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of the President of the Republic of Azerbaijan



Strategic Vision and Roadmap for Azerbaijan Agriculture

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1. Executive summary

The Presidential Decree No 1897, dated March 16, 2016 approving the Main Directions of a Strategic Road Map on National Economy and Key Sectors of Economy has provided for relevant tasks to develop the strategic roadmap based on the thorough analysis of existing economic conditions. In this regard, relevant state agencies, think tanks and independent experts have come together to discuss, evaluate and analyze the existing conditions in agricultural production and processing and have developed the Strategic Roadmap for Agricultural Production and Processing in Azerbaijan (hereinafter referred to as “Strategic Roadmap.”

The current Strategic Roadmap is designed to reflect the strategic vision for development of country’s agricultural sector by 2020, long-term vision for the period until 2025, and target vision after the period of 2025, all of these demonstrate that the State is armed with the Road Map featured with the sequential stages to be carried out to achieve strategic targets for medium and long-term development of agriculture.

Implementation of the Strategic Roadmap from 2016 to 2020 will ensure realization of 9 strategic targets designed to create enabling environment for fostering competitive agricultural production and processing based on country’s sustainable development principles. These targets include improving food security, increasing full-potential of agricultural production along the value chains, developing the agricultural input market and facilitating access to inputs including financial resources, provision of academic research and increasing quality of agricultural education, advancing extension services, developing the market infrastructure and ensuring free access of producers to markets, establishing mechanisms for sustainable use of natural resources, creating enabling agribusiness environment, and improving rural welfare.

To realize each strategic target, a series of priorities for 2016-2020 have been defined and justified. All planned actions related to the implementation of the Strategic Roadmap were grouped together in accordance with the priority areas. The actions will be measured based on pre-defined criteria (KPIs), which will form a basis for monitoring and evaluating system of the Strategic Roadmap.

It is expected that, once achieved the priorities for agricultural production and processing will have a direct GDP impact of AZN 575 million and indirect GDP impact of AZN 660 million in real terms in 2020 (totally AZN 1235 million) creating a total of 20000 new jobs. It is estimated that the required investment will be AZN 1170 million which will be provided through private and public resources. The key initiatives that are designed to develop agricultural production and processing will be coordinated by the Ministry of Agriculture of the Republic of Azerbaijan.

Expected impacts of the actions to be taken within the Strategic Roadmap

No	Priorities	Real GDP impact (million AZN, 2020)	Employment (FTE, 2020)	Investment (million, AZN)
2.1	Strengthen the full-potential of competitive agricultural production and processing both in local and international markets	450	-	440
2.4	Facilitate Public-Private-Partnerships (PPPs) for integrated projects	130	7250	325
2.5	Develop the infrastructure that supports agribusiness	355	7725	350
3.1	Improve financing mechanisms in agriculture	210	-	-
6.3	Promote and support agricultural production and processing	90	5060	40
7.4	Develop eco-agricultural production	-	-	15

Note 1. This table included only the priorities which are designed to create a real GDP impact of more than AZN 10 million or more than 100 jobs in real terms in 2020. The other priorities will support the achievement of the planned results.

Note 2. Entities and timelines in the action plan are prepared as preliminary suggestions. There is need for further comprehensive analysis for each priority area and specification of numbers before the implementation process.

2. GLOBAL TRENDS

The “Green Revolution”, which has enjoyed large-scale activities since 1960-1970 and is characterized by expanded application of mineral fertilizers, pesticides and improved irrigation systems, high-level mechanization and improved breeding, has led to global transformations and intensification both in crop production and animal husbandry. The UN Food and Agriculture Organization reports that crop production has increased 2.3 times while crop fields have expanded by about 9 % over the last 40 years. On top of that, crop yield has increased by 70 % in the developing countries. Another example of intensive agriculture is the per capita crop field decrease from 0.44 Ha to 0.25 Ha against increased production over the last years. Similarly, global milk production has increased by 61 %, meat production by 27 % and cattle headcount by 26 % over the last 40 years. Even the developed countries have decreased total cattle headcount by about 30 % to 35% through purebred cattle farms.

As part of the policy designed to ensure sustainable development of villages and efficient use of agricultural resources, agricultural land consolidation is another global trend which is a precondition of intensive production. However, agricultural land consolidation is typical of highly developed countries with fast-growing industrialization, while those with poor urbanization and industrialization as well as limited employment opportunities in non-agricultural industries are characterized by fragmented smaller agricultural lands which are inherited by legacy principles.

Today, global agriculture is in the process of transitioning from “Green Revolution” to the “Second Green revolution” or “Biotechnological Revolution.” Intensive production practices which ensure increased global food production to cope with limited land and water resources have also had a negative impact on the ecosystem and environment. On top of that, this factor has necessitated expanding the application of advanced technologies designed for sustainable agriculture. This is one of the reasons why the present-day biotechnology is used as a way of reducing negative environmental impact, and ensuring substantial food security. Biotechnology has yielded a number of plant species that are resistant to drought, heat, cold, land salination, pests and toxic herbicides, and animal breeds that are resistant to various diseases and climatic changes. These species and breeds help ensure farm efficiency in marginal areas, restore degraded lands, and minimize the need for pesticides and mineral fertilizers. However, establishing an effective national regulation system to assess and manage the potential negative impacts of biotechnologies on environment and food security is a global challenge.

Today, there are many advanced technologies like irrigation methods (drip irrigation, sprinkler system etc.) or efficient planting methods (raised bed planting, zero plowing, mixed planting, laser harrowing etc.) that are being applied widely in many countries. These methods help increase efficiency of production and ensure sustainable use of natural resources.

In addition to the advanced production technologies, most countries, particularly developed countries have increased focus on automated farm management systems which necessitates reducing labor-intensity through mechanization of the farms. In other words, owing to the application of advanced production and management technologies, the

present-day agriculture is far from being the sector which ensures “*relative employment of surplus workforce.*”

Today, processed products, i.e. value-adding products contribute more to the weight factor of agricultural and food products in global export. According to TRADEMAP global trade data, in 2015 fresh agricultural products and processed products accounted for 38,4 % and 61,6% of total exports respectively while they contributed 41,4 % and 58,6 % to the export market in 2001. In 2001-2015, agricultural exports increased 2.5 times while exports of processed goods increased 2.9 times.

Total food production will need to be increased by 70% in order to feed world population, which is expected to grow up to 9.3 billion by 2050.¹

Globally, the fast-growing urbanization process has resulted in a leap in urban food consumption and necessitated the transitioning of traditional agriculture to the “*urban demand – oriented agriculture*” approach. As a result, all countries make extensive use of agro-parks which seek to integrate agricultural producers, processors, suppliers and distributors in a certain area, and operate as an agri-food supply center and cooperative in the vicinity of urban areas. In addition, *soilless agricultural production*, such as hydroponics or other advanced technologies is widely applied in urban areas.

Modern society is facing challenges in shaping the future of agriculture. These challenges are based on 2 global trends which can seem different at first sight:

- ***Globally, the growth rate of demand for agricultural and food products tends to go down.*** According to FAO’s estimates, the average demand growth rate has been 2.2 % over the last 40 years; however, this number is expected to drop to 1.1% over the next 40 years. The average demand growth rate for developing countries is estimated at 3.6% and 1.3 respectively.
- Today, agriculture has a significant role in fostering socio-economic development only in poorly developed countries. In the countries with developed industries and services or focused development strategies, the agricultural sector is a way to ensure food security, employment, and export diversification. There is a good reason why global GDP contribution of agriculture has decreased from 10% to 4.5% and the share of economically active world population in agriculture has gone down to 38% from 51 % over the last decades.
- ***In 2050, there will be a need to increase global food production and even the developing countries will have to increase food production twice,*** as healthy and quality food captures a greater share in food production due to globally increasing life standards.

There are certain problems that prevent countries from taking on global challenges in meeting the increasing demand for global food production because of the growing world population as well as the gradual improvement of the living standards in developing countries.

¹Source : Food and Agriculture Organization (FAO)

- **Degradation of global land resources has reached a dangerous level and covers most of the world countries.** FAO reports that 1.2 billion hectares of the global land resources, including 20 % of the crop fields, 30 % of the forests, and 10 % of the pastures are degraded. 25 % (or 1.5 billion people) of the world population are directly dependent on the degraded lands. According to studies, land degradation is mainly caused by poor land management.
- **Agricultural activities should be adapted to global climate changes.** Higher temperatures, changes in rainfall, extreme weather conditions (drought etc.) are the factors which contribute to low yield in crop production and animal husbandry. It is important that “*climate-based smart agriculture*” be promoted to expand the use of resistant plant varieties and animal breeds.
- **Globally, the existing unfair trade practices are one of the important factors which have a negative impact on food production in developing and poorly developing countries.** Huge subsidized exports of agricultural and food products from developed countries cause the price of similar products from other countries to go down, and deal a destructive blow on them, particularly small producers.
- **Volatile prices of agricultural and food products challenge food availability in developing and poorly developing countries, and reduce the efficiency of the producers.** According to FAO, the global food price index for 1980-1989 has dropped, for 1990-1997 has increased, for 1998-2003 has dropped again, for 2004-2012 has dropped, and dropped in 2013 against the reference years of 2000-2002. Therefore, the countries which fail to launch an effective policy to stabilize the price of agricultural and food products are facing a threat to sustainable food security.
- **The developing and poorly developed countries should increase investments in agriculture and agriculture-related areas in order to increase agricultural and food production.** According to FAO, about 83 billion dollars of annual net investment is required to increase agricultural and food production in these countries. 24 % of the investment is needed for crop production, 16% for animal husbandry, and 60% for the market infrastructure which is designed for agricultural production. Additionally, public investments should be leveraged to improve and develop agricultural research and development, agricultural education and extension services, irrigation systems, and other soft and hard infrastructure in order to develop functional agriculture and create perfect food security. However, the developing and poorly developed countries don't have any investment resources to respond to these needs. Besides, they lack favorable opportunities to obtain such resources.
- **Modern agricultural science, education and extension are viewed as a vital resource to enhance agricultural competitiveness in the world of widely applied advanced production and management technologies.** However, it requires some time and efforts to achieve transformations in the agricultural sector in the developing countries, as they lack the potential for innovation and are more “*conservative*” in terms of agricultural reforms.

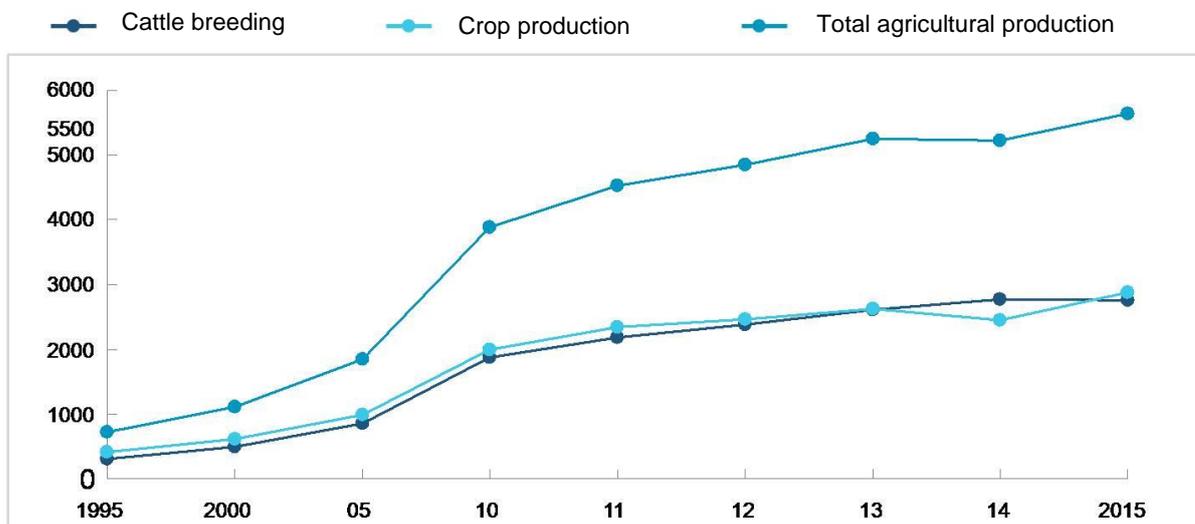
3. HIGHLIGHTS ON THE CURRENT SITUATION IN AZERBAIJAN

3.1. Current status of agricultural production and processing

General development trends

The total agricultural production increased by 7.7 times (2.4 times in real terms) with actual prices in 1995-2015 and by 3.1 times (38.4 % in real terms) in 2005-2015. In addition, the actual growth in the production of plant-growing products was 6.6 and 28 times (2.3 times and 25.4 % in real terms respectively), and in the production of animal products 9,3 and 3,4 times (2,5 times and 53,8 % in real terms respectively) for the same periods of time (Exhibit 1).

Exhibit 1. Agricultural production (in million AZN)



Source: State Statistical Committee of the Republic of Azerbaijan

In 2013, Azerbaijan had a higher gross agricultural production index number than the average worldwide indicator in the indicators of the Gross Production Index Number for the reference years of 2004-2006 which is calculated based on FAO's methodology (Table 1).

Table 1. FAO's Gross Production Index Number indicators for Azerbaijan and Other World Countries (2013)

FAO's Gross Production Index Number indicators	World Countries	Azerbaijan
Total agricultural production	121,9	136,9
Food production	122,4	142,1
Cattle breeding	117,0	165,9
Plant-growing	124,7	118,9
Corn production	121,9	135,5

Source: FAO Statistical Database

As it can be seen from the table, Azerbaijan has a lower index number for plant-growing, and on the contrary, a substantially higher index number for cattle-breeding. Azerbaijan's index number for corn production is also higher than the global gross indicator.

In 1995, the share of the crop production accounted for 57,5% of the total agricultural production dropping to 48,9% in 2015 due to the fall in the production of higher value-added products as a result of the cereal fields being expanded through extensive methods, and cattle-breeding growing faster than crop production.

There has been a considerable increase in agricultural processing, particularly through food and beverage production over the last years in Azerbaijan (Table 2).

Table 2. Agricultural processing (in million AZN)

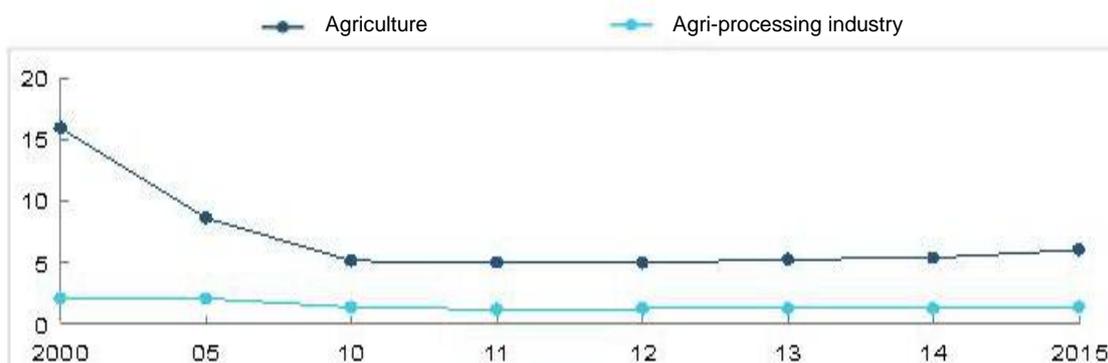
	1995	2000	2005	2010	2011	2012	2013	2014	2015
Food production	172,5	657,1	1094,5	1924,6	2107,6	2574,8	2516,2	2596,7	2547,2
Beverage production	5,0	24,1	72,5	170,2	169,0	175,5	207,7	232,1	194,7
Tobacco production	7,0	17,7	30,5	22,3	22,8	19,6	13,1	24,6	27,2
Textile industry	148,2	24,6	34,8	29,4	52,3	57,7	51,2	48,7	30,7

Source: State Statistical Committee of the Republic of Azerbaijan

Hence, food production and beverage production increased by 2.3 times and 2.7 times respectively from 2005 to 2015. However, in 2015, tobacco production and textile manufacturing decreased by 10.8 % and 11.8 % respectively compared to 2005.

