicable, PAK = Pakistan, PRC = People's Republic of China, TAJ = Tajikistan, TUR = Turkmenistan, US = United States, UZB = Uzbekistan.
Source: Food and Agriculture Organization of the United Nations. [FAOSTAT](#) (accessed 28 June 2022).

6. Furthermore, agricultural production is highly vulnerable to negative shocks, such as outbreaks of plant disease epidemics, and animal diseases, and disasters triggered by natural hazards. It has significant adverse effects on the environment. It contributes to, and is negatively affected by, climate change. Farm-gate emissions account for more than 30% of total greenhouse gas emissions in many CAREC countries (Figure 2, based on FAOSTAT).

Figure 2. Farm-Gate Greenhouse Gas Emissions in CAREC Countries, 2019



AFG = Afghanistan, AZE = Azerbaijan, CAREC = Central Asia Regional Economic Cooperation, GEO = Georgia, GHG = greenhouse gas emission, KAZ = Kazakhstan, KYR = Kyrgyz Republic, MON = Mongolia, PAK = Pakistan, PRC = People's Republic of China, TAJ = Tajikistan, TUR = Turkmenistan, UZB = Uzbekistan.
Source: Food and Agriculture Organization of the United Nations. [FAOSTAT](#) (accessed 7 September 2022).

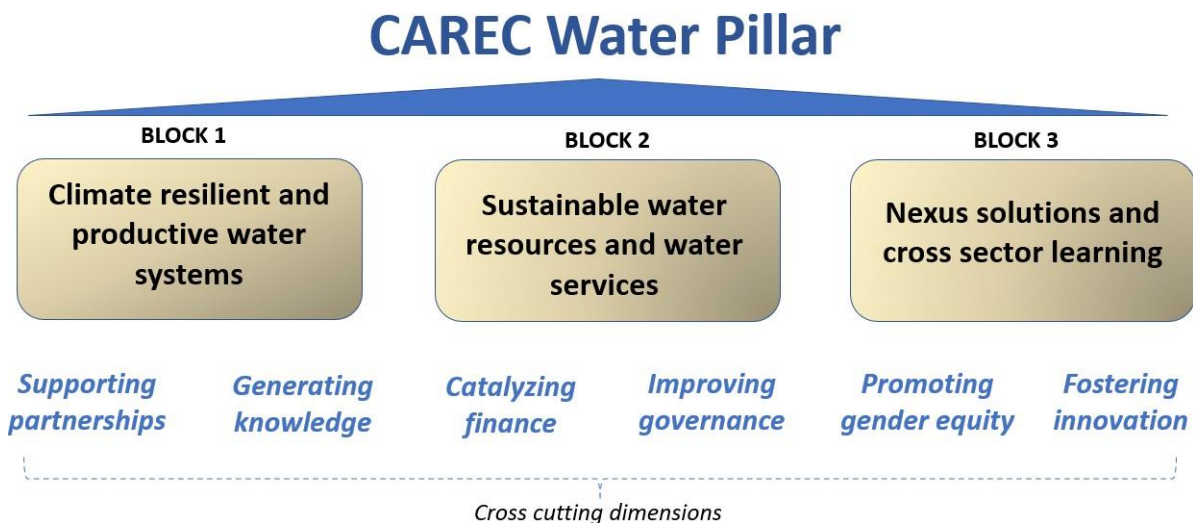
7. To foster inclusive and sustainable economic growth and meet the food security challenges they are facing, the CAREC countries need to further modernize agriculture. They need to make agriculture more productive, resilient, and environmentally sustainable. The CAREC countries need to strengthen agricultural education and research, develop the seed

industry and agricultural extension services, deepen institutional reforms in agriculture, and expand the use of modern farming practices and green and/or digital agricultural technologies. In doing so, most CAREC countries can take advantage of the comparatively high literacy and internet penetration rates.⁵

