SUMMARY

OF THE STRATEGY OF THE MAIN DIRECTIONS ENSURING ECONOMIC DEVELOPMENT IN AGRICULTURAL SECTOR OF THE REPUBLIC OF ARMENIA FOR 2020-2030

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MESSAGE FROM THE GOVERNMENT

The agricultural sector is one of the key sectors of Armenia's economy. It is significant not only as an important contributor to the nation's economic vitality, but also as one that affects the country's security, productivity of land use, as well as the population's health, nutrition, and quality of life.

The Government's 10-year vision is to have a happier population living in comfortable conditions, in a harmony with the environment and with Armenia's rich cultural heritage, and with a significant number of small and medium-sized enterprises producing competitive, high-quality agricultural products, supported by cutting edge digital and agricultural technologies, and offering quality employment to the rural population in general, and the country's youth in particular.

The Government seeks to create equal conditions and opportunities, as well as an honest, competitive, and sustainable enabling environment for all individuals and businesses that are working to advance a qualitatively improved and more modern agricultural sector.

This vision is reflected in the Strategy of the main directions ensuring economic development in agricultural sector of the Republic of Armenia for 2020-2030 (hereinafter referred as "the Strategy"). This document reflects in a detailed and systematic fashion the main priorities of the country's agriculture policy. It also defines the scope of priorities that will inform future action plans for the implementation of the Strategy.

The Government realises the full complexity of the forthcoming tasks, takes responsibility for their implementation, and will employ maximum efforts to establish the relevant state institutions, to promote the necessary legislative amendments, and to source needed financial resources for strategy execution, working in close coordination with the private sector, civil society, other parts of the Government of Armenia, and international donor organisations, experts, and implementing partners.

INTRODUCTION

Armenia's agricultural sector can be a core pillar of a thriving, modern, and diversified economy. It possesses the potential to contribute significantly to the nation's economic growth, to improve the population's quality of life, and to create many sustainable, high-quality jobs and entrepreneurial opportunities.

The vision for the next ten years is to have sustainable, innovative, high value-added agriculture in a harmony with the environment, ensuring care of natural resources, producing organic products and ensuring the well-being of the people living in the village.

The agricultural sector's transition from traditional small-scale production towards modern, technology-enabled, market-driven, and value-added agriculture is part of the Government's overall vision of widespread prosperity. Core to this vision is inclusive growth where small producers, agribusinesses, and the broader population in rural areas – including most notably Armenia's youth – have access to productive opportunities.

This vision will be realised by the Ministry of the Economy through activities that are complementary and additive to on-going efforts, particularly those of other line ministries, development partners, and civil society.

To realise this ten-year strategic vision (2029), the Ministry of Economy is spearheading a three-year strategy action plan to catalyse growth across the agricultural sector and to advance rural development, ultimately improving Armenia's competitiveness in the global economy.

The strategy is firmly grounded in global declarations and aspirations, such as the Sustainable Development Goals. It builds on the lessons learned under the Government of Armenia (GoA) Programme of 2019, the GoA Action Programme (2019-2023), and previous strategic Governmental interventions, including the Mid-term Expenditures Framework of RA (2020-2022). Furthermore, the strategy reflects major points of cooperation highlighted in existing cooperation agreements, such as points related to agriculture development, agro-tourism, and agricultural statistics in the CEPA (EU-Armenian Comprehensive and Enhanced Partnership Agreement).

Current Situation – Opportunities and Challenges

Armenia's agricultural sector has the opportunity to build on several unique competitive advantages. Among them, are a history and geographic location that offer privileged access to the large Eurasian Economic Union (EAEU) market; a compact geographic footprint with close proximity between urban and rural markets; long-lasting vegetation period for high-value plants, favourable agro-climatic zones with long growing seasons and early harvest dates for agricultural products; a rich agronomic legacy as the global birthplace of viniculture and products such as apricots and cherries; and – most importantly – advantaged ecological conditions with high

quality water and high altitude lands which lend themselves to the production of uniquely tasty and natural produce.

At the same time Armenia's agricultural sector faces many serious challenges.

First and foremost, the expanse of abandoned land (estimated at more than one-third of all agricultural land in the country) and the prevalence of small land plots constrain agricultural development and act as barriers to efforts to intensify production and attract investment. For Armenia's agriculture sector to advance, the optimisation of the use of one of Armenia's greatest assets – its land – is of critical importance. Given Armenia's geographic position and regional geopolitics, access to export markets has been difficult due to limited trade routes and high transportation costs, leaving the economy and livelihoods of farmers reliant on too few off-take markets. Rural areas of the country have lower levels of education, limited investment and employment opportunities, and low levels of cooperation to face challenges collectively. An aging and shrinking population in rural areas is another related problem, as, over the past few decades, migration of young people from villages to Armenia's urban centres, Russia, and other countries has been increasing.

The agricultural sector must also contend with a legacy under-investment and multiple technical barriers. These challenges include very low levels of mechanisation and irrigation; poorly developed or outdated agricultural extension systems; limited availability of quality infrastructure such as cold-chains, storage facilities, and transport logistics networks; weak food safety and phytosanitary standard monitoring and enforcement; limited access to finance (particularly insurance); and human capacity shortages across the ecosystem.

These challenges are all addressable, but will require significantly increased investment of public, donor, and private resources, as well as careful prioritisation and sequencing of activities. This strategy puts forth a detailed plan in this regard, as will forthcoming action plan documents.

This strategy is based on seven principles and aims at inclusive growth, gender equality, as well as institutional sustainability:

- **Aggregation:** Support the aggregation of small holdings and fragmented value chains via the reduction of abandoned lands and the promotion of farmer-to-farmer and farmer-to-agribusiness linkages to transition to a more economically viable agriculture sector.
- **Commercialisation:** Support export-focused growth and private sector investment into more commercial activities, prioritised support for high value commodities, re-orientation to high value export markets, and emphasis on value-add activities, most notably the greenhouse sector and agro-processing sector development.
- **Orientation to quality:** Focus on improving, monitoring, and promoting the quality of Armenian agriculture products and pursue upmarket positioning

emphasizing the unique qualities of Armenia's environment (water, mountains, ecologically safe agriculture) and rich and ancient food culture. In parallel, develop geographical identification for traditional products and wine; establish Brand Armenia positioning in priority sectors; and add an Armenian Quality Label for promotion at the local market level.