From 2000 to 2010 when the oil sector contributed more to the national economy, the total GDP contribution of agricultural products dropped to 5.5 % from 16.15%. From 2010 to 2015, the GDP contribution of agricultural products went up to 6.2 % from 5.5 % (Exhibit 2).

Exhibit 2. GDP Contribution of Agricultural Products (%)



Source: State Statistical Committee of the Republic of Azerbaijan

Hence, following the global trends, the agricultural production in Azerbaijan does not contribute much to GDP, but it will have a serious GDP impact through increased production of value-added industrial products as part of agricultural production, and strengthened production potential in the processing sector.

In Azerbaijan, agriculture has undergone substantial structural changes since the country gained independence from the Soviet Union and transitioned to market economy. These changes are shown in the following tables (Table 3, 4, 5 and Exhibit 3).

Table 3. Total Area of Agricultural Crop Fields

Years	Cereals and legumes			Industrial plants		Potatoes, vegetables and melons		Fodder plants	
	Total area (thousand Ha)	Area (thousand Ha)	Contribution (%)	Area (thousand Ha)	Contribution (%)	Area (thousand Ha)	Contribution (%)	Area (thousand Ha)	Contribution (%)
1985	1371,3	494,0	36,0	318,3	23,2	70,2	5,1	488,8	35,6
1990	1462,5	583,4	39,9	282,1	19,3	74,7	5,1	522,3	35,7
1995	1207,9	609,4	50,5	227,0	18,8	49,4	4,1	322,1	26,7
2000	1041,5	648,2	62,2	118,2	11,3	136,1	13,1	139,0	13,3
2005	1327,9	802,3	60,4	132,0	9,9	179,7	13,5	213,9	16,1
2010	1583,9	968,0	61,1	52,6	3,3	178,8	11,3	384,5	24,3
2011	1608,2	967,3	60,1	66,9	4,2	179,7	11,2	394,3	24,5
2012	1647,1	1031,4	62,6	48,5	2,9	174,5	10,6	392,7	23,8
2013	1684,2	1074,1	63,8	42,2	2,5	171,5	10,2	396,4	23,5
2014	1613,8	1001,4	62,1	43,8	2,7	165,7	10,3	402,9	25,0
2015	1585,4	952,1	60,1	38,7	2,4	166,0	10,5	428,6	27,0
2015/1990*	108,4	163,2	-	13,7	-	222,2	--	82,1	-
2015/2005*	119,4	118,7	-	29,3	-	92,4	-	200,4	-
2015/2010*	100,1	98,4	-	73,6	-	92,8	-	111,5	-

1. Indicators for 2015 compared to the relevant years (%)

Source: State Statistical Committee of the Republic of Azerbaijan

- Although the total area of crop fields had decreased by 2000, it has been continuously expanded since that time through development of the private sector in agriculture and application of extensive production methods. In 2015, the total area of the crop fields increased by 8.4 % compared to 1990.

2. As the structure of the agricultural production was formed based on the demand of the “National Economy Complex” which was designed back in the Soviet Period, there are two key factors which have contributed to rapid transformations in plant-growing since Azerbaijan gained independence from the USSR and transitioned to open market economy: (a) favorable opportunities to meet the existing domestic market demand for food products through fresh agricultural products; (b) unfavorable market conditions in terms of industrial and agricultural production due to the removal of the traditional agro-industrial integration system. As a result, from 1990 to 2015, the total area of cereal and legume fields increased by 63% to account for 60% (previously 40 %) of the total agricultural lands. Similarly, the total area of potato, vegetable and melon fields has increased by 2.2 times to account for 10% (previously 5%) of the total agricultural lands over the same period of time. Consequently, the total area of fields planted with industrial plants has decreased and accounted for 2.4% (previously 20%) of the total agricultural lands.
3. Although the total area of fodder fields decreased continuously from 1990 to 2000, an interest in feed production on account of the extensive development of cattle-breeding has increased since 2000 and the fields were expanded by 3.1 times from 2000 to 2015.

Table 4. Total Area of Perennial Plant Fields (*thousand Ha*)

Years	Orchards and berry groves		Vineyards		Tea plantations		Perennials	
	Planting area	Productive age	Planting area	Productive age	Planting area	Productive age	Planting area	Productive age
1985	138,2	105,9	267,8	218,8	13,4	7,3	419,4	332,0
1990	136,0	113,5	181,4	156,1	13,3	7,9	330,7	277,5
1995	117,8	103,9	97,7	94,7	11,4	9,1	226,9	207,7
2000	83,1	76,7	14,2	13,9	5,4	5,4	102,7	96,0
2005	93,0	84,3	9,6	7,2	2,9	2,9	105,5	94,4
2010	127,7	102,5	15,4	11,2	0,6	0,6	143,7	114,3
2011	130,5	106,0	15,9	12,0	0,8	0,5	147,2	118,5
2012	133,5	108,8	16,3	12,4	0,9	0,5	150,7	121,7
2013	134,2	113,9	16,1	13,1	0,9	0,5	151,2	127,5
2014	138,5	117,2	15,9	13,5	1,0	0,5	155,4	131,2
2015	144,1	123,4	16,1	13,5	1,0	0,5	161,2	131,2
2015/1990	106,0	108,7	8,9	8,6	7,5	6,3	47,0	47,3
2015/2005	154,9	146,4	167,7	187,5	34,5	17,2	147,3	139,0
2015/2010	112,8	120,4	104,5	120,5	166,7	83,3	108,1	114,8

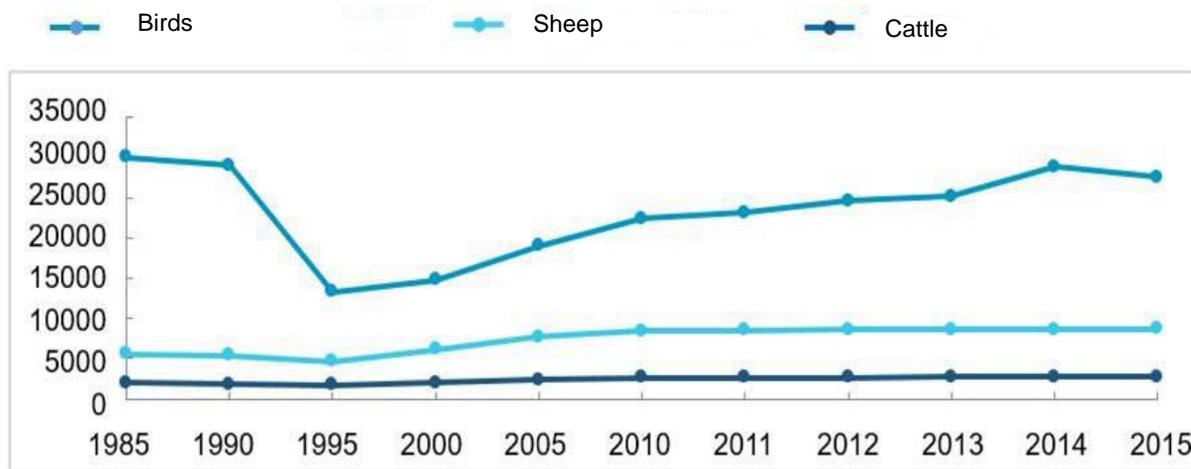
Source: State Statistical Committee of the Republic of Azerbaijan

4. The trends observed in the production of perennials are the same as that of annuals, i.e. the total area of the orchards and berry groves products of which can be directly sent to the consumer market expanded fast back in 2005. In 2015, orchards and berry groves expanded by 6,0% against 1990. However, in 2015, total areas of vineyards and tea plantations decreased by 8.9% and 7.5% respectively as a result of the rapid decline in

the number of industrial vineyards and tea plantations. Vineyards and tea plantations were restored in 2005 and 2011 respectively.

- There has been a stable increase in the number of cattle and sheep, and poultry since 1995 and 2000 respectively (Exhibit 3).

Exhibit 3. Cattle and poultry (1000 head)



Source: State Statistical Committee of the Republic of Azerbaijan

- As a result, the number of cattle and sheep increased by 47,9 % and 60,1% respectively in 2015 as compared to 1990. However, although poultry increased by 1.9 times from 2000 to 2015, it has decreased by 5,1% as compared to 1990.

Table 5. Dynamics of Agricultural Production (thousand tonnes)

Years	1985	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015	2015/1990
Cereals total	1297,9	1413,6	921,4	1540,2	2126,7	2000,5	2458,4	2802,2	2955,3	2383,3	2999,4	2,2 d
Potatoes	219,7	185,2	155,5	469,0	1083,1	953,7	938,5	968,5	992,8	819,3	839,8	4,5 d
Vegetables	872,2	856,2	424,1	780,8	1127,3	1189,5	1214,8	1216,2	1236,3	1187,7	1275,3	148,9
Melons	48,6	67,5	41,9	261,0	363,8	433,6	478,0	428,0	429,8	440,9	484,5	7,1 d
Fruits	346,4	367,4	324,4	477,0	625,7	729,5	765,8	810,0	853,8	850,8	888,4	2,4 d
Grapes	1789,6	1196,4	308,7	76,9	79,7	129,5	137,0	151,0	148,5	147,7	157,1	13,1
Sugar beet	-	-	28,1	46,7	36,6	251,9	252,9	173,8	187,9	173,3	184,3	-
Cotton	787,8	542,9	274,1	91,5	196,6	38,2	66,4	57,0	45,2	41,0	35,2	6,5
Tobacco	60,0	52,9	11,7	17,3	7,1	3,2	3,6	4,3	3,5	2,9	3,5	6,6
Sunflower for animal feed	-	0,6	0,7	3,7	16,1	15,5	19,6	19,7	17,7	19,8	18,4	30,7 d
Tea leaves	31,7	30,7	9,41	1,08	0,73	0,54	0,53	0,57	0,57	0,47	0,58	1,9
Meat	168,0	175,5	109,4	153,6	198,0	244,9	254,9	276,0	286,9	291,2	298,6	170,1
Milk	951,0	970,4	826,5	1031,1	1251,8	1535,8	1597,5	1695,6	1796,7	1855,8	1924,5	198,3
Eggs (million)	947,7	985,3	455,8	542,6	874,6	1178,6	1011,0	1226,7	1401,5	1562,7	1552,9	157,6
Wool (physical weight)	11,2	11,2	9,0	10,9	13,1	15,6	16,0	16,2	16,5	16,8	17,0	151,8
Cocoon (tonne)	5500	4900	1100	66,6	78,0	6,0	4,0	3,0	1,4	0,974	0,236	0,0

Source: State Statistical Committee of the Republic of Azerbaijan

- Based on the trends of changes in the structure of crop fields and head count of animals, both plant-growing and cattle-breeding products that are consumer market oriented have

increased considerably as compared to the Soviet time. As a result, cotton, tobacco, grape, tea and cocoon production has decreased. It should be mentioned that industrial products like sugar beet and sunflower for animal feed have been already begun to be considerably produced since it gained independence from the Soviet Union.

Common trends that are observed in agro-processing are almost the same as those in agricultural production (Table 6).

Table 6. Dynamics of processed products (thousand tonnes)

Years	1995	2000	2005	2010	2011	2012	2013	2014	2015	2015/1995
Sausages	1,9	0,6	1,9	2,1	2,4	4	6	6,6	5	2,6 d
Butter	0,8	12,8	14,2	20,9	21,1	21,8	21,9	23,4	23,9	29,9 d
Cheese and curd	2,3	29,8	33,5	43,3	44,3	45,1	47,3	48	48,5	21,1 d
Flour	407,8	294,6	1374,1	1320,2	1328,1	1381,3	1438	1476	1507	3,7 d
Cream with 6-29% fat content	1,1	1,6	1,6	4,2	4,4	4,5	4,6	4,7	5,1	4,6 d
Vegetable oil	11,7	10,8	64,1	88,7	80	99,8	100,2	106,9	106,7	9,1 d
Tinned fruit and vegetables	32,8	12,3	23,2	137,1	149,6	147,3	153,3	159,1	147,9	4,5 d
Confectionaries	32,9	23	42,9	43,5	45,7	46,9	47,7	50,1	55,9	169,9
Herbal tea	1,3	1,5	7,5	10,9	11	10,7	7,5	8	6,2	4,8 d
Fermented tobacco	13,5	7,8	2,6	2	2,6	2	2,1	2,4	1,7	12,6
Cigarettes (billion)	1,9	2,4	5	2,2	2	1,8	1	2	1,9	100,0
Macaroni	4,9	0,4	3,5	13	10,7	10,9	7,2	9,3	9,2	187,8
Compound feed	111,6	0,4	0,1	4,8	4,7	18,9	6,5	6,5	12,8	11,5
Sugar	0	535,6	3,6	335,5	334,7	355,7	423,1	410,6	335,6	100
Soft drinks (thousand)	126	4663,7	13361	19866	20978	25362	26658	28269	24885	197,5 d
Vodka (thousand)	130	450,4	484,3	884,9	820,6	696,7	844,9	668	770,7	5,9 d
Grape wine (thousand)	573	623,2	400,5	1162,8	752,1	1063	835,5	1003	1035	180,6
Champagne (thousand)	135	150,4	61,8	27,9	19,5	26,8	16,3	9,2	4,5	3,3
Brandy (thousand)	86	386,1	17,5	81,4	112,7	87,4	132,5	134,2	3,8	4,4
Beer (thousand)	223	710,8	2490,1	3771	3904,5	4757	5215	5149	4197	18,8 d
Cotton, yarn	19,9	0,7	17,7	7,6	9,9	16,6	15,5	11,9	9,1	45,7
Raw cotton	98,5	73,9	56	11,4	14,2	22,9	12,1	13,5	6,6	6,7
Raw silk, tone	0	0	58,4	51,8	8,5	2,1	0	17,9	7,9	100

Source: State Statistical Committee of the Republic of Azerbaijan

There has been a sharp drop in raw cotton and silk production, as well as compound feed and tobacco production while the production of most of the processed foods has increased considerably. The fast growth dynamics in food production (over the last 20 years) stems from its competitiveness, and opportunities for increasing production based on the demand of the domestic and international markets.

Hence, the key trend in agricultural production is the production structure that has been fundamentally transformed into food-oriented agricultural production since Azerbaijan gained independence from the Soviet Union and transitioned to market economy. At the same time, there has been a substantial increase in manufacturing of food-oriented processing industry products over the last years. However, the ratio of some imports to local products is relatively high to meet the domestic consumption demand, and the demand for raw materials in the processing sector.

Level of self-sufficiency with food products and food security

In 2015, the focused measures to ensure food security of the country resulted in a high-level food security with main food products (Table 7).

Table 7. Level of self-sufficiency with food products (2015)

Products	Level of self-sufficiency, %
Beef	92,0
Mutton	99,0
Poultry	98,6
Eggs	99,0
Milk and dairy products	80,0
Cereal	60,0
Vegetables	103,0
Potatoes	90,0
Melons	100,0
Fruits and berries	120,0
Grapes	98,0
Sugar and sugar products	170,0
Vegetable oil and margarine	77,0
Butter	60,0

Note: Sugar and butter imports are high.