8. Regional cooperation can help CAREC countries foster agricultural modernization and enhance food security. The CAREC Program can serve as an effective platform for such collaboration. One of the operational clusters of the CAREC 2030 Strategic Framework (CAREC 2030) includes agriculture along with water management. Several other operational clusters of CAREC 2030 cover various aspects of food security (Asian Development Bank [ADB] 2017). A range of activities, including technical assistance and investment projects related to agricultural development and/or food security have been or are being implemented, or are planned and/or proposed under existing CAREC initiatives such as the Water Pillar, CAREC Integrated Trade Agenda (CITA) 2030, Almaty-Bishkek Economic Corridor (ABEC) Development, and Shymkent-Tashkent-Khujand Economic Corridor (STKEC) Development. In addition, the CAREC Secretariat has commissioned a scoping study on supporting regional actions to address climate change as a cross-cutting theme under CAREC 2030. The purpose of the study is to lay the groundwork for the development of a systematic and strategic approach by the CAREC Program to the climate agenda in the region.

9. The Water Pillar is a CAREC framework for regional cooperation on water. At present, it focuses on cooperation among the five CAREC countries located in the Aral Sea Basin—namely, Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan—with an expectation that its scope will expand gradually to cover other CAREC countries. The Water Pillar comprises three blocks supported by a set of cross cutting dimensions (Figure 3).

Figure 3. Framework of the CAREC Water Pillar



CAREC = Central Asia Regional Economic Cooperation.
Source: Asian Development Bank (2021).

10. Considering the importance of agricultural development and food security and desiring to increase their collaboration in these areas, the CAREC countries have agreed on this Cooperation

Framework for Agricultural Development and Food Security in the CAREC Region (henceforth referred to as the Framework).⁶

II. PURPOSE OF THE FRAMEWORK

11. The purpose of the Framework is to prioritize and guide CAREC activities related to agricultural development and food security. Specifically, the Framework is intended to support CAREC countries (i) increase South-South knowledge sharing in agriculture modernization and food security, (ii) prioritize the planned and/or proposed activities under the existing CAREC initiatives in terms of their significance for agricultural development and food security in the region, (iii) design and undertake additional CAREC activities to foster agriculture modernization and/or enhance food security in the region, (iv) increase synergies among these activities, and (v) amplify their overall positive impacts on agricultural development and food security in the CAREC countries.

III. EXPECTED IMPACT AND OUTCOME

12. The expected impact of the Framework is productive, resilient and sustainable agriculture and enhanced food security in the CAREC region. Its expected outcome is increased regional cooperation among the CAREC countries in agricultural development and food security (Figure 4).