- **Youth Engagement:** Include young people in all agriculture development activities–from policy making to production, processing, and marketing activities to foster engagement and build a sustainable supply of talent for the sector
- **Diversification and risk management:** Promote product and market diversification, introduce risk management measures ranging from hail protection systems to universal access to high quality agricultural insurance for producers and agribusinesses.
- **Climate change adaptation, resistance and environmental sustainability**: Increase focus on climate changes awareness, adaptation, and mitigation strategies (e.g., improve agriculture sector climate change monitoring, promote climate smart agriculture practices, and support dissemination of climate adaptation inputs like draught resistant seeds), while also working to ensure that agriculture sector development is informed by a focus on resource sustainability including, most critically, good water and soil management practices.
- **Technology-focused modernisation:** Invest in agricultural sector digitalisation, mechanisation/automation, irrigation, the greenhouse sector, and post-harvest infrastructure development (e.g., cold chains, modern storage systems). Build the local ecosystem for agriculture technology innovation and regional digital agriculture services leadership.

These principles translate into numerous concrete objectives and measures across the agriculture strategy, including several that are high priority. Priorities in the agricultural sector are the following:

Land reform: Most critically, land reform will be an important step for unlocking growth in the agriculture sector. Producers and businesses should be able to access and cultivate agricultural land more effectively to encourage the intensification, higher productivity, and increased scale of agriculture-related activities. This should in turn attract additional investment into rural areas. In consultation with all stakeholders and civil society, the government will pursue multiple paths to land market development. These include modernised and accurate land registration, the adoption of new modern land legislation, and the development of technical measures (e.g., digital land trading platforms) to reduce abandoned lands. The overarching objective is to rapidly improve land productivity via rapid land consolidation, focusing on both land rental and sales markets.

Export diversification: Another key ambition of this agricultural strategy is to build on Armenia's success in the Eurasian Economic Union market and to increase overall export market orientation, quality aspirations, and diversification through entry into new high-value markets (e.g., the EU, Middle East, Japan, and North America) via government investments into export promotion and – critically – investments into modern food safety standards, phytosanitary enforcement, and modernised traceability and certification systems and practices.

Commercialisation and value-add activities: The push toward export diversification and select import substitution activities (e.g., poultry production) will be closely linked to the government's policy support and catalytic grant investments into agro-processing industry creation and growth (e.g., priority horticulture value chains, wine, dairy, meat. Beyond creating a conducive policy environment, support for essential public goods (e.g., irrigation), and targeted support schemes for priority value chains and innovative businesses, the government will actively pursue new international investments into agriculture, including support from donors for transformative programmes and large-scale commercial investments from international agribusinesses and domestic agribusiness sector leaders.

Technology modernisation and innovation: For Armenia's agricultural sector to be globally competitive, progress must be made on the introduction and effective adoption of modern technologies. The government will achieve this by investing in the foundations for digital agriculture infrastructure (e.g., farmer and livestock registries, remote-sensing agricultural observatory, digitalisation of Ministry operations and extension systems), to establish Armenia as a regional leader in agriculture digitalisation. Technology modernisation will also include the scalable introduction of (non-digital) innovative technologies needed for a modern, thriving agriculture sector (e.g., hail protection systems, irrigation systems, innovative greenhouse and post-harvest technologies).

Human capacity and skills training: The development of the agriculture sector will also require further investment in human capacity across all agriculture market segments and levels. This must include educational and vocational training system reform to engage youth and improve farmer skills and training the next generation of Armenian agronomists, agricultural technologists, and entrepreneurs (e.g., investment in building greenhouse management, agro-processing, agricultural product marketing, and financial and business literacy skills).

Rural development: For rural areas to become more prosperous and productive, there must be investment in the diversification of income-generating activities and opportunities to include rural dwellers in the development process. This should include improvements in rural community engagement and inclusion through a focus on attracting young, economically-active segments of the population to farming. This is best done while taking a holistic approach to rural development, such as active support for agro-tourism.

Institutional capacity: For the broader sector to develop, the ability of the Government to deliver on its objectives depends entirely on the capacity of the institutions that support agriculture and rural development. Going forward, continued institutional development and increasing the capacity of agricultural institutions for improved policy creation, implementation and control are of utmost importance. This should draw heavily on the introduction of new tools for the Government to interact with beneficiaries more effectively, including farmer registries and payment systems. The success of these efforts will anchor on improved communication between policy makers and market participants, and among the different actors across value chains.

The impact of the strategy is intended to play out over the next decade, with changes and results visible across short (12-18 month), medium (3-5 year), and long term (5-10 year) horizons.

The Government seeks to apply a coordinated resource and partnerships approach to address the critical constraints in the agriculture sector and in rural areas. As noted in the priorities highlighted above, the focus of this Strategy is to enhance the efficiency of the agricultural sector, improve the level of food safety, introduce modern technologies, increase export volumes, and increase the revenue position of all players along the value chain, notably small commercially-oriented farmers, producers' groups, processors, and exporters.

This focus is articulated in seven strategic priorities that have been defined for Armenia's agriculture sector:

(1) Increase agriculture sector competitiveness and enhancing efficiency
(2) Ensure food safety
(3) Develop local markets and increase export possibilities
(4) Improve food security and nutrition
(5) Develop institutional and human capacity
(6) Support sustainable rural development
(7) Promote digital agriculture and technology innovation. The latter are interconnected and will support the others.