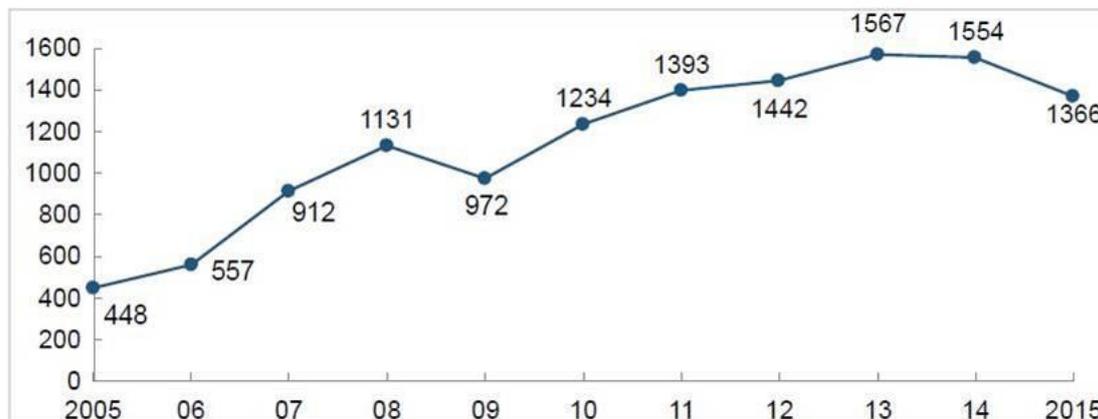
Source: State Statistical Committee of the Republic of Azerbaijan

There have been positive trends in food consumption of the population over the last 5 years, that is, potato consumption per capita increased by 21,1%, vegetable and melon consumption by 17,2%, meat and meat products by 4,7%, egg consumption by 12,3%, fruit and berry consumption by 13,9%, and vegetable oil and margarine consumption by 12,2%. As a result, per capita bread consumption dropped by 6,3%, milk consumption by 13,0%, and sugar and confectionary consumption by 5,6%. Lower bread consumption is linked to the food ration of the population being improved through other products. Lower milk consumption is related to the lower use of butter because of wider consumption of vegetable oil and margarine².

Although agricultural and food imports increased considerably in 2015 against 2005 due to both the growing consumption demand in the domestic market and the demand for agricultural raw materials in the processing industries in light of global market integration, they tended to decrease from 2014 to 2015 (Exhibit 4).

²Source: State Statistical Committee of the Republic of Azerbaijan

Exhibit 4. Import Dynamics for Agricultural and Food Products (in million USD)



Source: State Statistical Committee of the Republic of Azerbaijan

According to the data of the State Statistical Committee of the Republic of Azerbaijan, beef production increased by 17%, milk and cream production by 21%, potato production by 3.9 times, fresh vegetable production by 66%, fresh fruit production by 2,7 times, wheat production by 50%, vegetable oil production by 70%, tinned beef and fish production by 40%, raw sugar and sugar by 92%, sugar products by 34%, while tobacco production decreased by 2.2 times, and poultry and other meat products by 3,6 times.

Exhibit 5. Products Necessary to Improve Self-Sufficiency through Local Production



Source: Ministry of Agriculture of the Republic of Azerbaijan

According to the official statistical data and market analysis, the existing self-sufficiency with agricultural and food products need to be improved to meet both the present and future demand. Exhibit 5 shows the products that are needed to improve self-sufficiency through local production.

Achieving substantial improvements in the food security monitoring system, which is one of the important elements of food security, is a challenge. Today, there are 8 state agencies which are responsible for controlling the quality and security of agricultural and food products in Azerbaijan. Institutional reforms need to be carried out to ensure seamless coordination between the agencies and address all related issues. On top of that, the control measures implemented by these agencies at all stages of production, export, import, and sale of the products are not based on a risk-based approach, but conventional inspections. This approach increases costs and administrative load for businesses, and is less helpful in terms of improving food security or meeting export market requirements.

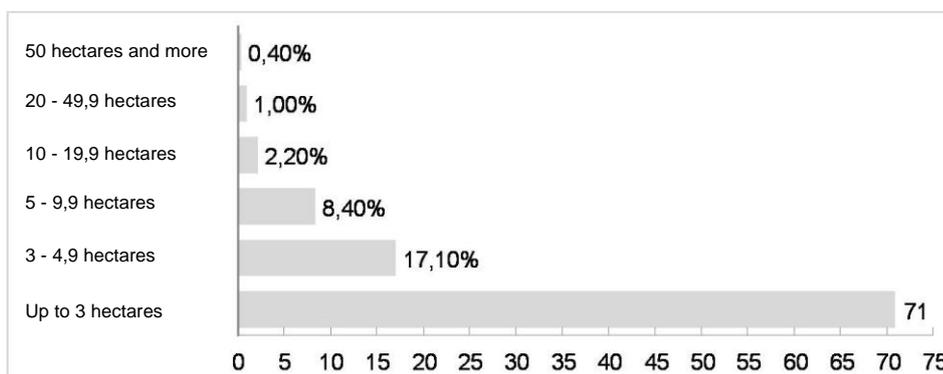
Azerbaijan still needs a preventive-approach-based system that ensures proper division of responsibilities among all players along the food value chain (production, processing and delivery links).

Institutional structure of agriculture

That most of the farms are small and poorly institutionalized is one of the pressing issues with regard to further increasing agricultural producing capacity and productivity indicators.

Although the average area of lands owned by 372 thousand producers who applied to the Ministry of Agriculture for fuel and engine oil subsidies, is 3.4 ha, the vast majority of the producers own even smaller lands. (Exhibit 6).

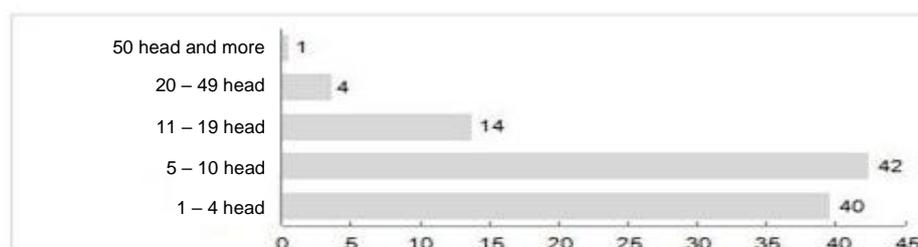
Exhibit 6. Allocation of lands owned by producers (%)



Source: Ministry of Agriculture of the Republic of Azerbaijan

This is also the case with cattle-breeding. According to the Ministry of Agriculture, average head count of cattle per farm is 7.7 and about 82 % of the cattle farms have more than 10 head of cattle (Exhibit 7).

Exhibit 7. Head Count of Cattle per Cattle Farms (%)



Source: Ministry of Agriculture of the Republic of Azerbaijan

Today, small land ownership and smallholding is among the problems which hinder enhanced agricultural competitiveness in Azerbaijan. As the small farms are poorly organized, both their access to market and satisfaction of their demands for resources is often challenged. The prevalence of small farms is one of the core reasons for limited use of advanced and improved technologies in agricultural production. As the small agricultural producers are poorly organized, they do not have a chance to get deeply involved in formulating agricultural policies, which result in reduced efficiency of public incentives implemented in the agricultural sector.

Although most of the producers engaged in agro-processing fall under the category of small businesses, large producers have gained more power in the market. This is important in terms of increasing producing and exporting capacity, but also causes certain problems with enhancing market competitiveness, and ensuring sustainable food security and access of small agricultural producers to markets. Therefore, it is important that relevant focused incentives are implemented to ensure that the network of small and medium-sized processing plants is established by agricultural producers and their unions.

The system of contract farming which acts as one of the forms of agricultural cooperation also leaves a great deal to be desired. Only few companies have performed contract farming for production of sugar beets, cotton, tobacco, cocoon, and herbal tea. However, the recent measures implemented to develop cotton, tobacco and cocoon production has resulted in the wider use of the contract farming system. Azerbaijan also lacks the practice of voluntary farm aggregation as the related initiatives haven't produced necessary results yet.

Given the above-mentioned, it is important that measures are implemented to consolidate farms through advanced facilities applied in other countries, and develop different forms of cooperation in agriculture.

Generally, poor agro-industrial integration has resulted in poor development of regional clusters across the country. Although grape, cotton, tobacco and herbal tea producers are based in the regions which produce these products, there has never been any reason to form regional clusters, that is, they were engaged only in preliminary processing of the products which were either exported or delivered to the businesses operating in the consumer market.

Within the implementation of the state programmes on socio-economic development of the regions, the network of agricultural processors has expanded considerably and processing plants have been established that make extensive use of advanced technologies. Recently, a series of measures have been implemented to develop and transform the network of textile processors that have suffered a slump over the last decades.

In addition, no efforts are spared to establish agro-parks which have been applied in agricultural production as a new regional cluster-based business technology since the beginning of the 21st century.

Providing finance and insurance to agricultural producers

There has been a steady increase in the volume of loans provided to agricultural producers and processors over the last years. According to the Central Bank, in 2015, the total amount of loans provided was AZN 508,1 million against 2005 when it was AZN 97,6 million. However,

the contribution of agricultural lending to the national economy dropped to 2,3% from 6,8% for the same period.

Heavy dependence of agricultural production on climatic conditions, low capital flow, and other factors have resulted in low efficiency as well as limited opportunities for agricultural producers to make investments or use other financing mechanisms applied in the financial markets. Therefore, focus has been increased on improving financial conditions for agriculture. From 2005 to 2015, the volume of loans provided by the National Fund of the Azerbaijani Republic for Entrepreneurship Support for production and processing of agricultural products increased by 18,1 times. In 2006, the State Service for Management of Agricultural Projects and Lending under the Ministry of Agriculture began to provide loans for agricultural production. This is indicative of the fact that the total volume of loans provided to agricultural producers and processors has actually increased through preferential loans funded by the government. Today, there are limited opportunities for raising funds based on the commercial conditions of businesses that are engaged in agricultural production and processing. In addition to the above-mentioned salient features of agricultural production, this is mainly related to the low economic potential of small-sized farms, existing problems with the provision of collateral due to the poorly developed land and property markets operating in rural areas, poor agricultural insurance, as well as lack of a guarantee mechanism for agricultural lending and other factors.

Agricultural insurance has been supported; however, the insurable events supported by the government include only a limited list of natural disasters and some unpredictable cases such as fire, hail, -, flood and frostbite. Hence, agricultural producers are not insured against natural disasters like drought (particularly in drought-stricken non-irrigable lands) or like pest and infectious disease damage. The government-insured crops include only wheat, barley, corn, sunflower (for animal feed production), potatoes, sugar beets, vegetables (except for greens), fruits, citruses and grapes. It is important that the government support the insurance policy for cattle, domestic fowls, rabbits, fur-bearing animals, bee families, as well as agricultural machinery, units, equipment, vehicles and buildings, and other facilities subject to insurable interest.

Lack of at least 30-40-year old agricultural database on natural disasters, animal and plant diseases, climatic data as well as other performance indicators for agricultural production, and absence of relevant insurance funds that are widely applied in the world is a key obstacle to the development of agricultural insurance policy.

Provision of inputs and services

Land resources

According to the State Statistical Committee of the Republic of Azerbaijan, agricultural lands account for 55 % or 4,74 million hectares of the total of 8,64 million hectares of land resources in Azerbaijan. Crop fields account for 1,8 million hectares of the agricultural lands and 181,6 thousand of these lands are under occupation. Azerbaijan ranks among the countries with limited land resources, that is, per capita land is 0,46 Ha, while per capita land suitable for agricultural production is 0,19 Ha. Per capita area of pastures and hayfields is even smaller.

Except for foothills and the south-eastern part of the country, most of the agricultural lands need irrigation water as a vital input for agricultural production due to arid and semi-arid climates across the country (average rainfall is around 200-300 mm). Agricultural production heavily depends on irrigation because of the low precipitation level.

Today, Azerbaijan has a total of 1434,5 thousand hectares of lands that are irrigated, in other words, these lands are supplied with water through irrigation networks. 49,3 thousand hectares of the lands are pastures, meadows and forests. Hence, crop fields constitute 1288,3 thousand hectares of the irrigation lands, which shows that 71 % of the crop fields are irrigation lands. Although existing land and climatic conditions allow for expansion of the irrigation lands to 3,0-3,5 million Ha, it is still impossible to make it happen due to limited water resources.

Water resources and irrigation-amelioration systems

Azerbaijan, which is located in the arid zone, has limited water resources. According to the Amelioration and Water Management OJSC of the Republic of Azerbaijan, the volume of surface water is 32,2 billion m³ and in the years of drought the number goes down to 22,6 billion m³. Besides, 70 % of the surface water in Azerbaijan originates from other countries. The volume of ground water is 5,2 billion m³. 21 billion m³ of existing water resources is stored in reservoirs and only 12 billion m³ of it is used. Agriculture uses 60-70% of the water resources. Water shortage in the years of normal rainfall is estimated at 3,7 billion m³, However, this number can be as high as 4,7-5 billion m³ in the years of insufficient precipitation.

There are 135 water reservoirs, including 8 reservoirs with a storage capacity of over 100 million m³, 12 reservoirs with a storage capacity of 10-100 million m³, 42 reservoirs with a storage capacity of 1-10 million m³ and 73 reservoirs with a storage capacity of less than one million m³ in Azerbaijan which are designed to respond to irrigation needs. The total length of the irrigation channels is 51755 kilometers.

A number of large-scale government-supported projects have been implemented to restore and improve the amelioration and irrigation system. From 2004 to 2015, about 1495 subartesian wells were drilled to meet the demand for irrigation and drinking water. Under the Project for Restoration of the Samur-Absheron Irrigation System, the Takhtakorpu reservoir, which has a total storage capacity of 268 million m³ and main irrigation channels with a total length of 140 km were put into operation. In addition, under the Project for Construction of the Shamkirchay Storage Pool, the Shamkirchay water reservoir, which has a total storage capacity of 165 million m³ and main irrigation channels with a total length of 60,6 km were put into operation.

The measures to improve the amelioration and irrigation system have resulted in improving water supply for a total of 266 thousand hectares of lands and adding about 43 thousand hectares of lands to the irrigation land stock. On top of that, about 218 thousand hectares of land was improved.

81,5% of the irrigation channels, 77 % of the collector-drainage network and 72 % of hydrotechnical facilities that are currently in operation were once owned by collective farmers, Soviet farmers and other agricultural businesses, and their technical and physical conditions require large-scale measures and activities. According to the existing regulations, the irrigation

and collector-drainage networks should be cleaned at least every 3 years (more than 30% per year), while 25-30% of the hydrotechnical equipment and plants should be maintained or overhauled every year. However, currently, only 20-21 % of the irrigation systems, 9-10 % of the collector-drainage systems, 5-6 % of the hydrotechnical facilities are cleaned or maintained.

More than 90 % of the irrigation and collector-drainage systems cause higher water loss, mineralized soilwater upflow, and salination as they are open and not lined with concrete. Besides, most agricultural producers apply flood irrigation or furrow irrigation, while only few of them use drip or sprinkler irrigation.

Provision of agricultural machinery

Recent measures and government support have improved provision of agricultural machinery and equipment substantially.

From 2005 to 2015, Agroleasing OJSC procured 1869 wheat harvesters, 7265 tractors, and other 14507 pieces of agricultural machinery. During this period, a total of 18090 pieces of agricultural equipment and machinery, including 723 wheat harvesters, 6305 tractors, and other 11062 pieces of equipment were sold or leased to over 10644 entities and physical persons.

Despite the growing number of agricultural machinery and equipment being purchased by the Agroleasing OJSC, there are still some expired ones that need to be replaced, for example, about half of the 2660 harvesters engaged in wheat harvesting in 2015 are worn and fatigued. There is a need for new machinery and equipment supply to intensify production and transform the structure of crop fields. Machinery parks (shelters) need to be expanded to increase mechanization of cotton, potato, vegetable, sugar beet and other fields. It is critical to expand the network of businesses which provide maintenance services to agricultural producers in order to enhance competitiveness and quality.

Provision of mineral fertilizers

The recent government support for provision of most of the mineral fertilizers has yielded positive results.

Thus, according to the Ministry of Agriculture, from 2005 to 2015, mineral fertilizer was imported twice as much as it did before. At the same time, Agroleasing OJSC increased subsidized sales of fertilizers to agricultural producers from 68,4 thousand tons to 124,6 thousand tons from 2008 to 2015. As a result, the total area of crop fields provided with the fertilizers expanded from 296,3 thousand hectares to 727,2 thousand hectares and the number of the agricultural producers using the fertilizers increased from 40,2 thousand persons to 89,9 thousand persons accordingly.

However, the actual amount of fertilizers applied in the fields is considerably lower than the demand for them. For example, in 2015 only 152,8 thousand tones of mineral fertilizers were imported while the demand was 948,9 thousand tones. Obviously, mineral fertilizer imports accounted for only 16,1 % of the total demand. According to FAO's statistical data, Azerbaijan

ranks among the countries with the lowest mineral fertilizer use per hectare. This is one of the factors contributing to low yield in crop production.