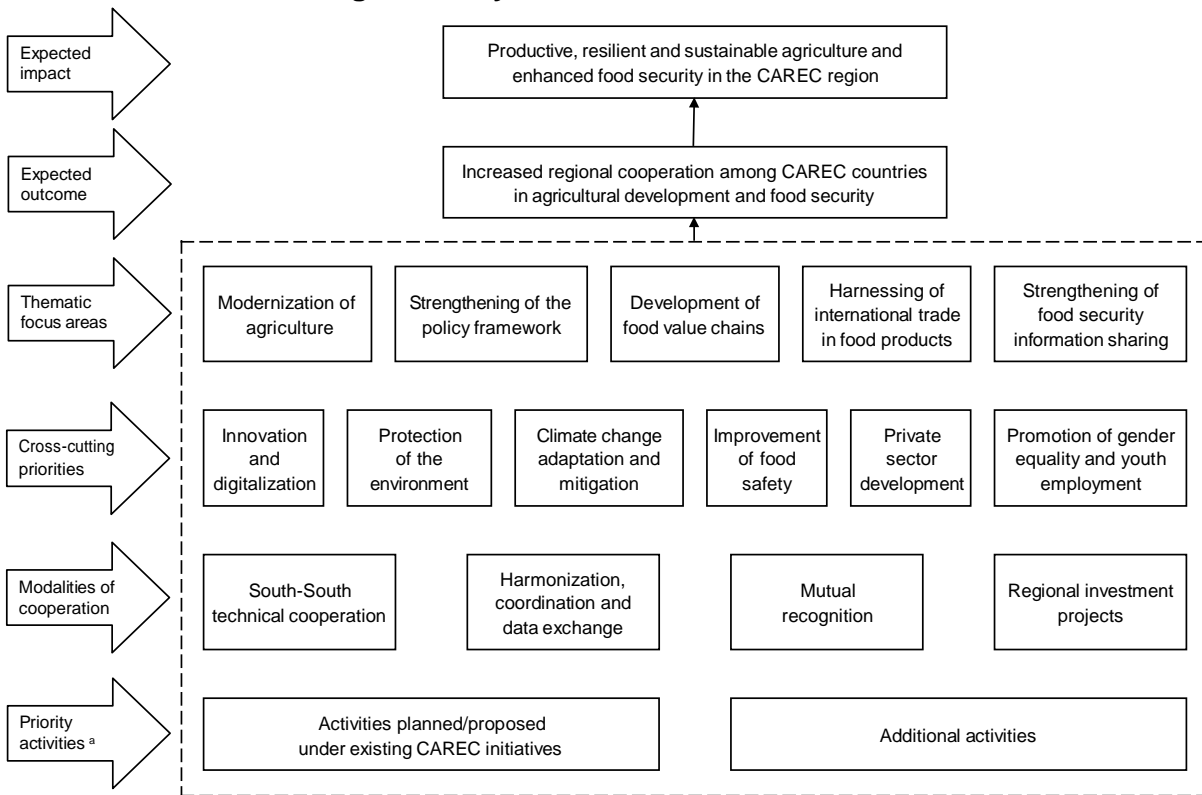
IV. THEMATIC FOCUS AREAS

13. The Framework has the following five thematic focus areas:

- (i) modernization of agriculture,
- (ii) strengthening of the policy framework,
- (iii) development of food value chains,
- (iv) harnessing of international trade in food products, and
- (v) strengthening of food security information sharing.

14. **Modernization of agriculture.** The collaboration in this thematic area will aim to enhance productivity, resilience and environmental sustainability in the CAREC countries' agricultural sector; and improve food safety. The CAREC countries will cooperate, inter alia, in strengthening agricultural education and research, developing the seed industry and agricultural extension services, improving farmers' access to financial services, and introducing green and/or digital agricultural technologies. They will prioritize climate change adaptation and mitigation and the development of climate-smart agriculture.

⁶ The Framework is based on the information and analysis provided in ADB (2022).

Figure 4. Key Elements of the Framework

CAREC = Central Asia Regional Economic Cooperation.

^a The priority activities are listed in Table 2.

Source: Asian Development Bank.

15. The collaboration in agricultural education will seek to strengthen the capacity of the CAREC countries' institutions of higher education and vocational training to develop and deliver high-quality courses and programs in modern farming practices and technologies (including green and/or digital technologies), food safety management, and climate-smart agriculture.⁷ Priority will be given to vocational training courses and programs tailored to the needs of women and youth residing in rural areas.

16. The focus of the cooperation in agricultural research will be on the introduction of green and/or digital technologies, molecular breeding, and the development of high-yield crop varieties that are resilient to pests, plant disease epidemics, and a lack and/or excess of water.

17. The collaborative effort to develop the seed industry will focus on promoting cross-border private investment and transfer of knowledge and technology.

18. The cooperation in the development of agricultural extension services will focus on the use of modern information and communication technologies (including mobile applications) and public-private partnerships (PPPs) in the provision of services.⁸ It will also aim to strengthen pest

⁷ Climate-smart agriculture is an approach to developing the technical, policy, and investment conditions to achieve sustainable agricultural development for food security under climate change (FAO 2013).