In addition, since many constraints to Armenia's agriculture extend beyond the agricultural sector, this Strategy acknowledges the importance of partnerships and includes a final section with calls to action and ideas for collaboration with other Armenian line ministries and Governmental institutions and initiatives. These include, for example, the Ministries of High Tech, Finance, Environment, Territorial Administration and Infrastructure, Education, Science, Culture and Sport, and other Governmental bodies and programmes such as the Work Armenia initiative. The main key indicators of the Strategy are presented in Table 1.

Table 1

Main Key Indicators

N	INDICATORS	2019	2024	2029
1.	Annual average income per farm holding (Armenian drams)	0.640. mln	2.0 mln	5.0 mln
2	Labour productivity improvement of farmers	3%	+45%	+ 100%
3.	Average annual growth rate, agricultural value-added	- 2%	5.50%	7%
4	Share of uncultivated arable lands	45.5%	35%	<25%
5	Increase of agricultural lands productivity	-5%	+25%	+103%
6	Share of irrigated arable lands	26%	>35%	>40%
7	Export volumes of primary agricultural products and processed food	697.7 mln USD	850.0 mln USD	>1.0bln USD
8	Degree of diversification of agricultural products export (10% more foreign markets)	1	2	3
9	Share of eco-products in gross agricultural product	0.20%	1%	>5%
10	Global food safety index	52.3	65.3	75.0

CURRENT SITUATION

The agricultural sector in Armenia has a huge development potential; however, the existing challenges and problems do not allow to use all opportunities of the sector's development.

The following are the main challenges and problems hampering development of agriculture sector in Armenia.

Low level of productivity and efficiency

The level of efficiency in using the resources available in the agricultural sector is quite low. This is evidenced by the comparison of the indicator of productivity of those engaged in agriculture, the indicator of milk yield of cows, and the indicator of the yielding capacity of wheat with the related indicators in developed countries.

The reasons behind the low productivity and low efficiency of resource utilization are numerous: low level of application of automatic systems, modern technologies and innovative solutions, still poor feasibility of empowering the expanded reproduction and value chain, small sizes and fragmentation of farm holdings, insufficient number of large farms, lack of professional knowledge and skills of identifying and applying efficient agricultural solutions and opportunities, and others.

Problems in registration and cultivation of agricultural lands and development of secondary market; small share of cultivated lands

According to 2018 statistic data from 445,6 thousand ha of arable land only 242,8 thousand ha or about 54,5% was used on target, which is a quite low indicator. There are a number of reasons why the agricultural lands are not used: inaccessibility or insufficient supply of irrigation water, lack of agricultural equipment, low soil fertility, absence of land user or land owner, low profitability, insufficient working capital, etc.

Irrigation of agricultural lands is seen as one of the most important issues of the agriculture sector in Armenia. Not only the accessibility of irrigation systems but also their management is a problem; in particular, the problem is not so much the lack of water resources but the lack of the right water distribution mechanisms, such as application of more efficient and modern systems. Other reasons for the zero or low-efficiency cultivation of agricultural lands include but not limited to: absence of the land owners from the country or their employment in other sectors, lack of irrigation facilities and expensive water, fragmented and small size farmlands, the poor condition or nonexistence of the roads taking to the arable lands, etc.

Domestic market orientation

Key obstacle that hampers development of agriculture sector is absence of export-oriented stimulus and lack of proper procedures. As a result, farmers prefer to sale products at home market. Furthermore, realization of products at home market do not require specific marketing skills and experience besides that market risks are significantly low in contrast with external market. While the Armenian agricultural market is considered to be one of the most liberal ones, nonetheless, from the standpoint of assuring access, there is no liveliness in relation to providing access of the agricultural produce to the export market. Commitment to the domestic market is mainly due to the fact that the international markets are more developed and fastidious about the quality of the commodities, in addition to requiring large volumes and stable supply, as well as involve high currency risks. These are the main reasons explaining the rather narrow geography of the export of Armenian agricultural products, with the Russian Federation, Georgia, Ukraine, Belarus and some other

countries being the main importers of the Armenian agricultural goods. This means, not only the volumes of export of agricultural products should be addressed but also the geography should be expanded with more diversification toward the EU countries, Middle East, North America, Japan, Singapore, Vietnam, etc.

Poorly developed infrastructures

The poorly developed infrastructures are another serious obstacle hindering the sustainable development of the sector. The following can be observed as the core problems: poorly developed irrigation network; insufficient number of anti-hail systems/stations and the low efficiency of the existing ones; lack of agricultural product collection centres; poor condition of inter-village roads; issues related to storage of water stocks as well as poorly developed distribution systems; application of possible alternative energy sources, availability of up-to-date transportation network, etc.

Large-scale application of traditional methods and technologies of agricultural activities

One of the critical directions of solution of problems related to the scarcity of resources existing in the country, the low level of productivity in agriculture, comparatively high production cost and other similar systemic problems is the intensive application of innovative technologies. Introduction of innovative technologies in Armenia is still in its early stage. Modern technologies and innovative solutions are mainly fragmentary. Their large-scale efficient and intensive implementation is impeded by essential constraints: a) lack of necessary funding resources, b) low level of farmers' knowledge, and c) small size of farms, etc. In addition, the lack of experience in introduction and operation of innovative technologies and the low level of dissemination and outreach of the existing cases of best practices is another essential obstacle for introduction and further development of modern technologies and innovative solutions in different subsectors of agriculture.

Low level of technical re-equipment and upgrades

One of the preconditions for the overall development of agriculture is upgrading the level of mechanization of agricultural operations. This is a core precondition in particular for enhancing the competitiveness of the sector, increasing the volume of agricultural produce and fully using the production potential in the sector. The existing agricultural equipment and machinery are low-efficient, costly, high wear and tear, low level of fitness, and therefore requiring additional expenses needed for repair.

Modern and highly productive agricultural machinery and equipment as well as transfer of the relevant knowledge on their operation is definitely one of the solutions in achieving high productivity and continuous development in the sector.