Provision of seeds

According to the Ministry of Agriculture, about 54 entities and physical persons were registered and certified as a seed producer in 2015. 23 of them were registered for the first time, while the rest were registered several times. There are a total of 354 private farms engaged in seed and sapling production in Azerbaijan. However, the demand for seeds is met through imports. Despite the fact that wheat grain is the most important part of seed production on all farms, the local producers meet only 40-50 % of the total demand for seeds, 30-35 of which were certified, while 10-15% were uncertified. Generally, seed production is challenged by a number of hurdles including lack of market-based professional management practice of local seed producing farms, poor material and technical resources, poor development of the seed selling network, imperfect seed quality control and certification, and uncontrolled import and use of seeds of unknown origin, poor performance of the Seed Producers Association, infringement of copyright of breeders, and other problems.

Breeding

It is essential that highly productive animal breeds be increased to boost cattle production, According to the Ministry of Agriculture, 46,5 % of cows are purebred or improved breeds, while the remaining 53,5 % are local breeds. 52,7 % of the sheep are purebred or improved breeds, while the remaining 47,3 % are local breeds. It is known that local breeds are not productive in terms of milk or beef production, so high-yield breeds are imported from other countries and increase breeding (artificial insemination) activities through government funding in order to improve breeds and encourage science-based breeding on cattle farms. From 2009 to 2015, 18252 head of purebred cattle and 5947 sheep and goat were imported through Agroleasing OJSC to be leased to agricultural producers on preferential terms. About 356 AI technicians provide AI services in different regions across the country, and about 100000 head of cattle and sheep are inseminated every year. The Artificial Insemination Center of the Republic of Azerbaijan has hired experts from France and Germany in order to ensure continuous training of AI specialists and improve material and technical resources that are used for that purpose. To increase head count of high-yield animals and encourage producers to benefit from AI, the government pay every cattle farmer AZN 100 for each calf born through AI.

In addition to the continued efforts, there is a need for developing relevant infrastructure in order to apply embryo transfer methods as part of improvements in animal breeding. At the same time, it is important that poultry breeding be improved in order to enhance competitiveness in poultry production industries.

Other important issues to be addressed include collecting, studying and preserving the genetic resources of animals that are produced through conventional methods, and developing breeding plans for them.

Provision of animal feed

Totally, there are 4 sources for cattle feeding in Azerbaijan: (i) *natural pastures* located mainly in the countryside and designed to feed cattle. In Azerbaijan, most pastures have a thinner grass cover due to overgrazing and the hay yield of the winter pastures has decreased 300-400 kg per hectare. Some pastures are badly affected by erosion; (ii) *roughage* containing annual and perennial plants cut from crop fields and hayfields, as well as taken from harvesting of corn products in the absence of natural pastures. According to the State Statistical Committee of the Republic of Azerbaijan, from 2005 to 2015, total green grass production of the fields with annual and perennial plants increased by 36 % (or over 4.7 million tones). The 36 % growth of crop production against the twofold increase of the fields planted with fodder plants is indicative of extremely low grass production.; (iii) *succulent feed* containing silage, haylage, and fodder beet. Succulent feed production is low. In 2015, 23,9 thousand tones of silage and corn for green fodder were produced, which is twice as much as it produced in 2005. Every year about 2-3 thousand tones of tuberous fodder plants (root crops) are produced; (iv) *compound feed* which is supplied from various sources. Generally, farms use mixtures of various cereals they produce as compound feed for their cattle, so corn production is of great importance in terms of increasing animal feed resources. In addition, agricultural by-products like cottonseed, bran, etc., are used as compound feed. Over the last years, there have emerged new industrial plants specialized in ration-based feed production, but most of the demand for animal feed is supplied through imports. In 2015, over 100 thousand tones of animal feed were imported although 12.8 thousand tones of feed was produced. In addition, poultry farms produce about 300 thousand tones of compound feed to meet their own demand every year (raw materials are imported).

Provision of veterinary and phytosanitary services

Large-scale measures are implemented to develop a system of veterinary and phytosanitary services in order to protect agricultural producers from risks, and prevent or eradicate animal and plant diseases.

The State Veterinary Control Service of the Ministry of Agriculture of the Republic of Azerbaijan supports protection of agricultural producers against potential risks such as state-financed vaccination measures to control diseases like anthrax, brucellosis, foot and mouth disease, rabies and other infections. It has regional veterinary offices and field veterinarians who provide state-financed preventive and compulsory vaccinations to control an average of 50 million head of cattle and poultry across the country every year.

Currently, there are 60 private service providers and 440 veterinarians engaged in regional trading of veterinary medicine across the country.

However, the State Veterinary Control Service has only 2600 veterinarians to meet only 60 % of the demand, while 4400 veterinaries are needed to deliver effective services for 3.8 million head of cattle. Besides, veterinary scientific- research and diagnostic centers are faced with the shortage of scientists, bacteriologists and virologists trained in veterinary microbiology and virology.

The ongoing measures to improve state veterinary policy are based on two strategies: i) focusing on eradicating and controlling epizootic and zoonotic diseases based on effective methods with respect to food safety and risk management as direct public involvement in

veterinary; ii) transferring the delivery of veterinary services to the private sector and expanding the network of private veterinary service providers.

IPM measures (Moroccan locusts, fall webworms, Colorado beetles, Californian mealy bugs etc.) are basically funded by the government.

There is a need for establishing a concrete executive and monitoring mechanism of the provision specified in the existing legislation regarding compensation for damage caused to individuals and physical entities affected in connection with the implementation of the quarantine regime or destruction of harmful organisms, similarly, destruction, prophylaxis and prevention of quarantine diseases of animals.

Generally, there is a need for developing and implementing an integrated action plan to devise an affective system in order to track and monitor plant and animal health in accordance with the International Standards for Phytosanitary Measures of the International Plant Protection Convention (IPPC), and Terrestrial Animal Sanitary-Veterinary Code of the World Organization for Animal Health (OIE) with the goal of improving the management of risks related to animal and plant diseases.

Science, education, training and extension services

The Ministry of Agriculture and the National Academy of Sciences of Azerbaijani Republic have 12 scientific and research institutes which are dedicated to doing researches in the agricultural sector. In addition, the Ministry of Ecology and Natural Resources and the Amelioration and Water Management Office OJSC have 4 scientific and research institutes to partly address agricultural issues. However, the management methods and programme priorities employed by these institutes are not in line with national market economy requirements and the knowledge of most of the research staff about good agricultural practices leaves a great deal to be desired. Furthermore, the scientific and research institutes are not equipped with a sufficient number of laboratories, devices and equipment, highly effective agricultural machinery, and other advanced material and technical resources to make scientific achievements in line with the requirements of the national economy, and international standards.

According to the results of the public survey for 2013, 2.2 % of the agricultural producers are holders of Master's Degree, 0.4 % are holders of Bachelor's Degree, while 4,6 % of them have received college education, and 3,4 % vocational training. Hence, almost 90 % of agricultural producers are not trained in any trade but received primary or secondary education.

According to the Ministry of Education, currently, the high schools, technical schools and vocational schools of Azerbaijan train specialists in agricultural and food production, processing, storage and other industries (30 specialties in high schools, 6 specialties in technical schools and 10 specialties in vocational schools). Modernization of the agricultural education system has been the recent focus of the government. Azerbaijan State Agricultural University (ASAU), which is the key agricultural training provider, has been furnished with completely upgraded laboratories, advanced equipment, and new experiment stations. ASAU is also improving its training programmes and curriculums under partnerships with European and Turkish universities. To train highly-educated agricultural specialists, the Ministry of

Agriculture signed a MOU with ADA University on October 24, 2016, to train 30 students as MBA in agriculture.

Provision of extension services based on the needs of the agricultural producers leaves a great deal to be desired. Besides, the network of services designed to deliver market information to agricultural producers needs to be developed. The measures implemented by local NGOs to address this issue under donor-funded projects are not consistent and systemized. A series of institutional reforms have been carried out to effectively meet the needs of agricultural producers for extension services, and to reinforce and create an extension service network. Consequently, Azerbaijan Center for Agricultural Science was developed and institutionalized as the Center for Agricultural Science and Extension Services. Another relevant structural unit was established in the State Service for Management of Agricultural Projects and Lending under the Ministry of Agriculture. To provide extension services to the farmers, the State Service for the Management of Agricultural Projects and Lending under the Ministry of Agriculture implemented the Farmer House Project with the support of Guba Regional Agricultural Science and Extension Center in 2015. Under the project, relevant infrastructure was developed, and advanced information and communication technologies were applied to provide high-level services to the farmers.

However, there are pressing issues to be addressed in order to increase the capacity of the Center in terms of provision of extension services, and provide the network of continuous extension services across the country.

Given that most agricultural producers do not have deep knowledge of any trade in agriculture, it is very important to develop both formal and informal training networks, that is, to put more efforts in improving vocational skills of agricultural producers through short-term or periodic training courses.

As such, preference should be given to improvement of technical, managerial and economic knowledge through short-term training, transfer of best practices, recommendations and other practical methods. The government should increase focus on developing and stimulating the growth of private extension services.

Marketing and export of agricultural and food products

Market infrastructure for agricultural and food products

Although there is a developed sales network for food products, there is still room for improving market structures and institutes that are engaged in the trade of agricultural products. Market channels are fragmented and primitive, and the informal sector still dominates agricultural trading. Consequently, there are still serious problems with providing the access of mostly small agricultural producers to market who cannot sell products at reasonable prices, that is, there is a big difference between the farm gate price and the end price on the consumer market. This problem stems mainly from the poor wholesale and retail network of fruits, vegetables, and melons.

There are 30 markets engaged in the wholesale trade of fruits, vegetables and melons. However, 3 Baku markets, especially, Meyvali Trade Center account for 75 % of the total wholesale nationwide. Generally, Meyvali Trade Center is the only market which is specialized

in wholesale trading and practically, dictates the wholesale price of agricultural products. All other markets engaged in wholesale trading are basically designed for retail trading. It is important that wholesale market network be developed in order to ensure stable growth of the agricultural market and improve the access of agricultural producers to markets. For example, according to studies conducted by the Ministry of Agriculture in 2003, the difference between the farm gate price of fruits, vegetables and melons and the end price on the consumer market ranged between 200% and 600% depending on the products; however, the studies for 2014 indicate that after the establishment of Meyvali Trade Center, the maximum difference was 200%. It is essential that new network of adequate market institutes be established to ensure wholesale trading in fruits, vegetables and melons.

Currently, there are 36 markets operating in 23 towns and regions to engage in the wholesale of cattle and beef. 10 of them are slaughterhouses and sales centers operating in Baku, while 3 markets are based in Sumgait. The biggest cattle markets are based in Imishly, Aghjabedi, Barda, Goygol, Salyan and Sabirabad. The main problem with livestock product sales is the poor slaughter and sales infrastructure which needs to comply with necessary standards.

Currently, adequate slaughterhouses and sales centers are being developed as part of measures to improve the sales infrastructure for agricultural products. In Baku, locations for 3 sales centers have already been identified and relevant design engineering works have been completed.

Hence, it needs to increase efforts to create “network of green markets” and to develop adequate slaughterhouses and sales centers as an alternative to improving the quality of traditional “collective farm bazaars”, and to develop pilot “farmer stores” under “value chain” projects in order to improve the sales infrastructure for agricultural products. It is also important that qualified wholesale agricultural markets be established in all regions across the country.

Currently, there are 212 storages including 103 grain storage barns operating to supply or store various agricultural products across the country. The total storage capacity of storages currently operating across the country is 1250 thousand tones (including grain storages with the total storage capacity of 741 thousand tones and regular or cold storages with the total storage capacity of 509 thousand tones which are designed to store fruits and vegetables). Total storage capacity of regular and cold storages designed to store fruits and vegetables account for 17 % of the total fruit and vegetable production. It should be noted that most of these storages do not provide storage services to clients and they operate within the processing plants or trade networks. Most of the grain storage barns are designed to store public grain reserves. Besides, these storages are not allocated based on the production capabilities of the regions where they are operating. This is why the producers have no choice but to sell their produce at low prices during the harvest season.

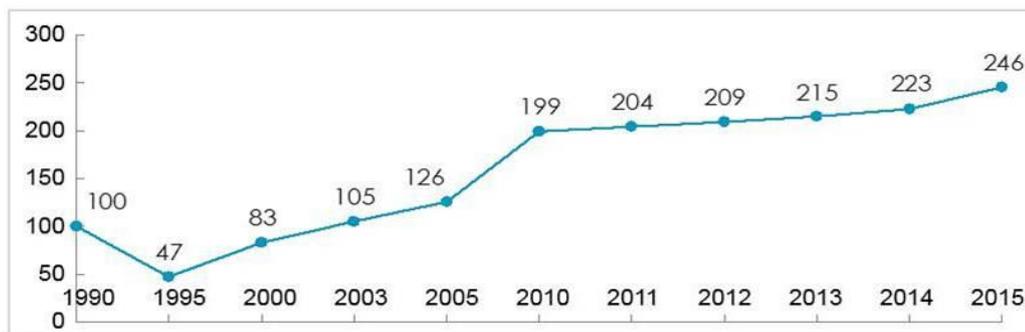
Currently, there are certain barriers both to domestic and export transport of agricultural products. For example, high fees are charged for the transport of products from remote villages, especially, rural areas with poor road infrastructure. This problem still persists in certain regions despite the recent large-scale measures aimed at reconstructing roads in rural areas. In general, quality requirements are not fully considered in transporting agricultural products due to the fact that the market infrastructure for agricultural products is not well

developed. Based on the discussions with exporters, we can say that there is still room for improving the specialized local transport park designed for export market transport. Consequently, exporters depend on international transport parks, which create obstacles in maintaining stable and favorable transport conditions.

Domestic market for agricultural and food products

In 2015, retail sales volume of agricultural and food products was AZN 12,9 billion.

Exhibit 8. Real growth rate of agricultural and food products market as compared to 1990 (%)

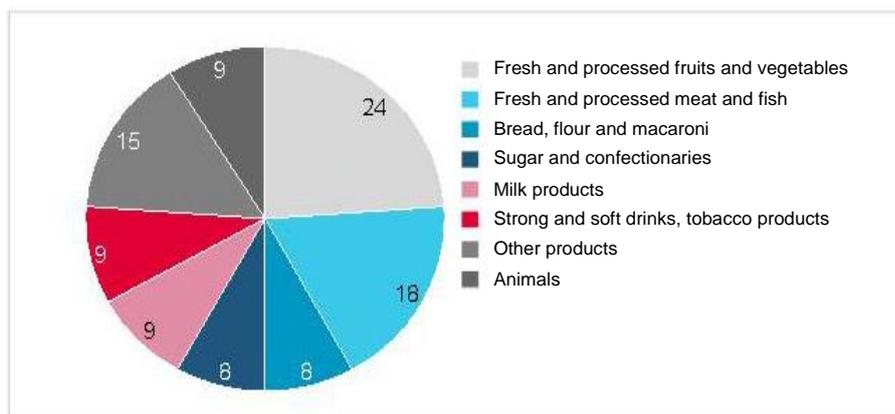


Source: State Statistical Committee of the Republic of Azerbaijan

From 1990 to 1995, the shrinking volume of the market grew continuously and reached the level of 1990 in 2003. In 2015, the volume of the market was twice as much as it was in 1990.

Fresh and processed fruits and vegetables, meat and fish account for 42% of the total retail sales of agricultural and food products, while other products constitute about 8-9% of the sales (Exhibit 9).