⁸ Given the high rates of literacy and mobile phone penetration in all CAREC countries except Afghanistan and Pakistan, most farmers in the CAREC region can access extension services via mobile applications. Extension

control and veterinary services. The CAREC countries will share knowledge and build capacity in using agricultural extension services to promote farmers' adoption of green technologies, improve their access to financial services, help them adapt to climate change and integrate into agricultural value chains, and reduce gender gaps in agriculture. The CAREC countries will collaborate in establishing a regional network of agricultural knowledge and innovation centers, which will provide knowledge-based extension services to farmers (with priority given to female farmers) and help them adopt innovative agricultural technologies (including digital technologies). Country-specific circumstances such as the literacy rate and mobile phone penetration among farmers will be taken into account.

19. Through regional studies and workshops, the CAREC countries will share knowledge and build capacity in using PPPs and innovative financing schemes to improve farmers' access to financial services (including green finance) and promote the adoption of green and/or digital technologies.

20. **Strengthening of the policy framework.** The CAREC countries will collaborate in strengthening the policy framework for agricultural development and food security. They will share knowledge in implementing land reforms, enhancing the effectiveness and efficiency of agricultural subsidy programs, and promoting horizontal collaboration of farms (through cooperatives) and their vertical cooperation and integration with processing companies (e.g., through production partnerships and agro-industrial clusters). They will also share knowledge and build capacity in creating a favorable policy and regulatory framework for the development of the food industry.

21. **Development of food value chains.** The CAREC countries will share knowledge and build capacity in using PPPs and green and/or digital technologies to develop food value chains. They will collaborate in developing food logistics, storage and market information services and the food industry, modernizing wholesale trade in food products, and strengthening food safety management along food value chains. The CAREC countries will promote cross-border cooperation among business associations to stimulate private sector participation in the development of food value chains.

22. **Harnessing of international food trade.** The CAREC countries will harness international food trade to modernize agriculture and enhance food security by facilitating food trade, diversifying the direction of food exports and imports, and expanding exports of high-value food products. To reduce their dependence on imports of staple food products, the CAREC countries are promoting domestic production of these products. They will continue to leverage imports to ensure the availability of a greater variety of food products at lower prices. They will cooperate in diversifying the direction of food exports and imports to reduce their vulnerability to changes in food demand or production in trading partners and disruptions in cross-border food supply chains. The CAREC countries' collaboration in trade facilitation and export promotion will focus on modernization of customs administration, border crossing points and sanitary and phytosanitary (SPS) measures, and on promotion of cross-border e-commerce and paperless trade in food products. It will mostly be undertaken under the CITA 2030 and as part of ABEC and STKEC development.

23. **Strengthening of food security information sharing.** The CAREC countries will share information on food supply, demand and trade as well as policy developments. The establishment

agents can utilize modern information and communication technologies to provide advisory and information services to farmers (including female farmers) who do not have access to mobile applications.

of a regional early warning system or systems for climate-related risks will also help CAREC countries build more resilience to food security risks. The cooperation could include sharing best practices and building capacity in managing emergency food reserves, such as estimating the optimal quantities of emergency food reserves, ensuring the safety of food kept in emergency reserves, partnership with the private sector, and using modern technologies (including green and/or digital technologies).

V. CROSS-CUTTING PRIORITIES

24. The Framework has the following six cross-cutting priorities:

- (i) innovation and digitalization,
- (ii) protection of the environment,
- (iii) climate change adaptation and mitigation,
- (iv) improvement of food safety,
- (v) private sector development; and
- (vi) promotion of gender equality and youth employment.

25. **Innovation and digitalization.** The collaboration in all four thematic focus areas of the Framework will foster innovation and advance digital transformation. Notably, it will promote the use of digital technologies in agriculture and other sectors along food value chains as well as in trade facilitation and the management of emergency food reserves.⁹ It will foster innovation in agriculture by strengthening agricultural research and developing agricultural extension services. It will also promote the use of innovative financing schemes and PPP models to modernize agriculture, develop food value chains and expand exports of high-value food products. Priority will be given to improving the access to new technologies by female farmers and women-owned businesses. The CAREC countries will share knowledge in using digital technologies and innovative financing mechanisms and PPP models to reduce gender gaps in agriculture and create employment opportunities for rural youth.