Poor professional development

To promote the agricultural sector and integrate the latest technologies, it is important to provide the sector with professionals equipped with modern agrarian knowledge and skills. The level of agrarian education is low and insufficient; there is often even absolute lack of agrarian knowledge and professional skills, which directly affects the implementation of effective and up-to-date practices in the sector. To ensure the strategic development of agriculture, first and foremost, it is necessary to equip the sector with professionals with quality agrarian education.

Another serious challenge is the lack of qualified personnel or their low qualification in the responsible state agencies. The state agencies responsible for the sector are still not attractive for qualified specialists due to the low salaries.

In this context, another important issue is related to the young specialists from rural areas who get education in the capital city and do not return to their villages.

Inefficient mechanisms of assistance and coordination from international agencies

Considering the strategic importance of the agricultural sector in the context of development of the Armenian economy, the RA Government is constantly implementing projects aimed at development of the sector, which are implemented both through the Government's own investments (including state subsidies) and with support from international organizations. A number of development project are supported by such international agencies as UN, EU, USAID, ADA, and others. Since 2010, with the support of international agencies, over $200mln worth of agricultural projects have been implemented in Armenia, which were overseen and implemented by both international agencies and the RA Ministry of Agriculture. It should also be noted that a number of projects are still being implemented with low efficiency, with the main reasons being the gaps in coordination by the relevant state agencies and the lack of clear mechanisms for cooperation between them.

Assurance of food security

The role of agriculture is critical especially from the standpoint of the country's food security and food safety.

From the standpoint of food security, it is particularly important to assurance of physical and economic accessibility of food and enhance the level of self-sufficiency. The country has a high self-sufficiency level for potato, vegetable and melon crops, fruits, grape, lamb, and eggs; an above average level of self-sufficiency for beef, milk and dairy products; while that of wheat, poultry and pork, and legume crops remains low. The level of self-sufficiency for wheat is 33.2% (2017), pork: 58% (2017), and poultry: 22.5% (2017). In this context, the urgent need for import substitution for the mentioned agricultural products is now a subject of strategy discussions, with encouragement of and assistance to the production of these products based on the needs of the local market being now among the primary strategic issues

Low level of food safety

Food safety is one of the most important and urgent problems in Armenia that requires solutions based on modern requirements and standards. The food safety system in the Republic of Armenia does not yet fully guarantee safe and high-quality food for consumers as well as enhanced competitiveness of locally produced food products in export and domestic markets.

Compliance with food safety standards will also enhance the overall competitiveness of agriculture, particularly in the export context.

In the context of food safety, ensuring the safety of livestock products at the farm level as well as at the level of the last point in this particular value chain – processing (production of dairy and meat products) is of particular importance. For example, currently in Armenia brucellosis is the most important disease that transfers form animals to humans, which is a threat from the food safety point of view, in terms of diseases transferable from milk and dairy products to humans.

Tax regulations caused problems

Although the existing tax policy in the agricultural sector is assessed as privileged (due to profit and income tax exemptions for agricultural producers, preferential regulations for value added tax (hereinafter referred to as VAT) payers, VAT exemption for import and further sale of various commodities in the sector, preferential regulations for property taxes, etc.), tax legislation continues to contain certain restrictions that limit possibilities to achieve the strategic goals of development in agriculture. To minimize the impact of such restrictions, it is necessary to discuss and review those tax regulations that limit the aggregation and commercialization of agricultural outputs, slow down the commodification process of agricultural production, and limit the development of high value-added behaviour in rural farms.

In order to minimize the existing barriers and constraints for the development of the sector, and to achieve the objectives of this Strategy, such tax regulations should be presented for discussion that will offer effective solutions for increase of the competitiveness of agriculture in Armenia, including:

a. introduction of a special system for documentation of transactions for VAT for agri-food products;
b. improvement of tax regulations for entities producing primary agricultural goods;
c. defining incentives for processing and exporting agricultural products,
d. improvement of property tax regulations and other ways.

Poorly developed modern information systems in the agriculture sector

The poorly developed modern information technologies and automated management systems are having their negative impact on the developing more accurate policies efficient implementation thereof. Among the revealed such problems, the following are the most important ones: a) development and launching of a digital farmer register; b) development and implementation of digital systems of enumeration and registration of livestock; c) creation and application of data base on the basis of digitized maps of agricultural lands and agrochemical research; and d) development and application of a centralized database of technical and economic performance indicators and standards in the agricultural sector.

Low level of rural development

Most of the villages in Armenia are still at a low level of development. Taking into consideration the fact that agricultural operations by agricultural holdings are mainly taking place in rural areas, the level of development of villages is having a direct impact on the efficient activity of the sector: Currently, there is a low level in both socioeconomic situation and in the legal awareness and financial and agricultural knowledge and skills, which results in inefficient cooperation between both those involved entity and other players in the market.

The low level of development in the villages is combined by the rapidly aging population, which is mainly due to the flow of the youth from villages to urban areas and the overall emigration from the country. This phenomenon leads to the decrease in the sector's efficiency since this creates deficiency in professional skills in integration of more intensive and innovative technologies, winning new markets, and negotiation. In terms of improvement of the living standards of rural population and reducing the poverty level, it is important to develop the social infrastructures in villages and involve the rural population in the field of non-agricultural activities.

Natural disasters and climate risks

Agriculture in Armenia has always been remarkable with the high level of climate risks (hail damage, frost damage, drought, etc.). As it is already mentioned, agriculture has suffered losses from natural disasters worth of AMD 110 billion during the recent 6 years. Climate risks in Armenia are a serious problem since there are no clearly formed such state, political or institutional mechanisms, the application of which would make it possible to noticeably mitigate the existing risks. Due to the lack of such mechanisms, the mechanism of full assessment of the agricultural losses does not work too, as well as the risks are not assessed in advance.

In this context, to reduce the agricultural risks, to introduce loss compensation mechanisms in a systemized way, and to provide sustainable income levels for economic entities, it is necessary to address the critical issue of agricultural risk insurance.

Based on the above statement, the gradual introduction of agricultural insurance is one of the priority strategic objectives in the sector.