Exhibit 9. Structure of Agricultural and Food Products

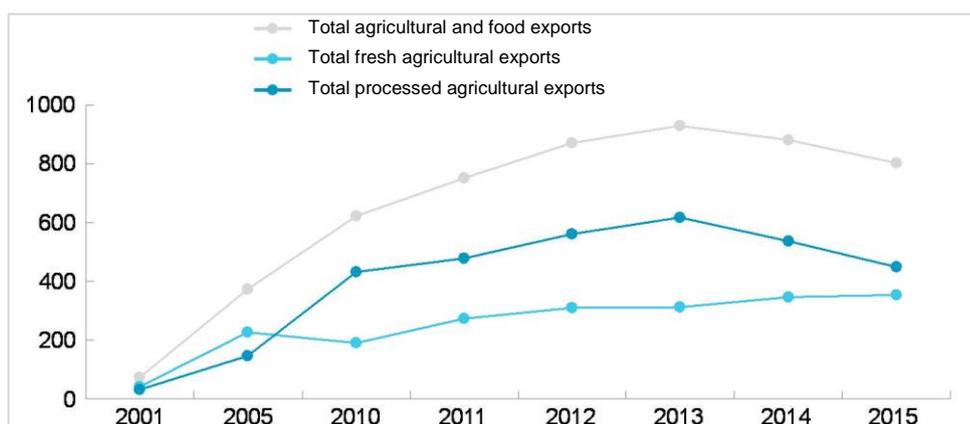


Source: State Statistical Committee of the Republic of Azerbaijan

Export of agricultural and food products

Agricultural and food exports increased by 11,1 times from 2001 to 2005, and 2,2 times from 2005 to 2015 (Exhibit 10).

Exhibit 10. Agricultural and Food Exports (in USD million)



Source: State Statistical Committee of the Republic of Azerbaijan

During this period, exports of fresh agricultural products increased by 8,5 and 1,6 times, while processed agricultural exports increased by 14,7 and 3,0 times. According to the UN COMTRADE, Azerbaijan's contribution to global agricultural and food exports increased from 0,014% to 0,054 % from 2001 to 2015. However, total exports have decreased due to shrinking processed agricultural exports over the last 2 years.

Fresh agricultural products and processed products respectively account for 44% and 56% of the total agricultural and food exports from Azerbaijan (Table 8).

Table 8. Agricultural and food exports from Azerbaijan (2001-2015) –(in USD)

Products	2001	2005	2010	2011	2012	2013	2014	2015	2015/2005
Fruits	11982	146432	112484	152965	207986	173508	192165	220247	150,4
Vegetables	856	26224	42345	78307	55969	77264	98919	91681	3,5 d
Processed fruits and vegetables	2123	16773	21518	21366	18694	21965	17143	10857	64,7
Animal and vegetable oil	2957	68418	188255	173757	221766	227884	190335	153335	2,2 d
Sugar and sugar products	0	91	146452	199185	214911	243840	221379	212207	233,2 d
Chocolate	0	398	3157	7924	11942	16268	11868	7648	19,2 d
Tea	3142	14097	32957	32211	37223	43906	30804	18959	134,5
Strong and soft drinks	3403	9401	15142	15727	21041	30947	31875	25829	2,7 d
Cotton	15122	43974	15892	20612	22302	30230	14324	19308	43,9
Leather	1566	2134	11664	10774	13932	16978	23868	12128	5,7 d
Tobacco	11834	5395	5894	9307	7913	10757	12415	7431	137,8
Others	19457	40375	27098	28676	37183	34999	36171	23000	57,0
Total	72442,0	373712	622858	750811	870862	928546	881266	802634	2,2 d

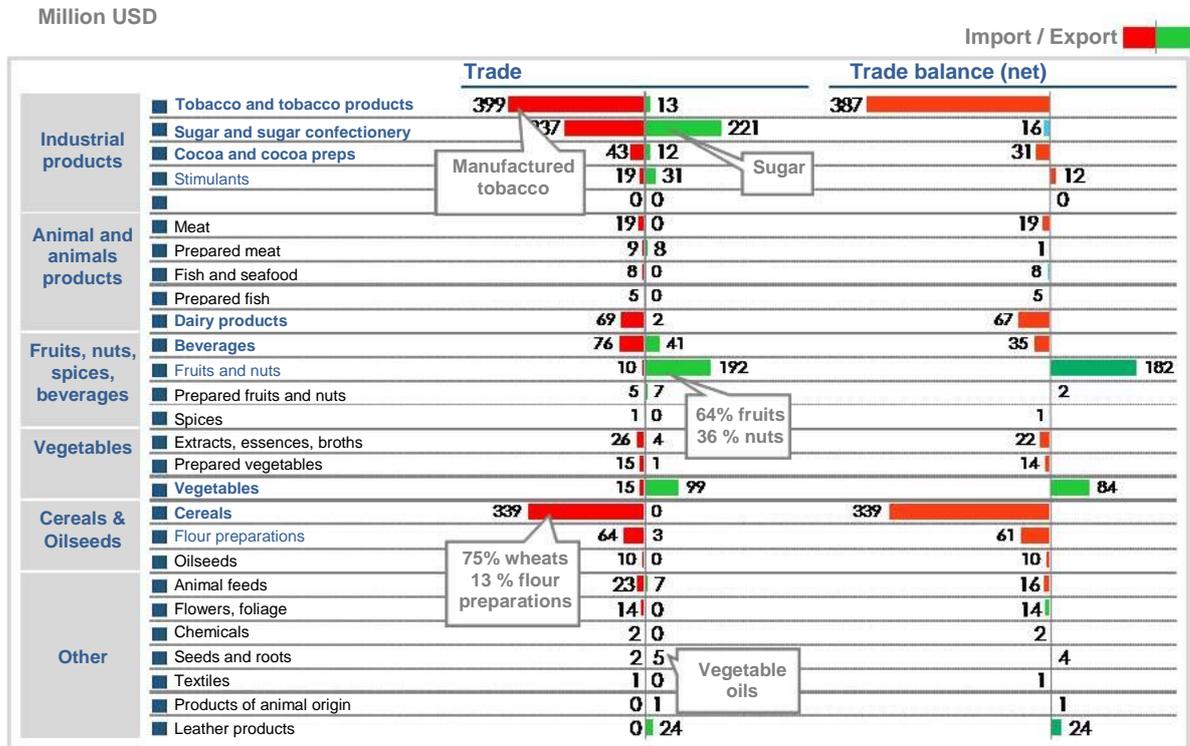
Source: State Statistical Committee of the Republic of Azerbaijan

However, the geographical coverage for the export of primary agricultural products is very limited, that is, 90 % of the products are exported to post-Soviet countries (except for Baltic States), particularly, to Russia.

Exhibit 11 shows foreign trade balance for key agricultural products.

Exhibit 11. Foreign Trade Balance for Key Agricultural Products (in USD million)

Exhibit: Tobacco and cereals drive imports, while exports are driven mainly by fresh fruits, nuts, vegetables, and oils



Source: UN COMTRADE, 2015

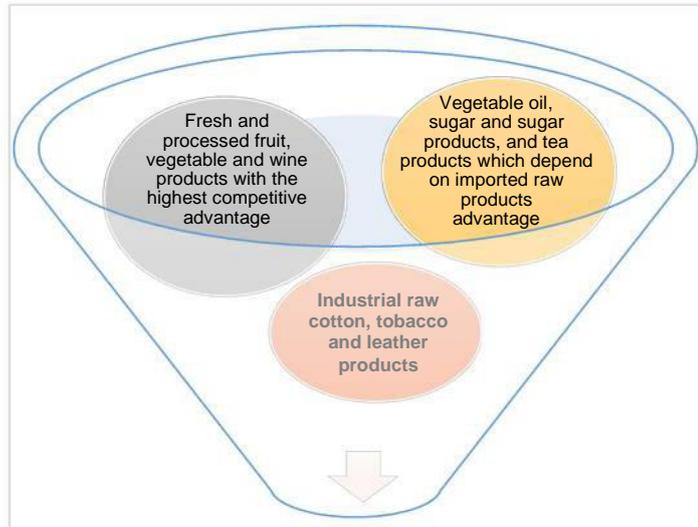
As it can be seen, Azerbaijan's trade for fruit and vegetable has mainly a positive balance. Russia is already a major market for Azerbaijan crops and agriculture products. Based on an analysis of other countries' exports to Russia and Azerbaijan's top export items, three priority products emerge: fresh tomatoes, particularly using year-round production in greenhouses; fresh cucumbers and gherkins; and fresh fruits such as hazelnuts, apples, pomegranates, persimmons, and melons.

Azerbaijan enjoys a competitive advantage for these products and can increase production and yield in a short time.

If Azerbaijan captures a considerable share in the Russian export market, it can increase exports of these crops.

The most important areas in the export of Azerbaijan's agricultural and food products can be summarized as follows: (Exhibit 12).

Exhibit 12. Important areas in agricultural and food exports



Source: State Statistical Committee of the Republic of Azerbaijan

Regulation of the market for agricultural and food products

International practice suggests that establishing a system for regulation of the agricultural and food market will help producers to generate decent incomes by selling products under favourable conditions and help them increase production continuously. A new stage of agricultural reforms aimed at developing relevant mechanisms to ensure systemized regulation of the agricultural market has been already launched. It makes limited use of 2 tools to maintain stable prices in the agricultural market. First, the Ministry of Agriculture along with local executive powers organizes agricultural fairs every weekend or during public holidays in Baku since 2006. These fairs are designed to allow the producers to offer their products to the residents at affordable prices. Although the fairs are not effective in improving access of the farmers to market, they are conducive to affordability of the prices of agricultural products. Second, the State Grain Reserve Fund, which has been operating since 2009, make necessary interventions as agreed with competent authorities in order to prevent abrupt price volatility for cereals on the domestic market.

Supply and Procurement of Food Products OJSC, which was established according to the Presidential Decree No.1944 dated April 11, 2016, will act as a significant instrument in ensuring guaranteed agricultural production and making interventions for large market segments.

“Supply and Procurement of Food Products” OJSC has already started to develop relevant mechanism to supply agricultural and food products to respond to public needs and ensure market stabilization.

Regulation of agricultural and food imports in the domestic market

In Azerbaijan, there is a legal framework for applying antidumping, countervailing and other special duties, as well as quotas for agricultural products. However, it lacks proper institutional

mechanisms for applying these tools. Besides, it is required that regular studies be carried out to investigate domestic market in terms of applying these tools and to assess impacts of the prices of goods in the country of origin and on domestic production. As such, it needs to build adequate institutional capacity. Sanitary-phytosanitary and veterinary norms and standards, and technical requirements are applied as non-tariff regulation methods to protect health and environment. However, the objectives for protecting the domestic market are not taken into full consideration in protecting the domestic market while implementing such norms, standards and requirements. These tools can be used to protect the domestic market as there are well-developed mechanisms for applying relevant norms, standards and requirements.

Protection of environment, preservation of natural resources, and management of climatic impacts on agricultural production

Azerbaijan has 9 micro-climates and the mildest winter in the region. Summer months are dry, hot and bright with the average temperature ranging from 28 °C to 30 °C. Natural climatic conditions are characterized by 300 hours of sunlight (in summer), which means an opportunity to develop diversified agriculture and to produce three times in a year.

However, Azerbaijan still has problems with the efficient use of water and land resources despite the fact that these resources are limited. Environmental and land resources have deteriorated as a result of the failure to implement necessary measures to ensure soil fertility by land users, to apply good agricultural practices (G.A.P.) and to comply with or improve existing norms and regulatory requirements for land conservation, and to ensure compliance of the existing amelioration and irrigation system with relevant requirements; overgrazing of pastures and forests due to the increased focus on natural feeding with regard to the growth of cattle-breeding; and utilization of agricultural lands for other purposes, etc. These problems will get tougher as the system for sustainable use of land resources is not applied. According to the existing laws and regulations, the Ministry of Agriculture, the Ministry of Ecology and Natural Resources, Azerbaijan Amelioration and Water Management OJSC and other local executive authorities should implement appropriate measures for recovery, conservation and growth of soil fertility within their competence, however; the existing regulations lack any specific provisions and guidelines to ensure that certain mechanisms are in place to commit the agencies to the recovery, conservation and growth of soil fertility. Besides, the regulations of relevant agencies define overlapping functions in this regard

Irrigation system management is one of the preconditions for efficient use of water resources. As per existing laws and regulations, the amelioration and irrigation systems may be subjected to public, private and municipal ownership. However, all irrigation systems are owned by the government or Azerbaijan Amelioration and Water Management OJSC. 585 Water Users Associations (WUA) were established under the projects implemented by Azerbaijan Amelioration and Water Management OJSC through World Bank loans and other projects implemented by the State Agency for Agricultural Project and Lending Management through IFAD loans. Although WUAs are operating to distribute irrigation water among consumers, there is not any practice ensuring long-term use of water resources by these agencies. Azerbaijan Amelioration and Water Management OJSC sells irrigation water to WUAs on preferential terms. However, it needs to apply more efficient support mechanisms and to consider the existing discount mechanism. In addition, it is important that appropriate support

measures be implemented to encourage wider application of best irrigation practices as Azerbaijan is a country with limited water resources. Currently, the only way to make it happen is the supply of relevant irrigation equipment under a lease through Agroleasing OJSC and on condition that 40 % of their value is financed by the government. Incentives are limited in this respect.

Not only traditional agriculture, but also eco-agriculture should be encouraged to protect environment. However, development of eco-agriculture leaves a great deal to be desired as it lacks the system of certifying, the statistical database, and market channels have not been formed, although some measures e.g. development of the legal framework for regulating these activities, were taken in this regard.

Making interventions by protecting against hail and regulation of rainfall for agricultural purposes in order to predict and prevent potential consequences is an important factor. According to the World Meteorology Organization, global agricultural losses caused by hail is worth USD 6 billion, including losses worth USD 740 million suffered by CIS countries. The hail-protection system and facilities inherited by the Soviet Union was handed over to military base as Azerbaijan was in state of war in the early 90s. Therefore, there is a growing need for establishing and improving the system based on advanced technologies to make weather interventions for agricultural purposes.

Regulation of agricultural production and government support

Government support system

A series of measures have been implemented to form, improve, and increase transparency of the government support system for agricultural producers over the last years (Exhibit13).

Exhibit 13. Government Support Measures for Agricultural Production

Common government support measures

- exempt agricultural producers from taxes,
- provide preferential loans to agricultural producers,
- apply customs credit to most of the agricultural and processed imports,
- pay 40% of the cost of the agricultural machinery and equipment sold or leased to agricultural producers by Agroleasing OJSC,
- pay 50% of insurance for agricultural assets and predicted insurable events.

Government support measures for plant-growing

- provide subsidies worth AZN 50 for each hectare of crop fields in order to pay 50% of the cost of fuel and engine oil consumed for agricultural production,
- provide subsidies to processors of AZN 0.1 for each kilogram of sold cotton and, dry tobacco, and AZN 0,05 for each 10 kilogram of raw tobacco,
- the price of irrigation water for agricultural producers is AZN 0,5 per 1000 m³,
- pay 40% of the cost of the modern irrigation equipment sold by Agroleasing OJSC,
- pay 70% of the fertilizers, pesticides and industrial bio-humus,
- provide subsidies for seed and sapling production and sales,
- provide government funding for the application of IPM measures and quarantine for agricultural crops.

Government support measures for cattle-breeding

- pay 50% of the cost of purebred animals imported and leased by Agroleasing OJSC,
- grant subsidies in the amount of AZN 100 for each calf produced through AI,
- provide relevant infrastructure for AI services,
- implement preventive and diagnostic measures against 13 most dangerous animal and poultry diseases and infections.

These support measures are important in terms of supplying inputs for agricultural production, and increasing opportunities for generating more incomes. The gaps have already been filled in the provision of agricultural machinery and equipment, increased fertilizer application, expanded animal breeding farms, and succeeded in optimizing most of the production costs.

The agricultural sector is a priority area in pursuing the policy for providing state-financed preferential loans for entrepreneurs. This sector accounts for 60% -65 % of the preferential loans allocated by ANFES. Agricultural producers are exempted from all taxes except for the land use tax. No doubt, these concessions have a significant part in reducing the costs for producers and ensuring affordable prices for consumers. The efforts have been launched to implement more targeted support measures and improve application mechanisms. On top of that, the applied tax credit policy needs to be reviewed and reconsidered in order to strengthen linkages between the agricultural producers and processors, and trading networks. It is important to determine and expand the scope of relevant support measures based on a correct evaluation of the existing requirements.