26. **Protection of the environment.** The cooperation under the Framework will seek to enhance the efficiency of water and land utilization in agriculture; reduce land, water and air pollution caused by agricultural activities; and reduce food waste. The cooperation will promote and facilitate the adoption of green technologies (including land and water conservation technologies) by farmers and businesses in other sectors along food value chains. Efforts will be made to apply the circular economy approach to food value chains.¹⁰ The cooperation will also involve knowledge sharing and capacity building for rehabilitation and effective management of agricultural land.

27. **Climate change adaption and mitigation.** The collaboration under the Framework will promote climate change adaptation and mitigation in the agricultural sector and other parts of the food system of the CAREC countries. It will help mainstream climate change adaptation and mitigation into extension services, agricultural education and research. It will involve joint research projects aimed at developing crop varieties that are resilient to both a lack and an excess of water. It will entail sharing and dissemination of knowledge in dryland farming and rainwater harvesting. It will promote the adoption of green technologies (such as organic/ecological agriculture, conservation farming and renewable energy) that will reduce greenhouse gas emissions by

⁹ The relatively low literacy rate and limited mobile phone penetration are likely to constrain the use of digital technologies in agribusiness in some parts of the CAREC region (e.g., in rural areas of Afghanistan and Pakistan).

¹⁰ Circular economy is an approach that decouples economic activity from the consumption of finite resources, designs out waste, and instead promotes an economic model based on sharing, leasing, reuse, repair, refurbishment, and recycling in an (almost) closed loop (European Food Safety Authority 2022).

agriculture and other activities along food value chains. The CAREC countries will exchange knowledge and learn best practices in establishing and operating national early warning systems for climate-related risks. They will also set up a regional early warning system or systems similar to the European Drought Observatory, the European Flood Awareness System or Meteoalarm. The cooperation in improving food safety will address risks posed by climate change. Strengthening food security information sharing will facilitate CAREC countries ensure the availability and affordability of staple food products in case of extreme weather events caused or exacerbated by climate change. The cooperation under the Framework may include activities recommended by the CAREC scoping study on climate change (para. 8). The climate change adaptation activities pertaining to water will be carried out under the CAREC Water Pillar.

28. **Improvement of food safety.** The collaboration under the Framework will promote the adoption of the farm-to-fork approach to food safety by the CAREC countries. It will support harmonization of their food safety standards and technical regulations with Codex Alimentarius. It will also support the establishment and/or strengthening of food safety laboratories in CAREC countries and promote the adoption of Hazard Analysis and Critical Control Points and its prerequisite programs by businesses along food value chains. It will also address—through knowledge sharing—the risks posed to food safety by climate change.

29. **Private sector development.** The cooperation under the Framework will foster private sector development in multiple ways. It will promote institutional reforms in agriculture that will stimulate private sector development. The improvement of farmers' access to financial services (including green finance) as well as the development of the seed industry, agricultural extension services, food logistics and storage services, agrifood market information services, and wholesale trade in food products will involve private sector. Development of agricultural finance, facilitation of food trade and promotion of high-value food exports will also provide an impetus to private sector development.

30. The CAREC countries will collaborate in utilizing the potential of the private sector—as a source of finance, know-how, innovation—to contribute to agricultural development and food security. The CAREC countries will promote cross-border private investment flows into agriculture, the food industry and related sectors. They will cooperate in using PPPs effectively to modernize agriculture and enhance food security. They will collaborate in introducing the People-First model of PPPs into agribusiness.¹¹ A level playing field for state-owned enterprises and private firms will be created in agribusiness. The private sector will be engaged in activities under the Framework through business associations and ADB's Private Sector Operations Department.