Imperfect legal framework of the agriculture sector

It is important to improve legislation of the agriculture sector of Armenia, particularly, develop and enact the "Law on Agriculture", as well as other regulations, which is planned by the Action Plan of the Strategy.

PRIORITIES, OBJECTIVES AND MEASURES

PRIORITIES	OBJECTIVES AND MEASURES
I. Increase Agriculture Competitiveness and Enhance Efficiency	**Reduce uncultivated land and develop land market** • Develop economic and legal mechanisms for abandoned land utilisation • Develop geographical digitalised maps of agricultural lands • Improve cadastral data on agricultural lands • Establish and implement land consolidation legislation and programme • Implement monitoring of agricultural lands. **Improve irrigation in Armenia** • Improve structure and organisation at the public & user level • Define irrigation programme and budget based on existing water resources, economic feasibility and potential to increase cost recovery • Rehabilitate of the existing and implement new irrigation projects • Establish a digitised water resources and customer irrigation database **Develop the credit market** • Revise existing credit support programme • Eliminate gaps for fostering credit market development • Develop Guarantee Fund for agricultural loans **Support risk mitigation and climate change adaption** • Develop the insurance market in agriculture • Develop and implement hail risk mitigation programme • Identify and promote broader climate adaptation and resistance measures (e.g., drought resistant seeds, new agricultural practices, optimisation of natural inputs, climate smart and sensitive technologies and practises) **Improve economic viability of agricultural producers and processors in priority value chains** • Develop sector analysis for high priority agricultural value chains

	• Invest in the selected food and nutrition value chains to strengthen economic viability and improve competitiveness • Develop a forecastable industry out of agriculture: Herbs and spices, colours and flavours, perfumes, medical, cosmetics and other similar products **Improve access to agriculture equipment and machinery** • Develop support programme for the purchase of new machinery and equipment for select value chains • Encourage local and international producers of machinery and equipment to enter local market or to establish manufacturers in Armenia • Initiate the change in law for Leasing of Agricultural Equipment **Improve seed and planting material quality, promote modern cattle-breeding development** • Improve seed and planting material certification system • Support establishment of poultry, cattle pedigree breeding farms
II. Ensure Food Safety	**Introduce internationally recognised food safety risk management systems** • Establish the system for full traceability of food: from consumer to the field • Introduce GAP (Good Agricultural Practices) standard in Armenia • Introduce HACCP (Hazard Analysis and Critical Control Point) standard in Armenia • Provide clear, reliable information and basic knowledge on food safety to public • Create effective mechanism of permanent monitoring of food safety sector **Increase the level of veterinary services** • Improve animal health and animal identification systems (e.g., modern national livestock registry and livestock surveillance/traceability platform) • Develop a strategy for protection from infectious diseases (brucellosis, African swine fever) • Introduce mechanisms for the control of the circulation of veterinary medicines (especially antibiotics) • Develop private veterinary services to provide affordable and high-quality services of veterinary doctors to farmers

	Improve plant protection system regulations and enforcement • Monitoring of plant quarantine and non-quarantine pests and phytosanitary assessment • Develop system for advanced plant protection • Develop system of predicting and rapid alert for harmful plant organisms • Registration of pesticides (including imported) and creation of a single register; • Develop plant protection system using digital technologies and monitoring system for pest and disease control **Strengthen laboratory capabilities and conduct International Standard-based tests in food safety, animal health, and phytosanitary control** • Effective management of laboratory capacities in the areas of food safety, veterinary and phytosanitary • Establish a system of productive cooperation between public and private laboratories and Government **Introduce flexibility rules in food safety based on best international practices** • Introduce flexibility rules into food safety legislation • Develop support policy which will foster legalisation of the small-scale farmers under flexibility rules • Establish close cooperation with internationally recognised organisations of food safety
III. Improve Food Security and Nutrition	**Ensure minimum level of food availability and self-sufficiency of nutritionally diversified food** • Increase the production of vital local foods • Improve the trade balance for selected commodities where import substitution is economically viable **Increasing the access to nutritionally diversified food** • Establish, maintain and replenish public food storage • Monitor and prevent food waste and lost • Establish close partnership with the partner to ensure synergies with other initiatives, such as school feeding, nutrition education **Monitor food security**

	• Improve systems of monitoring food security • Identify criteria, develop Less Favourable Areas, LFA maps, and measures
IV. Develop Local Markets and Increase Export Possibilities	**Support market opening, investment attraction, and export promotion** • System development and fulfilment of food safety requirements which avail possibilities for products and market export diversification • Develop and implement export strategy which integrative part will be targeted export promotion • Improve export logistics **Develop tools to increase agricultural investment opportunities** • Develop and promote agricultural investment program **Develop and implement Adding value to the products Program** • Establish quality scheme legislation and capacity for implementation at the national and regional level • Develop and implement measures for increasing organic production, geographical indications, and other quality schemes • Develop Armenian quality food label • Introducing a new milk, grape, etc. pricing system that will be based on the quality standards of milk (grapes) **Promote well-organised agro-wholesale, retail and farmer markets** • Develop feasibility studies for establishment of the modern wholesale market • Promote local farmers market establishment and direct sales **Foster cooperation, aggregation, and value chain integration** • Support policy for creation and maintenance of successful producers' groups • Encourage different type of farmers' associations' establishment (sectorial, local, regional, livestock breeder associations which will be herd book holders etc.) • Promote the efficiency of farmers' activities through non-commercial cooperatives
V. Develop Institutional and Human	**Improve institutional analytical capacities at the Ministry aimed at increasing and making policies more targeted, ensure monitoring and evaluation of state supported projects** • Improve the organisational structure of the Ministry in order to coordinate issues related with