Registration and statistical system in agriculture

Currently, the vast majority of agricultural producers are not registered based on officially required organizational forms. According to the State Statistical Committee and the Ministry of Agriculture, about 1300 farms are registered as legal entities and 1500 as physical persons despite the fact that there are 890 thousand agricultural landowners as well as 370 thousand agricultural producers who have applied for receiving state support for fuel and engine oil across the country.

Besides, there is no identification system for cattle and lands. One of the challenges in ensuring an efficient land identification system is the discrepancy between the data contained in land ownership documents and the actual data based on existing conditions. Most importantly, lack of the e-cadastre system is a key obstacle to providing e-land registration.

All these problems create challenges in obtaining quality statistical data on agriculture and result in limited opportunities for making real assessments to justify relevant policies.

Over the last years, complex measures have been implemented to digitalize agricultural information nationwide. Since 2015, The e-agricultural information system has been initiated based on the methods applied by EU countries. The e-agriculture information system which is based on the principles of the EU Integrated Control System (IACS) consists of 7 sub-modules including modules like land identification, farmer registry, and registration and analysis of applications for subsidies. Necessary information and communication infrastructure was also developed to create and manage digital database comprising orthophotographic and satellite images to contribute to the e-agriculture information system. The Ministry of Agriculture has built the institutional capacity of relevant structural units, and launched a number of pilot projects in Guba, Khachmaz, and Goygol.

The terms of reference have been started to be prepared for the development of Animal Identification and Registration System with the support of international experts.

All annual data on subsidized producers and their lands are completely digitalized and embedded in the integrated database (including data on the regions and villages where they

operate as well as the size of their fields and type of crops) before making sure that the e-agricultural information system is in place. It should be noted that this information covers about 370 thousand producers subsidized for fuel and engine oil every year and 1,3 million hectares of respective crop fields which constitute over 80 % of total fields across the country. In addition, State Veterinary Control Service has created e-database collecting data on all cattle farms operating across the country in order to be poised for creating the cattle identification system. State Technical Control Inspectorate has created e-database in the 'Automated Information System for State Technical Control' system containing data on over 66 units of agricultural machinery registered in the country. Within measures of improvement of the performance of the Agroleasing OJSC, relevant transactions have been transferred to electronic-registration system by the Company, as well as the System of Automation of Leasing Transactions- specific software regarding preferential techniques has been developed and put into operation and reliable database has been established.

Azerbaijan is the first country among the CIS countries to have created the Farmer Data Monitoring System (FDMS) based on EU practices. The Monitoring System, which provides for collection and analysis of the basic economic performance of direct agricultural producers, operates as an important information source for analyzing agricultural impacts on the farm level, making a systemized need assessment for improvements in the agrarian policy and addressing other issues. The e-database containing data on about 4 000 farms covering all agricultural areas and regions has also been created (based on the indicators for 2014 and 2015).

The Ministry of Agriculture and FAO have developed an information portal containing data on agricultural prices (www.azagro.net), i.e. daily updated wholesale and retail prices for 400 varieties of fruits, vegetables and melons which go under 46 names based on their size. Currently, the information portal is being updated based on the data on sales prices of fruits, vegetables, melons, animal products, cereals, industrial products and other crops.

Agricultural employment and welfare

Over the last 5 years, total employment has increased by 6,8 % resulting in 9,3,% and 2,5 % increases in the processing and agricultural industries respectively. Over the last years the agricultural sector has contributed less to total employment while the contribution of the processing industry was 4,8-5,0 %. This indicator was 39,1% for 2000, and 36,4% for 2015. Despite all, agriculture still remains to be a sector which has the largest share in total employment.

In 2015, the annual and monthly added value per capita for agriculture was AZN 1993,2 and AZN 166,1 respectively. Hence, the prevailing smallholders which create small added- value are indicative of the limited opportunities for pay raise and necessity to increase production based on intensive methods. Therefore, it is essential that the non-agricultural employment be increased through rural processing industries and other production and service areas.

Since 2004, state programmes for regional socio-economic development have been implemented to achieve considerable improvements in the social infrastructure of rural areas

where 47% of the population live, thus resulting in enhanced quality of life and welfare of rural population.

From 2004 to 2015, the regional gas supply increased from 41,0 % to 78,2 %. As a result of the measures implemented to develop the transport infrastructure, highways have been built with a total length of 3,1 thousand km and rural roads with a total length of 7,2 thousand km, as well as 394 bridges and tunnels (81% of them are in the regions), airports in 6 regions. During this period, 6510 km-long drinking water lines and 3155 km-long drainage lines were built. The percentage of rural population supplied with drinking water (round-the-clock) increased from 9% to 41%. There are 34 power plants with a total capacity of 6300 MW, while there were only 9 power plants (2800 MW) in operation back in 2004. 80% of the power is generated in the regions.

During this period, the government built or overhauled 2554 school buildings, 409 medical facilities, as well as 33 Olympic sports complexes and 34 youth centers.

71% (or more than one million) of the new job places were created in the regions under the regional socio-economic development programmes. The regions also account for 42% (or 29820) of the newly established enterprises, and 68 % (or 202) of hotels.

In addition to the above-mentioned, a number of rural development projects were implemented jointly funded by the World Bank, International Fund for Agricultural Development (IFAD), EU and other donor organizations, and implemented by civil society organizations. The project activities included providing extension services, implementing veterinary and plant protection measures, providing the producers with seed and saplings, building small supply stations, providing financial support, etc. in order to help increase rural incomes in addition to developing and rehabilitating social (health, education, rural roads, etc.) and irrigation infrastructure.

It is important that rural development policies be formulated in line with best practices in the present-day stage of socio-economic development of the regions across the country. To make this happen, it is necessary to gradually transition from the regional development policy (which is aimed at ensuring large-scale and quick implementation of the socio-economic development measures, achieving one-time solution to the existing problems, and mainly based on the national planning methodology) to the rural development conception. In this regard, it is critical to develop relevant database and monitoring system comprising all performance indicators for rural development, and build institutional capacity for development planning. It is necessary to develop institutional mechanisms which ensure further development of rural communities and local executive authorities.

3.2. SWOT Analysis for Agricultural Production and Processing

Strengths	Weaknesses
<p>Favorable natural resources (soil, water, climate reserves) for development of agricultural production; Formulation of the agricultural policy based on private farming traditions and market economy principles.</p>	<p>Limited application of best farming practices, lower yield in the production of most of the crops due to the prevailing extensive production methods.</p>
<p>Nascent processing plants network relying on advanced technologies.</p>	<p>Existing problems in the supply of irrigation water for most of the crop fields.</p>
<p>Higher global growth rates in terms of agricultural and food production.</p>	<p>Underdeveloped market infrastructure, especially sales and storage infrastructure.</p>
<p>Increasing self-sufficiency with important food products after Azerbaijan gained independence from the Soviet Union.</p>	<p>Limited use of existing opportunities to add value in production, processing and trading.</p>
<p>High growth dynamics in the volume of exports of agricultural products;</p>	<p>Prevailing number and poor market orientation of household farms which rely on smallholding.;</p>
<p>Strong government support in providing agricultural inputs to agricultural producers and fulfillment of the existing demand for the inputs.</p>	<p>Agricultural policy which is focused on supply (production) prevailing over demand (marketing), and needs to be improved in terms of the value chain approach.</p>
<p>Developed government support mechanisms for increasing crop and cattle production based on intensive methods.</p>	<p>Lack of farmer cooperation and agricultural cooperation, as well as agro-industrial integration;</p>
<p>Established agribusinesses based on best farming practices and gradual expansion of this practice.</p>	<p>Processors relying less on sources of local raw materials;</p>
<p>Proximity to international markets: Closer proximity to large international markets, like Russian markets. Relative proximity to European and Middle East markets.</p>	<p>Poor access of producers to finance and poor development of agricultural insurance system.;</p>
<p>Existence of relatively well-developed rural infrastructure</p>	<p>Lack of knowledge and skills in relevant fields for farmers to carry out activities through advanced methods;</p>
	<p>Implementation of agricultural production without paying enough attention to environmental protection and sustainable utilization terms of natural resources;</p>
	<p>Lack of or poor extension services in agriculture.</p>
	<p>Incomplete database (development of electronic agriculture , electronic 38a daster system of lands and identification system of animals) regarding existing resources in terms of further increasing of efficiency of agricultural and food policy;</p>
	<p>Low competitiveness of grain production as strategically important product, in particular due to limited existing natural resources</p>

(absence of large land areas like in wheat countries;

Incompliance of food safety, quality management system of agricultural and food products with the requirements of the international standards;

Poor coordination of scientific and research activities on agricultural issues with practice.

Opportunities	Threats
<p>Agricultural and food production and processing being a top priority in the national socio-economic development policy.</p>	<p>Existing natural resources (land and water resources) are lower than global indicators although they are favourable for agricultural production.</p>
<p>Government support provided to stimulate the growth of agricultural and food production.</p>	<p>Lack of coordination between the agricultural policy and the principles of environmental protection and sustainable use of resources.</p>
<p>Launched efforts to develop agricultural and food market infrastructure and form a system for effective market regulation.</p>	<p>Limited diversification of export markets.</p>
<p>Proximity to efficient export markets and having an important position in these markets.</p>	<p>Desertification and degradation of arable lands: Improper irrigation and global climate changes will lead to land desertification and degradation</p>
<p>Launching application of comprehensive encouraging measures to increase access to export markets;</p>	<p>Damped or subsidized imports: That will lead to unfair competition on the domestic market.</p>
<p>High comparative advantages of production of most agricultural products;</p>	<p>Reduced support for the sector following the potential WTO accession (amber box);</p>
<p>Existence of the chance to improve ecologically-friendly agriculture;</p>	
<p>Lower labor costs and sufficient labor force (this will reduce costs of production).</p>	
<p>Depreciation of the Azeri Manat: The devaluation of the manat has made locally produced agricultural crops more competitive on the world market (production costs are lower in terms of foreign exchange, that is, price advantage is ensured).</p>	
<p>Development of multifunctional agriculture: Considering the limited job opportunities in rural areas, developing the rural tourism and expanding the power production (bio, solar and wind power) may increase incomes of those who are engaged in agricultural activities and improve financial opportunities for farmers;</p>	

4. STRATEGIC VISION

4.1. Strategic Vision for 2020

Strategic targets have been set as vision for agricultural production and processing by 2020 to create enabling environment for the competitive agriculture and agro-processing sector, which improves food security and contributes to solution of social problems in rural areas, and economic diversification.

Interpretation of the strategic vision

Relevant regulating system will be improved, including increasing the effectiveness of state aids and further development of competitiveness in the market will be achieved and favourable business environment will be formed. Complex works will be carried out in strengthening the potential of relevant regulating bodies, adjusting the state aids with development goals, improving food safety system, enhancing competitive environment in the market of production, sale and means of production, facilitating the access to financial resources, developing the extension services, and other directions.

As a result, efficient use of natural resources, fostering the activity of farmers, developing agricultural and food production according to their value chain of production areas will be ensured and in doing so, sustainability of food safety, increase of export volume of non-oil sector will be reached and income generating opportunities of people operating in agricultural sector will be boosted.

Most of the actions designed for the priorities set in the Strategic Roadmap will be taken post 2020.

4.2. Long-term vision for 2025

Strategic targets have been set as its long-term vision for agricultural production and processing for 2020 to create competitive agri-business through transition from the long-term traditional farming to market-oriented, value-added intensive farming.

Interpretation of the long-term vision

The implementation of the Strategic Roadmap will result in increasing the market-orientation of and consolidating household farms which rely on family labor for personal needs on one hand, and establishing commercial agro-complexes, strengthening integration between the processing sector and the agricultural producers, as well as creating adequate producing capacity through developed market infrastructure on the other hand.

At the same time, yield indicators will be increased by developing the scientific, educational and consultancy system which will allow application of advanced technologies in agricultural production and enhancement of expertise and skills of producers.

As a result, by 2025 agricultural production will contribute considerably more to the non-oil sector based on the focused approach adopted to increase agricultural production and efficiency.

The objective of the long-term vision for 2025 is ensuring full modernization and enhancing competitiveness of the agricultural sector. This also includes increasing production, producing value-added crops, and strengthening value chains along agro-processing. Over the next decade, focus on increasing production of certain crops like fruits, vegetables and nuts and enhancing competitiveness of the processing sector designed for these crops will be increased. Azerbaijan will also enjoy a competitive advantage in the production and export of the value-added industrial crops (for example, cotton, herbal tea and tobacco) with which it had captured a big share in the international market before. On top of that, incomes will be increased through reduced dependence on imports, and increased exports. At the same time, implementation of the actions to increase crop production will ensure that agricultural processors have a more important role in the value chain. Priority crops will be put on the domestic and international markets as a value-added crop through processors located in proximity to key trade routes and transport networks.

Agricultural production and processing will be increased through enhanced competitiveness. To make this happen, the overall focus will be on establishing intensive farms which rely on application of good agricultural practices and full automation. In doing that, Each regional potential will be considered and certain measures will be implemented to establish production clusters and sub-sectors. In addition to the conventional production methods applied in the country, the organic production of staple crops will be promoted based on the regulatory standards established by the government. Agricultural producers will be deeply engaged in all value-adding links along the value chain through implemented actions aimed at improving agricultural production and processing.

As a result of implementation of the actions based on the priorities for 2016-2020, all agribusinesses operating across the country will be a driving force in transforming the agricultural sector by 2025. This will also result in increased domestic and foreign investment flow in industries, and competitive production and processing of value-added products. At least, a few more local agribusinesses will be established through such investments in the agribusiness sector. These businesses will enhance the number of export markets, by increasing export potential, including European and Western markets and capture a bigger share in international markets. During this period, international companies will expand the scope of their activities in addition to the local agricultural producers and processors. Allowing considerable increase in investment flow as well as facilitating the presence of the international market players through complex projects and agricultural cities will be a priority. The Free Trade Zone, which is located in Alat will have fully operated as a primary processing center by 2025.

In this regard, one of the important issues to be addressed by the government will be fostering the development of the above-mentioned sectors. To make this happen, access to finance will be increased through non-material incentives aimed at ensuring efficiency, and increasing production of local farms. In addition, the challenges will be considered being faced by the agricultural producers and processors, and facilitate their access to various lending products

by enhancing the activities of credit guarantee fund. By 2025, the government will have considered the issue of providing idle public lands to the private sector and delivered business advisory services to those who use these lands. The agricultural sector will attract more foreign investments as a result of the agro-sectors being developed through improved regulatory framework.

In addition to the reforms designed to establish competitive agricultural industries and to increase production, actions will be taken to increase the average size of the farms, and to ensure that they benefit from economies of scale. Building on the measures that have been implemented since the time of independence, relatively small farms will be consolidated to become a stronger local market player.

The implemented actions designed for the priorities set to transform the agribusinesses and industries will allow similar reforms in household farming across the regions. By 2025, a huge network of cooperatives and contract farming which will allow more active farmer participation in business associations and sector reforms will have been established. Farm aggregation and three-pronged interventions (increased access to finance, market, and inputs) will allow more production of value adding products, wider application of advanced agricultural technologies and increased agricultural incomes. Most of the farmers will have easier access to high quality seed and fertilizer markets and enjoy higher potential for making investments. At the same time, local markets will provide continuous services to small farmers and allow them to capture a bigger share in the markets.

Under focused programmes, international development funds will maintain presence in Azerbaijan, huge investments will be made into the irrigation systems, and existing irrigation systems will be upgraded to ensure compliance with the international standards, to increase efficiency and reduce water losses. This will result in steady water supply and increase of agricultural products. As the national industry develops, irrigation systems in the major crop-producing regions across the country will be expanded.

By 2025, an e-agriculture system will have been established which will allow implementing stronger policies and decisions. Relevant data will be analyzed to implement sector-related strategies following the establishment of a large database containing all data on farmers, as well as their crops and lands. Based on the results of the analyses, a series of incentives will be implemented to transform agricultural production and processing sectors.

Relevant mechanisms will be used for continuously supporting the long-term development of the agricultural industry, and create a robust extension service base for providing required farmer training in order to increase quantity and quality of local production. Proper expert support and data exchange will be provided to increase production and efficiency. Azerbaijan will become a primary regional country striving for agricultural research, innovations and education. On top of that, the nationwide food security system will be upgraded and modernized through advanced methods and internationally-accredited laboratories which comply with the international standards. This system will be stimulated by the growth of high-quality seed and purebred animal markets. By 2025, relevant standards will have been applied to develop a self-sustainable market which will not rely on active government support.