31. **Promotion of gender equality and youth employment.** The cooperation under the Framework will seek to reduce gender gaps in agricultural production, education, research and extension services, and create job opportunities for rural youth. Priority will be given to reducing the incidence of food insecurity among women and their greater inclusion in knowledge and capacity building and entrepreneurship. The CAREC countries will share knowledge in using digital technologies and innovative financing mechanisms and PPP models to reduce gender inequality in agribusiness and promote youth employment in rural areas.

¹¹ A People-First PPP is a long-term contractual relationship between the public and private sectors, where delivering value for people is the core objective, there is a commitment to serving and protecting the community, and the project is developed with the real interests of people in mind (United Nations Economic Commission for Europe 2018).

VI. MODALITIES OF COOPERATION

32. Under the Framework, the CAREC countries will utilize the following modalities of regional cooperation:

- (i) South-South technical cooperation, including triangular technical cooperation;
- (ii) coordination, harmonization and data exchange;
- (iii) mutual recognition; and
- (iv) regional investment projects.

33. **South-South technical cooperation** will entail knowledge sharing among two or more CAREC countries. It can be in the form of triangular cooperation whereby a development partner or partners such as ADB will facilitate and support technical cooperation among CAREC countries. A developing country or countries that are not members of the CAREC Program may participate.

34. The South-South technical cooperation will include joint agricultural research projects as well as regional workshops and studies in the thematic focus areas of the Framework. It may include exchange of agriculture students and researchers among CAREC countries and study tours of government officials from one or more CAREC countries to another CAREC country. It may involve twinning arrangements between government agencies of the CAREC countries.

35. **Coordination, harmonization and data exchange** will entail coordination of agriculture- and/or food security-related policies, regulations and projects with cross-border spillover effects. It will also involve harmonization of trade-related standards, technical regulations and procedures. Information on trade policies and regulations related to agrifood products and data on wholesale prices of these products will be exchanged through a regional online agrifood market information system and a regional online marketplace for agrifood products. Further, the cooperation will involve exchange of information through the regional early warning system(s) for climate-related risks and coordination of responses to adverse events (e.g., natural hazards) affecting agriculture and/or food security in several CAREC countries.

36. **Mutual recognition** can be applied to electronic food safety, phytosanitary and veterinary certificates, and test results.

37. **Regional investment projects** can be public or private, or PPPs. In particular, a regional network of agricultural knowledge and innovation centers, a regional online market information system for agrifood products, and a regional online marketplace for these products can be established via PPPs. Border crossing points and national SPS systems can be modernized through regional public investment projects. A regional network of food logistics and storage centers can be set up via private investment projects or PPPs.

VII. PRIORITY ACTIVITIES

38. Table 2 presents the priority activities under the Framework. It includes planned and/or proposed activities under existing CAREC initiatives as well as additional activities.

Table 2. Priority Activities Under the Framework

Activities	Thematic focus area(s)	Cross-cutting priority(ies)	Modality(ies) of cooperation
I. PLANNED AND/OR PROPOSED ACTIVITIES UNDER EXISTING CAREC INITIATIVES			
A. CAREC Water Pillar			
1.1	Support investment in climate resilient irrigation and drainage modernization projects	a	b, c, d
1.2	Develop guidance for improving plans for reclamation and improvement of irrigated lands (salinity control) and related investments	a	b, c, a, b
B. CAREC Integrated Trade Agenda 2030			
1.3	Adoption of ePhyto solutions	a, c, d	a, b, d, e, a, b, c
1.4	Carry out a pilot or assessment for e-veterinary certification	a, c, d	a, b, d, e, a, b, c
1.5	Provide technical assistance in the establishment of pest free areas and the development of pest listing policy and strategy	a, c, d	b, c, d, a, b, c
1.6	Improve the surveillance of animal diseases	a, c, d	b, c, d, a, b
1.7	Provide support for organic certification	a, c, d	b, d, e, a, b
1.8	Establish joint control and border coordination for traceability	c, d	a, b, c, d, a, b, c
1.9	Carry out investment scoping and upgrade of border inspection facilities and laboratories at identified border crossing points;	c, d	a, b, e, a, b, c, d
1.10	Simplify trade procedures and introduce a single format for electronic documents, particularly for transit	c, d	a, e, a, b, c
C. Almaty-Bishkek Economic Corridor Development			
1.11	Establish modern agricultural wholesale markets within the corridor	a, c, d	a, b, d, e, a, b, d
1.12	Modernize BCPs within the corridor	c, d	a, b, e, b, c, d
D. Shymkent-Tashkent-Khujand Economic Corridor Development			
1.13	Promote cross-border collaboration among producers and exporters of fruits and vegetables that supply to modern retail chains in the People's Republic of China and other countries	a, c, d	a, e, f, a, b