Capacity in Agriculture	rural and agricultural development and effective management of natural resources • Develop capacity at the policy department level to ensure effective project and policy monitoring and evaluation • Introduce comprehensive data collection and management systems to improve quality of decision making and business decisions **Improve targeted policy engagement, payments, and communications with farmers** • Develop farm registry **Improve transparency and efficiency of Ministry payments** • Create a single payment institution as part of the Ministry **Ensure access to information and two-way communication with farmers** • Develop systematic market price collection, processing and dissemination system • Develop a national gross margin database and make it available to farmers • Disseminate high-quality market information **Improve effectiveness and efficiency of knowledge and experience transfer** • Introduction of agricultural advisory services and capacity development for advisors. • Support practical oriented research in agriculture • Improve educational levels of food business operators, agribusiness, and farmers, media, and consumers, and develop youth entrepreneurship programmes • Use the Diaspora's potential to develop technological, technical, educational opportunities **Improve effectiveness and efficiency of donor coordination** • Ensure effective communication of agricultural related priorities to international partners through formal and non-formal donor coordination meetings. • Strengthen capacity of the donor coordination framework in agricultural sector platform and its integration in the state coordination system **Develop farmer segmentation framework and clarify farmer status** • Define farmers status, i.e., the obligations and benefits for each farmer segment
VI. Support Sustainable Rural	**Develop measures to encourage rural entrepreneurship development** • Develop studies, policies, and legislation to diversify the rural economy • Provide investment support for diversification activities at the farm and non-farm level

Development	• Promote agro-tourism development in rural communities based on the specific cultural identity of the communities **Rural agricultural infrastructure development** • Develop priority agricultural infrastructure in rural areas **Maintain good agricultural practices, biodiversity, and environmental sustainability programmes** • Develop and implement an awareness programme of good agricultural practices amongst farmers, advisers, and policy makers • Ensure coordination of activities with the Ministry of Environment **Build up community driven capacity for implementation of local strategies** • Develop a programme for community activism • Support local initiatives in relations to agriculture and rural development
VII. Promote Digital Agriculture and Technology Innovation	**Invest in national digital agriculture platforms and digitalisation initiatives** • Develop the strategy and action plans for digital agriculture • Invest in the phased design and roll-out of foundational digital agriculture platforms like: farm, land, animal, and irrigation registries, surveillance & traceability platforms, land-trading platforms for abandoned land, digital observatory for extension planning and monitoring, crop area mapping, yield predictions, etc. • Conduct feasibility studies for priority digital investments and initiatives – e.g., assess viability of agriculture payments digitalisation, starting with G2P (government-to-person) farmer payments (e.g., national farmer e-wallet) which can lay ground for future digital payments uses (e.g., farmer-to-agribusiness, insurance, credit payments) • Invest in new enabling policies to ensure safe and secure digital agriculture (e.g., new code of data privacy for agriculture data) **Promote broader (non-digital) agriculture technology innovation and uptake** • Develop prioritised agriculture innovation roadmap and action plan (beyond digital) in support of national agriculture strategy • Through different policy and support measures promote agriculture innovation initiatives and

	programmes, e.g.: greenhouses of the future hail protection innovations, biotech innovation, production and post-harvest stage mechanisation innovations (e.g., promotion of innovative irrigation, field preparation, harvesting, storage, packaging machinery etc.), modernised agronomic diagnostic technologies, etc. **Digitalise government agriculture systems and develop Ministry digital capacity** • Set up and grow Digital Agriculture and Innovation department within the Ministry • Develop the Ministry's IT and data analytics capacity to deal with existing and forthcoming agriculture data assets (farm register, irrigation register, livestock, land parcel identification, payments control, etc.) • Digitalise existing administrative structures dealing with agriculture, e.g., digitalisation of national extension infrastructure, including regional extension centres • Digitalise agriculture statistics in coordination with statistics agency (e.g., digitalisation and integration of open agro-data sources in common platform, new digital data-capture processes for more real-time data, improved data accessibility to government and public) • Establish partnerships on digital agriculture with national and EU/EAEU research projects and programmes (e.g., EU Copernicus programme) and other relevant bodies (e.g., WB Agriculture Observatory) • Explore opportunities to digitalise national agronomy systems (e.g., digitalisation and modernisation of soil testing and field trial infrastructure) **Build farmer and education system capacity on digital agriculture and innovation** • Launch agriculture technology and awareness-building and promotion initiatives (e.g., conferences, tech promotion programmes with national agriculture academic institutions, farmer education/extension programmes) • Strengthen links between research institutes, academia, agricultural producers, and local tech/IT community to create innovative solutions in agricultural production • Introduce training on modern agriculture technologies and digital innovations into agriculture training programmes/curricula • Support innovative e-learning platforms to engage youth on agriculture (e.g., online vocational programmes in agriculture)

RISK ASSESSMENT AND MITIGATION MATRIX

	Risk	Type	Impact	Probability	Management/Mitigation Measures
POLITICAL RISKS					
P1	Losing some market due to political reason	Political	High	Medium	Foreign market diversification
P2	Not all policy makers in the Government are reform-oriented	Political	Medium	Medium	Establish independent expert group for monitoring of the agricultural policy

	that send confusing signals to the private sectors				implementation as well as other reforms
ENVIRONMENTAL RISKS					
E1	Climate changes and number of extreme years and incidents	Environmental	High	High	Being aware and establish risk management strategy and tools for better adoption of farmers to climate changes
E2	Globalisation in food production increase the likelihood for outbreak of the livestock and plant disease	Environmental	High	Medium	Constant capacity development for food safety risk analyses, coping strategies, compensation capacities and other mitigation measures.
OPERATIONAL RISKS					
O1	Production oscillation typical for agriculture production that creates market and price distortion	Market	Medium	High	Provision of the market information and education to the wide users. Develop market risk managing strategies and measures when needed.
O2	Lack of high-quality labour and entrepreneurship in the private sector able to contribute to the strategy implementation	Human	High	Medium	Good education and employment policy, salaries and wages. Adaptation of the measures to the private sector capacity.
O3	Lack of sufficient and educated people for strategy implementation at policy level	Human	Medium	High	Capacity can be bringing or develop. Working on both approaches. Permanent training of Ministry staff
O4	Readiness of private sector to change and stop doing as they always did	Human	High	High	Sending clear signals to the private sector about necessity for changes through measures and actions and different way of communication. Sharing good practices