Food security of the population will have been ensured by fostering the development of agricultural industries by 2025. Apart from that, the nationwide potential for long-term self-sustainability will be realized through enhancing local production, trade turnover and opportunities for product storage, including institutional and sound management systems (for example, information and early warning systems).

Increased efficiency of use of intensive resources for agricultural production will ensure environmental sustainability. However, relevant control measures will be implemented to reduce the potential risk of environmental pollution due to increased production. Additionally, focused control mechanisms and standards will be applied to ensure that water, land and other resources are not affected by increased farming activities. Sound forest management will also be a key priority on the government agenda.

By 2025, rural development will have been supported through sweeping changes to agricultural production and processing. Goal-oriented state programmes which envision urbanization trends will increase employment and incomes in agricultural industries and other related sectors. Bigger accomplishments for social parameters will be targeted when formulating the agricultural policy.

4.3. Strategic vision for post 2025

Strategic targets have been set as vision for agricultural production and processing post 2025 to form agriculture based on technological advance which will be in line with environmental standards, industrialized and efficiently integrated to the global value chain system.

Interpretation of the target vision

Post 2025, increased agricultural production and processing leading to the presence of its value-added processed agricultural products in the market will be allowed. It will stimulate the growth of these sectors by maintaining the stronger presence of best-performing, efficient and environmentally sustainable processors (for example, grape, tobacco, cotton, etc.), and create a network of modern processors and refrigerating storage for the production of dried fruit and vegetable, fruit juice and meat production. Value-added crop producing regions will specialize in the production and processing of the crops they produce.

In Azerbaijan, increased agricultural production will not only meet the local demand for food products, but also increase export opportunities to maintain a strong presence in the regional and international markets. Azeri agricultural producers will create a national brand for their products in the international markets, and ensure that they are widely recognized in terms of quality. These companies will operate as a key exporter in the Caucasus region owing to the developed logistic infrastructure, and maintain a stronger position by expanding their business in the foreign countries.

The government will make minimum interventions in these actions and act not as an implementer but as an enabler through a set of incentives. It will provide extension services, develop the e-agriculture system, create highly competitive environment by making

modifications to the regulatory framework, and allow stronger investment flow in the agricultural industry in order to foster the development of the agricultural sector.

Post 2025, necessary actions aimed at ensuring sustainability of food security will be continued, and the agricultural sector will be made a major driving economic force in stimulating rural development. In addition, a properly focused strategy will be implemented to maintain food ration (for example, protein content) at acceptable levels.

In post 2025, changes will be made to these actions in case of necessity with the focus on environmental sustainability. It will spare no efforts to make sure that the actions that are aimed at increasing agricultural production do not have a negative impact on environment. The development strategies that are designed to shape the future of industries will be based on the “green” approach, consider the climate changes, and provide for the application of environmentally-friendly production and processing methods.

5. Targets

As compared to 2015, these strategic priorities for 2020 in Azerbaijan are estimated to:

- Increase Azerbaijan's **direct and indirect GDP by AZN 575 million and AZN 660 million respectively with a total of AZN 1,235 million** in 2020, in real terms;
- Add **20 000 formal direct and indirect job places** in the agricultural production and processing sectors.

The actions designed to develop the agricultural production and processing sectors have the following major targets for 2020 (as compared to 2015):

- To increase meat and milk production by 30% and 20% respectively;
- To increase cotton production and processing by at least 4 times;
- To increase cocoon production and processing by at least 1000 times;
- To establish a total of 25 small and medium businesses along the relevant value chains in each region by 2020;
- To facilitate access to finance worth an additional of AZN 665 million;
- To develop at least 100 investment projects for the administrative regions and sectors;
- To increase water supply for agricultural producers by 20%;
- To reclaim unused, but suitable agricultural lands in order to increase the total size of crop fields by 5%;
- To increase the use of mineral fertilizers by agricultural producers by 25%;
- To increase the use of plant protection means by agricultural producers by 25%;
- To raise the use of certified seeds and nursery plants by agricultural producers up to 90%;
- To increase provision of agricultural machinery and equipment including small machinery and equipment to agricultural producers by 20%;
- To increase enrollment for agricultural education by 20%;
- To increase private veterinary service providers by 30%;
- To establish 5 “green markets” and 50 “farmer markets” in Baku and other big cities;
- To train 200 farmers in agricultural export by 2020;
- To improve 30 % of the irrigation lands.

6. Strategic targets

The Strategic Roadmap is generally designed to foster the sustainable and competitive development of the agricultural sector. To make this happen, the following strategic objectives will be implemented:

- To ensure regional and areal development of agricultural production with a competitive advantage, facilitate access to inputs, extension services, and domestic and international markets, develop farmer partnerships in agriculture, develop agribusiness and agri-processing, develop the competitive agricultural sector by upgrading agricultural education and science;
- To increase production of necessary food products for import substitution; develop food resources, and improve food safety;
- To increase employment and enhance quality of life in rural areas, and improve rural welfare;
- To foster development of agriculture in line with climate changes in order to protect environment, land and water resources, and enable sustainable agricultural development through application of advanced technologies designed to increase efficiency of the use of land and water resources.

7. Strategic objectives

7.1. Strategic objective 1. Increasing institutional capacity for ensuring sustainable food security

Ensuring food security in Azerbaijan is one of the important elements of the agrarian policy pursued by the government. As food security is a top priority on the government agenda, no efforts will be spared to ensure steady supply of quality food for its population.

The Strategic Roadmap envisions a number of priorities and actions that are designed to improve food security, and increase self-sustainability with food products. Necessary measures will be also implemented to increase the institutional capacity for ensuring sustainable food security.

Actions will be taken based on 3-pronged priorities: firstly, issues will be addressed concerning developing the information and monitoring system for food security. This system is designed to ensure systemized collection and integration of all data on food security of domestic and international organizations. On top of that, an information portal will be developed to collect and store data on agricultural production, import, storage and trading in order to facilitate more effective decision making with regard to food security.

Economic and physical factors will be analyzed contributing to food availability by regularly monitoring and improving food security and availability.

Secondly, potential needs will be identified and take actions to develop mechanisms for each region and crop in order to ensure sustainable food provision for all population groups (in consideration of unpredictable cases and events).

Thirdly, food safety will be improved through simplified control procedures that are applied in parallel with different state agencies, effective and risk-based approaches, as well as focused actions aimed at developing a food safety system which covers all links of the agricultural value chain, increase accountability of food supply players, and public control mechanisms.

7.1.1. Priority 1.1. Developing data collection and monitoring system with regard to sustainable food security and food availability

Rationale

To ensure food security, quick and flexible decisions are made based on the objective evaluation of the real situation, identification of existing and potential problems, and determination of short, medium and long-term actions to resolve problems. To increase efficiency and effectiveness of the decision-making and problem-solving process, it is important to develop a reliable information and monitoring system for food security. Although the government agencies and organizations have dedicated database of food security, they still lack a specialized information and monitoring system. The existing systems contain information about food security, for example, the State Statistical Committee holds information about sale, selling price, consumption, ration of food products or the Ministry of Ecology and Natural Resources collects data on weather conditions, precipitation level, land or water

conditions, etc. However, there is still a need for bringing these data in line with food security, and developing an integrated and systemized database. The systemized collection of the above-mentioned information will allow integrated monitoring of any situation with regard to food security, and consequently, increase effectiveness of the decision-making process.

Action items

Action 1.1.1: Assess opportunities to establish Food Security Commission

The possibility of establishing Food Security Commission will be looked into in order to ensure efficiency of activities like food security coordination, monitoring and evaluation, project development and implementation, emergency response, etc. Members of the commission may be the representatives of the Ministry of Agriculture, Ministry of Economy, State Statistical Committee, Ministry of Emergency Situations, and other competent government agencies. It is anticipated that they will meet at least every three months to discuss international developments, and take preventive measures in case of necessity. The commission is also expected to develop an action plan based on the Strategic Roadmap in order to carry out food security reforms.

Action 1.1.2: Conduct regular monitoring to make risk assessments in terms of sustainable food security

The 3-pronged monitoring will be conducted based on relevant indicators and methodologies: I) the level of dependence on suppliers and supply sources with regard to various segments of the food market; II) risks related to steady food supply in case of emergency; III) availability of the infrastructure for food resources.

In addition, relevant actions will be taken to improve food ration, as well as food consumption, and quality of data on the existing and prospective food market.

Generally, the food security monitoring and information system will operate and be integrated in the other local and international information systems.

Action 1.1.3: Develop a system to regularly analyze and evaluate the volume and fulfillment of the existing and prospective demand for food products based on approved rational and physiological norms

To develop public food resources, rational and physiological consumption norms will be established in compliance with the international standards to determine the consumer market demand for food products in each region (administrative region) with respect to population age, gender groups and other factors like pregnancy.

Short, medium and long-term predictions will be made and more vulnerable population groups and regions will be identified with regard to food security by considering potential impacts of climate changes, increasing population, and norms and requirements for sustainable food supply.

Action 1.1.4: Develop a monitoring system to evaluate food availability for various population groups, and assess related impacts

A detailed analysis of various factors affecting food availability (price volatility, supply volume, available resources, etc.) will be made through examinations focused on food availability for different population groups. To make this happen, impacts of food availability for different population groups will be regularly assessed and focused actions will be taken (regulation of subsidies, taxes or customs, development of market infrastructure, regulation of energy prices, etc.).

Action 1.1.5: Develop an integrated information portal for the production, import, stocking and trade flow of food products

The possibility for developing an information portal comprising the integrated databases of the Ministry of Agriculture, the Ministry of Economy, the Ministry of Taxes, the Ministry of Emergency Situations, the State Statistical Committee, the State Customs Committee, and Food Supply and Procurement OJSC will be looked into which will allow regular tracking of product flow in the food market.

Expected results and indicators

As a result of the implementation of the actions, an integrated database system will be formed to ensure access to systematized information about food security; physiological consumption norms will be established in line with international standards; short, medium and long-term predictions will be made to identify more vulnerable population groups and regions with regard to food security. Apart from that, the system will allow controlling quality of food supply, determining social and nutrition index, and making timely interventions to prevent potential risk. The integrated center will coordinate all food security activities.

Required investment

The amount of the initial investment required for the system will be AZN 2 million. AZN 200 000 will be needed annually to ensure continuous operation of the system.

Expected risks

Major potential risks may be related to possible challenges in gaining access to data or poor information use.

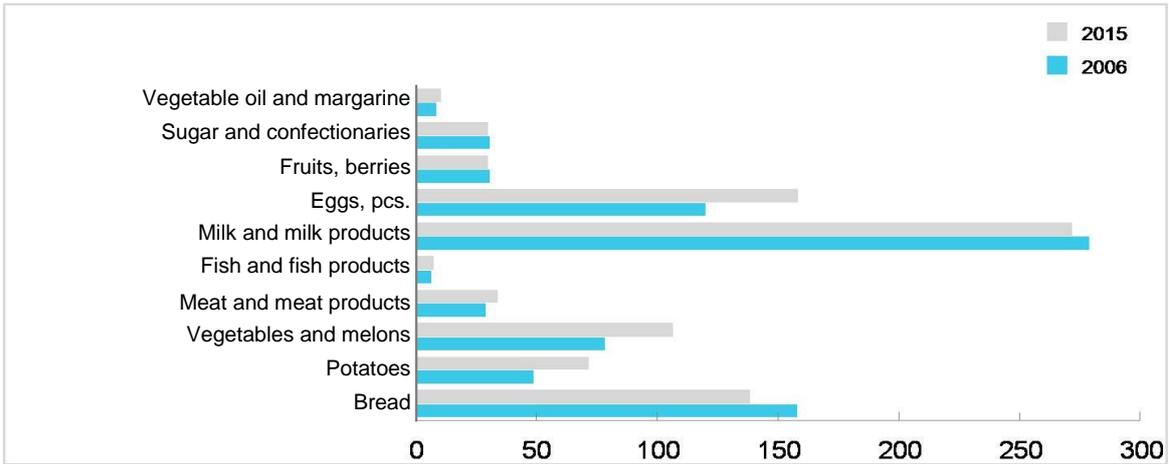
7.1.2. Priority 1.2. Develop mechanisms to ensure reliable food supply for all population groups

Rationale

Ensuring food availability for food security across the country is an important issue. To make this happen, it is important to increase actual consumption indices and to make food available in the amount, volume and quality desired by the population.

Per capita food consumption has increased over the last decades (Exhibit14). It should be noted that bread consumption has decreased by 12,3 %, which indicates that the population prefer other products in their food ration.

Exhibit 14. Per capita food consumption for 2006- 2015 (kg/year)

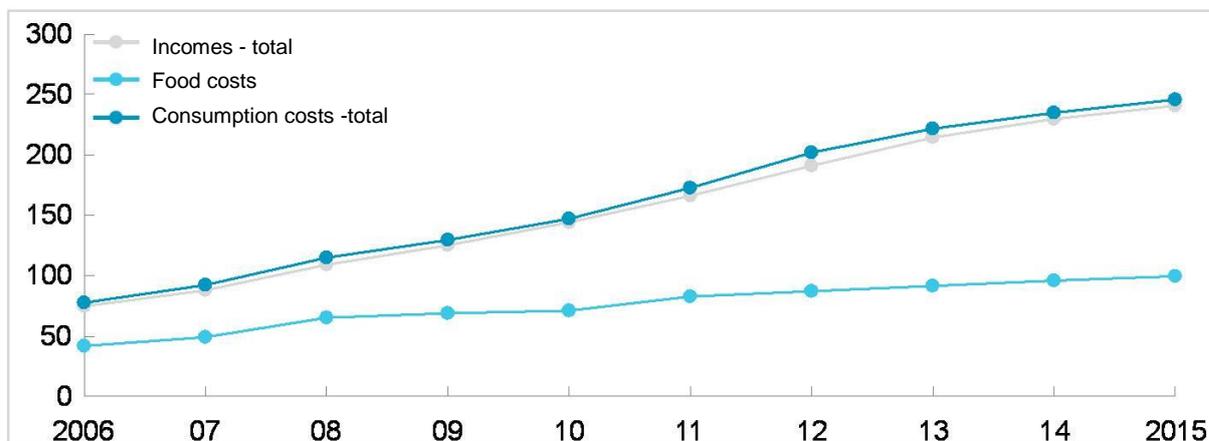


Source: State Statistical Committee of the Republic of Azerbaijan

Evidently, considerable progress has been made in this area to increase food consumption indices by pursuing a focused economic policy over the last decade. Only milk consumption has decreased by 2,5 %, which is associated with the consuming habits of the population, that is, the decrease in butter consumption due to vegetable oil and margarine consumption.

One of the key elements to be considered in improving food supply is the indices related to population incomes, consumption costs and the share of food costs in total consumption costs (Exhibit 15). The implemented measures have yielded a considerable increase in these indices over the last decade, thus leading to improved public welfare in the country.

Exhibit 15. Per capita monthly incomes, consumption costs and food costs in families for 2006-2015 (AZN)



Source: State Statistical Committee of the Republic of Azerbaijan

Data analysis shows that per capita monthly incomes and consumption costs in families have increased by about 3.2 times, estimated at around AZN 240 over the last decade. During this period, food costs have increased by 2,4 times.

Interestingly enough, food costs have tended to contribute less to total consumption costs over the last decade. While food costs accounted for 53,6 % of the total consumption costs in 2006, this number went down to 40,5 % (by 13,1%) in 2015.

Despite the decreasing contribution of the food costs, this number still remains to be high. In developed countries, this index varies at around 25%, which is less than that of Azerbaijan.

Given the above-mentioned, actions will be continued to improve the situation, and to increase consumption indices. To make this happen, complex measures will be implemented to increase population incomes and to fulfill the demand through maximum use of local production potential in order to facilitate public access to quality, fresh and cheaper food products through all periods.