Activities	Thematic focus area(s)	Cross-cutting priority(ies)	Modality(ies) of cooperation
1.14 Develop agro-industrial zones	c	a, b, d, e, f	b, d
1.15 Modernize BCPs within the corridor	c, d	a, b, e	b, c, d
II. PROPOSED ADDITIONAL ACTIVITIES			
2.1 Establish and/or strengthen collaboration among agricultural education and research institutions of the CAREC countries—in particular through joint research project and faculty, student, and/or staff exchanges ^a	a	a, b, c, d, f	a
2.2 Promote—in particular through knowledge sharing, capacity building, and support for the establishment and/or development of multi-language online platforms—the development of agricultural extension services that, inter alia, improve farmers' access to knowledge, financial services and market information ^a	a	a, b, c, d, e, f	a
2.3 Set up a regional network of agricultural knowledge and innovation centers, which will collaborate with each other and with agricultural education and research institutions in providing knowledge-based extension services to farmers and helping farmers adopt innovative agricultural technologies and adapt to climate change	a	a, b, c, d, e, f	a
2.4 Strengthen the capacity of relevant government agencies of the CAREC countries to design and implement institutional reforms for agriculture modernization (in particular by conducting a review of selected CAREC countries' recent experience in implementing institutional reforms in agriculture, results achieved, and lessons learned) ^a	b	a, b, c, d, e, f	a
2.5 Enhance—through knowledge sharing, joint research projects and capacity building--the resilience of agricultural production to climate change, natural disasters, plant disease epidemics, and animal diseases (e.g., by developing resilient crop varieties, utilizing dryland farming and rainwater harvesting technologies, and strengthening pest control and veterinary services)*	a	a, c, e, f	a
2.6 Promote—through knowledge sharing and capacity building—greater use of green and/or digital technologies in agriculture and other parts of food value chains ^a	a, c	a, b, c, d, e, f	a
2.7 Share and disseminate—through workshops and/or regional studies—knowledge about innovative financing mechanisms and PPP models that the CAREC countries are using or can potentially use to modernize agriculture, develop food value chains and expand exports of high-value food products ^a	a, c	a, b, c, d, e, f	a
2.8 Establish—possibly through a PPP—a regional online market information system for agrifood products, which can subsequently be turned into a regional online marketplace	a, c, d	a, e	a, b, d
2.9 Develop a regional network of food logistics and wholesale trade centers with cold-storage facilities, renewable energy sources and harmonized standards	a, c, d	a, b, c, d, e	b, d

Activities	Thematic focus area(s)	Cross-cutting priority(ies)	Modality(ies) of cooperation
2.10 Develop a regional network of food safety, veterinary and phytosanitary laboratories with harmonized standards and mutual recognition of test results (possibly through membership in the International Laboratory Accreditation Cooperation)	a, c, d	b, d, e	b, c, d
2.11 Promote—in particular through training of trainers—the adoption of the farm-to-fork approach to food safety and the implementation of HACCP and its prerequisite programs in the CAREC countries ^a	a, c, d, e	a, b, d, e, f	a, c
2.12 Set up a regional early warning system or systems for climate-related risks	a, c, e	a, c	a, b
2.13 Strengthen—in particular through knowledge sharing and the introduction of digital technologies—the capacity of relevant government agencies of the CAREC countries to manage emergency food reserves ^a	e	a, c, e	a

BCP = border crossing point, CAREC = Central Asia Regional Economic Cooperation, PPP = public-private partnership.