					publicly.
05	Leading input suppliers and buyers not interested to come to Armenia due to the small market	Market	Medium	High	Provide them information about potential and if necessary, incentives. Positioning on EEU and EU market penetration opportunities.
06	Different standards for different market for which private sector not willing to diversify	Market	Medium	High	Information about market access standards, increasing standards for domestic markets etc.
07	Constant increase of requirements for standardization, certification, majority of the farmers are not able nor willing to follow them.	Market	Medium	High	Gradually implementation of standards, good communication strategy and education of producers for standard implementation
FINANCIAL RISKS					
F1	Financial and monetary crises in Armenia, Russia, region or World	Financial	High	Medium	Observe, predict on time and react quickly with management strategies
F2	Lack of finances for agrarian budget from state budget	Financial	High	High	Adopt measures and strategies to find new financial sources.
F3	High percentage of bad loans and reduced interest for financing agriculture by the banks	Financial	Low	Low	Together with banks develop strategies for dealing with problem
F4	Currency risks	Financial	High	Medium	Elaboration and implementation of special hedging mechanisms

REPORTING, MONITORING AND EVALUATION

The Strategy Monitoring

The Monitoring of the Strategy implementation is the systematic and continuous collection, analysis and using of information for the purpose of management and decision-making in order to:

- Ensure that strategy remains on course to reach its purpose, with any adjustments being made with minimal disruption,
- Support regular reporting mechanisms,
- Ensure early feedback from strategy implementation to subsequent strategy design and elaboration.

Internal monitoring should be the integral part of the day-to-day management of strategy implementation. The Ministry shall monitor and report on the following basic issues on a regular basis:

- Which activities are underway and what progress has been made?
- At what rate are the means being used and cost incurred in relation to progress in implementation?
- To what extent are the results furthering the Strategy objectives?
- What changes in the strategy environment occur?
- Do the Assumptions hold true?

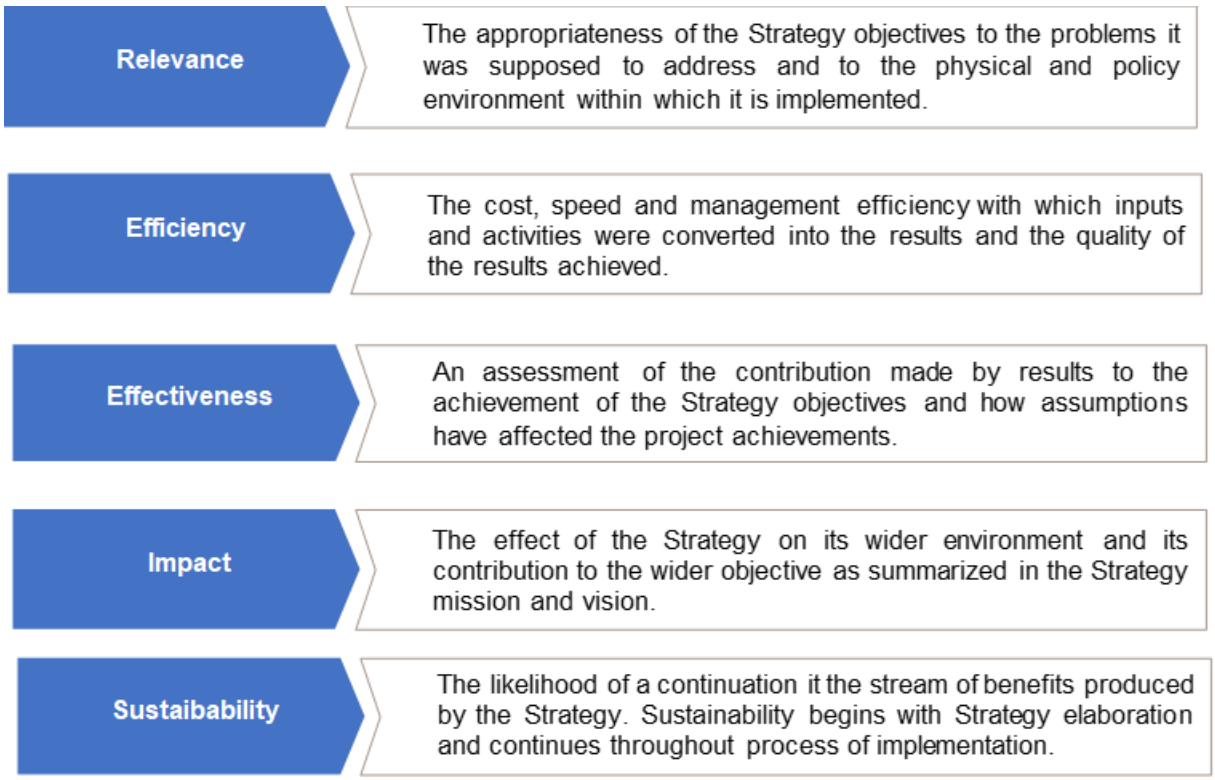
Providing information by which implementation problems can be identified and solved and progress can be assessed. It will allow the Ministry to verify if results and objectives are met, and to analyse the changes in the strategy environment including the key stakeholders, other sectoral strategies and policies. If progress falls short corrective action will be taken. Based on internal monitoring results, the Ministry will report the Government/Prime-Minister office on semi-annual basis.

External monitoring should also be implemented annually. It will be organized through independent external monitoring experts in order to provide independent follow-up on strategy progress. They will analyse the implementation of the strategy, make field visits, if necessary and interview most relevant stakeholders and prepare monitoring reports with an assessment of the progress made to date and possible recommendations for improvement. In principle similar questions should be asked as for the internal monitoring but instead of operational, activity and implementation issues they are focused on generation of results/achievement of the strategy objectives.