* The activity can potentially be carried out in collaboration with the CAREC Institute.

The letter codes for the thematic focus areas:

- a Modernization of agriculture
- b Strengthening of the policy framework
- c Development of food value chains
- d Harnessing of trade in food products
- e Strengthening food security information sharing

The letter codes for the cross-cutting priorities:

- a Innovation and digitalization
- b Protection of the environment
- c Adaptation to climate change
- d Improvement of food safety
- e Private sector development
- f Promotion of gender equality and youth employment

The letter codes for the modalities of cooperation:

- a South-South technical cooperation
- b Coordination, harmonization and data exchange
- c Mutual recognition
- d Regional investment projects

VIII. PROPOSED IMPLEMENTATION ARRANGEMENTS

39. A CAREC Working Group on Agricultural Development and Food Security will be set up to oversee the implementation of the Framework. The working group will consist of the representatives of the relevant government agencies of the CAREC countries. It will report to the CAREC Senior Officials Meetings and collaborate in the implementation of the priority activities of the Framework with the CAREC Institute, SPS Regional Working Group, Regional Trade Group, Customs Cooperation Committee, and other CAREC working groups. It will periodically review the implementation of the Framework and, if needed, update and/or revise it.

40. Development partners, the governments of the CAREC countries, and the private sector are expected to finance the activities under the Framework. ADB has already approved technical assistance grants to support activities under existing CAREC initiatives such as CITA 2030 and ABEC and STKEC development. Subject to endorsement of the proposed Framework by CAREC member countries and further consultations, ADB may consider providing knowledge and support technical assistance to assist implementation of relevant priority activities that ADB has comparative advantage. ADB may also evaluate and finance bankable investment projects relevant to the focus areas of the Framework. The governments of the CAREC countries are expected to provide in-kind financing for South-South technical cooperation activities (in the form of training and research facilities, salaries of government officials participating in workshops and study tours). The government of the CAREC countries may also finance investment projects (such as the modernization of border crossing points along the STKEC and the establishment of new SPS laboratories). The private sector is expected to finance—possibly through PPPs—some investment projects (such as the establishment of a regional online market information system for agrifood products and of a regional network of food logistics and wholesale trade centers).

REFERENCES

- Asian Development Bank. 2022. *Agriculture and Food Security in the CAREC Region. A Background Report for the Cooperation Framework for Agricultural Development and Food Security in the CAREC Region*. Manila. (Unpublished)
- _____. 2021. [Developing the Central Asia Regional Economic Cooperation Water Pillar. Developing the CAREC Water Pillar Scoping Report](#). Consultants' report. Manila (TA 9977).
- _____. 2017. [CAREC 2030: Connecting the Region for Shared and Sustainable Development](#). Manila.
- Committee on World Food Security. 2017. [Global Strategic Framework for Food Security and Nutrition](#). Rome.
- European Food Safety Authority, K. James, A. Millington, and N. Randall. 2022. [Food and feed safety vulnerabilities in the circular economy](#). *External Scientific Report*. EFSA supporting publication 2022:EN-7226.112pp.doi:10.2903/sp.efsa.2022.EN-7226
- Food and Agricultural Organization of the United Nations. 2001. [The State of Food Insecurity in the World 2001: Food insecurity – When People Live with Hunger and Fear Starvation](#).
- _____. 2013. [Climate-Smart Agriculture: Sourcebook](#). Rome.
- United National Economic Commission for Europe. 2018. [Draft Guiding Principles on People-First Public-Private Partnerships \(PPPs\) for the United Nations Sustainable Development Goals. Part II - The 8 Guiding Principles for People-First PPPs in Support of the UN SDGs](#). Geneva.