The external monitoring should have an advisory role and will be aimed at improving the implementation of strategy in order to achieve the strategy objectives timely, effectively and efficiently. The external monitor will assess this process at regular intervals – on yearly basis, taking into consideration the interaction of the different agents involved and the influence of the Strategy environment.

The basis of the Strategy monitoring, and consequent reporting will be the Policy Result Matrix (PRM) prepared for the Strategy. The key reference points in the PRM are the Strategy mission and vision: this is the solution to a key problem, which the

Strategy has set out to achieve at the end of its implementation. When designing the Strategy, it has been conceived that attaining these results will enable the Strategy objectives to be achieved. These results have been operationalized into activities.
The activities have been outlined during the design and elaboration phase of the Strategy. Activity schedules or action plans should be regularly updated and developed.
The external monitors should address the following points:



The Strategy Evaluation

The Strategy Evaluation is an assessment, as systematic and objective as possible, of an ongoing or completed strategy, policy or projects as the Strategy part; its design, implementation and results. The Strategy Evaluation aim will be to determine the relevance and fulfilment of objectives, developmental efficiency, effectiveness, impact and sustainability. The Strategy Evaluation should provide information that is credible and useful, enabling the incorporation of lessons learned into the decision-making process of both recipients and donors.

An evaluation should take place:

- During implementation – three-year cycle; such interim evaluations are usually undertaken at mid-term *(mid-term evaluation)*, to review progress and propose alterations to the Strategy design for the remaining period of implementation;
- At the end of the Strategy Implementation *(final or end-of-strategy evaluation),* to document the resources used, results and objectives achieved and the contribution to the mission and vision. The aim is to

generate lessons about the Strategy Implementation, which can be used to improve future strategy designs.

- 5 years after completion *(ex-post evaluation) of the Strategy*, mainly focusing on the impact and sustainability of the Strategy.

The Evaluation of the Strategy should be conducted in accordance with the following criteria:

a) Relevance:

The appropriateness of the Strategy objectives to the problems that it was supposed to address and to the physical and policy environment within which it operated, and including and assessment of the quality of Strategy elaboration and design.

b) Efficiency:

The fact that the Strategy results have been achieved at reasonable cost, i.e. how well inputs. means have been converted into results, in terms of quality, quantity and time, and the quality of the results achieved. This requires comparing alternative approaches to achieving the same outputs, to see whether the most efficient process has been adopted.

c) Effectiveness:

An assessment of the contribution made by results to the achievement of the Strategy objectives and how assumptions have affected the Strategy results achievements.

d) Impact:

The effect of the Strategy and its parts (policies and projects) on its wider environment, and its contribution to the wider (sector) objectives summarised in the Strategy, and on the achievement of the overarching Strategy Objectives, e.g. Country Development Strategy and other higher-level documents.

***e) Sustainability**:*

An assessment of the likelihood of benefits produced by the Strategy with particular reference to factors of ownership by beneficiaries, policy support, economic and financial factors, socio-cultural aspects, other cross-cutting issues like gender equality, appropriate technology, environmental aspects, and institutional and management capacity.

SWOT

Strengths	Weaknesses
Food and Agriculture • Natural resources (fertile soil, pastures, grazing lands, clean water, air) • High climatic and soil diversity that allows for high variation in production and continued supply of the majority of perishable products • Preferential access to different markets with low tariffs • Competitive price and quality of labour in rural areas despite migration patterns • Well-developed credit histories among farming population **Social-economic condition in Rural Areas** • Skilled human resources • Cultural and historical heritage of hospitality • Existence of local economic initiatives • Low levels of corruption **Environment and Climate** • Rich and-well preserved natural resources • Preserved agro-bio diversity	**Food and Agriculture** • Geographical position that is far from a majority of the main markets • Single-market focus • Poorly developed rural infrastructure that limits supply chain logistics • Small farm sizes and land plots • Lack of land registration that limits access to credit • Lack of quality advisory and market information for farmers • Lack of knowledge about and access to new agricultural technologies • Limited access to affordable irrigation in many areas • Limited access to high quality inputs due to small market size and under-developed control system • Limited storage, processing and post-harvest facilities and equipment, which increases shelf life and value add **Social Economic Conditions in Rural Areas** • Challenging demographic patterns such and decreasing youth and overall population in rural areas • Lack of investment opportunity among rural population • Limited other employment opportunities and low level of diversification of economic activities • Low level of education • Low level of cooperation – horizontal and vertical • Non effective tax system, particularly for agribusiness **Environment and Climate** • High level of accidents – hail in particular • Limited awareness on modern, environmentally friendly practices and methodologies, as well as on

	biodiversity conservation amongst farmers • Ineffective use of natural resources
Opportunities	**Threats**
Food and Agriculture • Improve the already sizeable budget and economically viable support policy • Invest in generating and transferring knowledge to farmers to significantly improve production in a short period of time • Improve short market chain supply for import substitution • Use climatic advantages to supply perishable products to the specific markets within competitive time frames • Improve access to inputs	**Food and Agriculture** • Losing farmers and labour in rural areas, thereby increasing the area of abandoned land • Disease outbreaks • Rapid development of main competitors in Russia and the surrounding region, thereby limiting existing exports to those markets increasing competition in third-party markets • Slow roll out of reforms aimed at expanding opportunity for the farming population • Closure of existing markets due to the political of food safety issues
Social and Economic Conditions • Increase attractiveness of rural territories • Increase access to long-term education programmes for rural populations • Channel donor support to rural areas	**Social Economic Conditions in Rural Areas** • Increased poverty and unemployment • Decreasing population in rural areas, particularly youth and qualified personnel • Loss of cultural identity and traditions • Inadequate educational institutions and quality of education in rural areas to meet labour market requirements
Environment and Climate • Develop eco-tourism and bio/organic production • Increase usage of energy efficient methodologies and renewable energies • Promote better use of forestry resources	**Environment and Climate** • Waste of natural resources, land degradation • Climate change and frequent natural disasters