Healthy nutrition is also important for ensuring public health. In this regard, it is important to ensure that people acquire proper consuming habits to change food ration, and promote fruit, vegetable and milk consumption and less use of bread in order to promote public health.

Action items

Action 1.2.1: Develop food resources to ensure food availability

More opportunities will be explored to supply the domestic market demand with local food products in order to ensure food availability and abundance based on the food demand indicated in Priority1.1. To make this happen, the potential for agricultural production will be evaluated based on calculated food ration norms considering the existing and prospective food demand of the nation, the optimum structure of crop fields will be determined to produce food resources on a regional level, needs for new elevators and grain barns will be assessed, and

improvements will be proposed in developing storage infrastructure for demand-based products. Also, a final report will be developed based on the outcomes of needs assessment, and other strategic targets will be reached to meet the needs. It is anticipated that the actions mentioned in Strategic Objectives 2, 6 and 8 of the Strategic Roadmap will be taken to ensure optimum organization and regulation of food production, storage, transport, and marketing.

Action 1.2.2: Determine mechanisms to improve food supply for all population groups

The possibility of developing focused state programmes together with competent government agencies will be looked into to improve food supply for all population groups, and issues will be addressed concerning special food market organization and food bank development in order to ensure that the population is fed based on all categories of food consumption.

Action 1.2.3: Increase opportunities for supplying food in case of emergency

One of the threats to food supply is undesired situations that may arise from force majeure events such as wars, earthquakes, mudflow, flood etc.). Under such circumstances, a special investigation will be launched to devise an operational system for timely provision of food for victims. This investigation will include conducting risk assessments, identifying risk-sensitive regions and estimating the volume of food supply for such regions in case of emergency, and determining the need for developing necessary infrastructure for food storage. Opportunities for developing relevant mechanisms designed to lay down an action plan will be explored based on the needs determined in association with relevant government agencies.

Expected results and indicators

As a result of the implementation of the actions, food resources will be developed considering the existing and prospective food demand of the nation, increase food availability, and ensure proper nutrition of all social groups based on consumption norms. Necessary mechanisms will be developed to ensure timely provision of food products to victims in case of emergency.

Required investment

The amount of the initial investment required for the implementation of the actions is estimated to be around AZN 1 million, as the actions will be investigative.

Expected risks

The key risks with achieving the strategic objectives may be related to potential decrease in food production due to climate changes both inside and outside the country.

7.1.3. Priority 1.3. Form a risk-based food safety system along all links of the value chain

Rationale

Bringing the food safety system which is an integral part of food security in line with modern standards is a key issue. That is, the way the food safety system is provided in Azerbaijan is considerably different from those that are based on international requirements and best practices. In Azerbaijan, food safety provision should be in compliance with the requirements of EU and other international organizations. Azerbaijan has joined the organizations and

conventions that are dedicated to establishing international food safety standards, and there are more opportunities for expanding the scope of their application in this country.

In Azerbaijan, food products are certified by a number of agencies. Products of animal origin, products of plant origin, and all food products are provided with veterinary, phytosanitary, and hygienic and conformity certificates respectively. Conformity certificates are granted by the State Committee for Standardization, Metrology and Patents to confirm compliance with veterinary, phytosanitary and hygienic standards. Hence, the existing national standardization system is a part of food certification.

Currently, the State Committee for Standardization, Metrology and Patents oversees compliance of certified food production with standards. The Ministry of Economy oversees compliance with standards in the food market. Food production is overseen by a number of state agencies. Products of plant origin and animals and animal products are controlled by the State Phytosanitary Control Service and State Veterinary Control Service respectively.

Raw materials and production process is controlled by the Ministry of Health, and the State Committee for Standardization, Metrology and Patents. Product marketing is controlled by the State Service for Antimonopoly Policy and Protection of Consumer Rights under the Ministry of Economy. There seems to be some overlapping of duties fulfilled by the agencies. Besides, most of the food safety standards including sanitary and phytosanitary norms are inherited from the Soviet period, and they need to be improved in accordance with the international requirements.

As food safety control is limited to certification rather than risk management, there is a need for putting more efforts in risk identification and management in the food safety system. Applying new and improved mechanisms for risk assessment and management, and conducting more intensive food safety performance monitoring (pesticides, veterinary medicine, environmental pollutants, etc.) may help ensure effectiveness of the food safety system. The need to improve mechanisms for inspecting products during import and export operations is another key issue. Particularly, product inspection procedures should be harmonized with WTO (World Trade Organization) requirements.

Action items

Action 1.3.1: Improve the existing legal framework based on international best practice

Opportunities for improvements will be explored by conducting monitoring of the existing laws and regulations with the support of international experts in order to develop a risk-based food safety system involving all stages of food safety, and all stakeholders. Based on the outcomes, relevant amendments and changes will be drafted. The possibility of developing a state programme will be looked into based on the draft food law.

Action 1.3.2: Eliminate the overlapped activities of the agencies which are responsible for food safety control, and develop an effective regulatory system

A relevant mechanism for effective division and regulation of food safety control functions will be determined in order to avoid overlapping of roles and responsibilities in food safety. To make this happen, the institutional mechanisms of the food safety system will be improved based on best practices, and look into the possibility of ensuring more effective allocation of roles and responsibilities of the agencies. Based on the allocation process, the food safety system will be divided among 2 types of agencies: agencies which are responsible for food safety risk assessment and those which are responsible for food safety risk management. Establishing Food Safety Agency will be considered in order to ensure integrated and flexible coordination of the above-mentioned activities, and the possibility of developing an integrated control system and mechanisms that are designed to ensure that the food value chain players assume relevant responsibilities for food safety will be looked into.

Action 1.3.3: Harmonize food production, processing, storage, transport and trading standards with international requirements

No efforts will be spared to bring food safety system in line with the requirements of WTO, EU and other international organizations, and to increase safety and quality of its products. An action plan designed to harmonize food regulations and standards with the requirements of Codex Alimentarius, International Plant Protection Convention (for plant products) and International Epizootic Bureau (for animal products) will be developed.

Action 1.3.4: Optimize, modernize and accredit food safety laboratories, and improve the certification system

A raft of proposals will be prepared to modernize food safety laboratories, and in case of necessity, relevant mechanisms will be developed to establish and accredit new laboratories. At the same time, mechanisms will be developed to cooperate with private laboratories, and action will be taken to establish model laboratories.

Forming the network of accredited laboratories will allow optimization of the certification procedures.

Action 1.3.5: Improving public regulatory mechanisms for food safety

A raft of measures will be implemented to raise public awareness on effective food safety regulations, and to make all relevant standards available to stakeholders. Relevant mechanisms will be developed to establish a public regulatory system for food safety.

Action 1.3.6: Promoting healthy nourishment

A healthy diet is an important element of food security. Enriched food ration will be promoted through TV and radio programmes, and video films that are designed to highlight the importance of higher food and vegetable consumption instead of bread, as well as seafood and other alternative energy and calorie sources, and action will be taken to ensure healthy nourishment of special population groups. A special focus will be on the healthy nutrition of children, and pregnant or breastfeeding women, as they are important in terms of shaping the future of the nation. Pilot projects will also be implemented to ensure healthy nourishment of children, and pregnant or breastfeeding women (for example, fresh milk for schoolchildren or fresh fruits and vegetables for pregnant or breastfeeding women, etc.).

Expected results and indicators

The actions taken will result in eliminating overlapping functions of various agencies, increasing coordination of food safety activities, developing a risk-based food safety system involving all stages of food safety, and all stakeholders, improving monitoring and observations processes that are targeted at controlling animal and plant health and diseases, and harmonizing the existing system with the requirements of Codex Alimentarius. Additionally, slaughterhouses and sales centers will comply with veterinary, sanitary and epidemiological requirements, and food safety standards will be harmonized with the international standards. If Azerbaijan accedes to WTO, it will enjoy increased opportunities to maintain a stronger presence in the international market.

Required investment

The amount of the initial investment required for the implementation of the actions is estimated to be around AZN 5 million. The costs will include those which are related to the improvement of the legislative framework, development of institutional reforms and standards, raising public awareness, promotion of healthy nourishment, and organization of various monitoring measures. Investments made to improve laboratories and to upgrade equipment will be estimated separately based on feasibility studies.

Expected risks

Organizational and management reforms that are designed to control food safety, especially the mechanisms that are applied to ensure accountability of market players may be delayed for a while.

7.2. Strategic objective 2. Increasing the potential for agricultural production along the value chain

Azerbaijan enjoys a comparative advantage in terms of agricultural and food production which allows import substitution and increased exports of competitive products through increased production. However, all relevant actions that are designed to realize full production potential, as well as government support measures, are focused on the initial links of the value chain. However, fostering market development and ensuring access to markets under favourable conditions is of strategic importance which creates a need for improved market infrastructure and significant changes. Besides, the mutual relations between the producer and the processor leave a great deal to be desired and this limits the growth potential of agribusinesses along all links of the value chain.

Five priorities will be achieved to reach this strategic target.

The first priority will be targeted at increasing the production potential for competitive agricultural production and processing both in the domestic and international markets.

The second priority will include actions to increase and promote the agricultural production and processing which is capable of substituting imports.

The third priority will include complex measures to develop farmer partnerships and cooperation in agriculture.

The fourth priority will be aimed at exploring opportunities and measures to develop public-private partnerships in order to implement integrated projects.

The fifth priority will be aimed at developing the infrastructure to support agribusiness. A raft of measures and activities will be implemented to create enabling legal, economic and informative environment to foster the development of agribusinesses.

7.2.1. Priority 2.1. Increasing the production potential for competitive agricultural production and processing both in the domestic and international markets.

Rationale

A close look at Azerbaijan's net trade balance will reveal huge opportunities for increasing the production of a number of primary crops. According to the State Statistical Committee, Azerbaijan holds considerably high indicators in terms of exports of fresh fruit and hazelnut products (USD 220,2 million in 2015) and vegetable products (USD 91,7 million).

Opportunities can be also captured to increase the export of certain crops and products such as tomatoes, gherkins, fresh fruits (persimmons, pomegranates, apples, cherries, and peaches), green tea leaves, sunflower seed oil, sugar and sugar products, and sunflower seeds.

Other important production areas include spirits obtained from grape wine, hazelnut production, margarine production, fruit juice production, products obtained from wild fruits and berries (sea buckthorn, cold walnut oil, liquorices, etc.) grape production, cotton production, tobacco production, meat production, and cocoon production.

According to the UN Comtrade, there are several primary crops which can be exported to the regional and other markets.

This analysis is made based on the total sales of imports from Azerbaijan and other regional countries. The volume of the regional import markets makes it important for Azerbaijan to increase production.

Russia has by far the most significant trade potential due to its size and existing imports of several items produced (as discussed in strategic priority 1.1). In addition to Russia, there are several other high-potential markets for Azerbaijan, including selected Central Asian countries of the Commonwealth of Independent States (CIS), the European Union, and Ukraine.

Two major trends have created a window of opportunity for Azerbaijan to increase agricultural exports with two of its neighbors in the short term: first, the potential to capture more of the Russian market; and second, the possibility of increased trade with Iran following the removal of trade sanctions.

Russia is already a major market for Azerbaijan crops and agriculture products. Based on an analysis of other countries' exports to Russia and Azerbaijan's top export items, the following priority products emerge:

Fresh tomatoes. In the short term, tomatoes constitute the largest opportunity for an increase of agricultural products to Russia: its total import of tomatoes increased an average of 4,5

percent a year from 2011 to 2015. A portion of this growth has been secured, increasing tomato exports to Russia by 16 percent a year in that period; in 2015, USD 58 million of fresh tomatoes to Russia was exported, a relatively small share of Russia's total tomato imports of USD 676 million that year. Turkey currently leads in exports of tomatoes to Russia, claiming USD 346 million (more than 51 percent) of the 2015 total. Gross production can be improved and yielded to capture a greater share of this market, particularly given the opportunity to implement year-round greenhouse production.

Fresh cucumbers and gherkins. Russia's imports of cucumbers and gherkins have also been growing steadily, rising by 12 percent a year from 2011 to 2015: however, decreased by 44 percent in 2015. A greater portion of this market has also been secured, increasing cucumber and gherkin exports to Russia with a total of USD 10,7 million in this period. However, again Azerbaijan's total exports (USD 6.6 million in 2015) are a fraction of Russia's total 2015 imports of USD 160 million. Much of the region competes for Russian imports of cucumbers, with more than half of the country's cucumbers and gherkins provided by Iran and Turkey. Azerbaijan's yield is currently the smallest among all of Russia's regional cucumber and gherkin importing partners, representing a significant opportunity that an increase should be prioritized in productivity considering the historic relations, geographical proximity between two countries and existence of potential opportunities for increased productivity.

Persimmons. Persimmon imports have remained stable over the last years. In 2014,

Of Russia's 2014 import of USD 227 million, USD 73 million (32 percent) of the total was provided by Azerbaijan, making it Russia's biggest trade partner for this product. However, exports increased up to USD 74,6 million in 2015. Other countries' average yield of 16 tonnes per hectare contrasted with Azerbaijan's yield of 11 tonnes per hectare reveal an opportunity to increase yield and by doing so capture more of the Russian market.

Cherries. Although Russia's total imports of cherries fell from USD 154 million in 2010 to USD 71 million in 2014, this category still has significant potential for Azerbaijan. The country exported USD 19.6 million in cherries to Russia in 2015, making it the second-ranked source behind Turkey for this commodity. Azerbaijan has the potential to increase productivity, as its yield of 8 tonnes per hectare in 2015 is in line with the global average but still is just half that of Turkey.

Apples. Russia imported USD 385 million of apples in 2015, a drop from the previous year but still a sizable market. Azerbaijan, which is the region's top exporter to Russia with USD 14.4 million in 2015, can take advantage of its higher yields compared with other countries.

Hazelnuts. Azerbaijan's hazelnut exports to Russia were equal to 35 percent of its demand (USD 52 million) that year—a significant increase over 2013, when it met just 28 percent of Russia's demand. Now Azerbaijan has significant potential to continue to increase its share: none of its neighbors have surpassed Azerbaijan's yield of 1.3 tonnes per hectare. In addition, Europe—particularly France, Germany, and Italy—might be a potential market due to its production of chocolate and other cocoa preps, a product often processed alongside hazelnuts. In addition to the above-mentioned, Azerbaijan has the potential for exporting pomegranates and will take relevant actions to increase pomegranate production.

Spirits obtained from grape wine. France is the largest exporter to Russia for this category, supplying about half of Russia's imports of USD 114 million in 2014. However, Azerbaijan's exports of spirits obtained from grape wine to Russia increased by 60 percent a year from 2013 to 2015. Azerbaijan was tied for third in this category with total export sales of USD 17.6 million. Grapes are a legacy crop for Azerbaijan, with significant volume in the past, positioning the country to unlock significant potential.

Fruit/vegetable juices. Poland dominates Russia's fruit/vegetable juice import market, with a share of 47 percent in 2015. However, Azerbaijan is the second-ranked country, supplying 7 percent of the Russian market that year. Azerbaijan has significant potential to capture a larger market share in this category given recent increased production; from 2010 to 2014, overall exports of juices from fresh vegetables and fruits grew by 24 and 12 percent respectively.

With the removal of international economic sanctions to Iran, Azerbaijan has an immediate opportunity to provide fruits and vegetables that are already among its top exports and Iran's top imports.

Three items were chosen as priorities based on an analysis of the overlap between Iran's top imports and Azerbaijan's top exports:

Sunflower seeds. In 2015, Iran imported USD 175 million of sunflower seeds. Azerbaijan's yield was 17,7 centner per hectare for that year with the gross production of 18,4 thousand tonnes, but Azerbaijan's gross production was a fraction of Iran's—indicating that sunflower seeds are a potential priority crop for export to Iran based on total value potential.

Refined sugar cane. Capturing Iran's imports of refined sugar cane represents an opportunity worth USD 55 million based on 2014 exhibits.

Sunflower oil. Iran's imports of sunflower seed/safflower oil represent an opportunity worth USD 45 million based on 2014 exhibits. Azerbaijan's higher yield of sunflower seeds, as described above, also bodes well for increased exports of sunflower seed/sunflower oil to Iran.

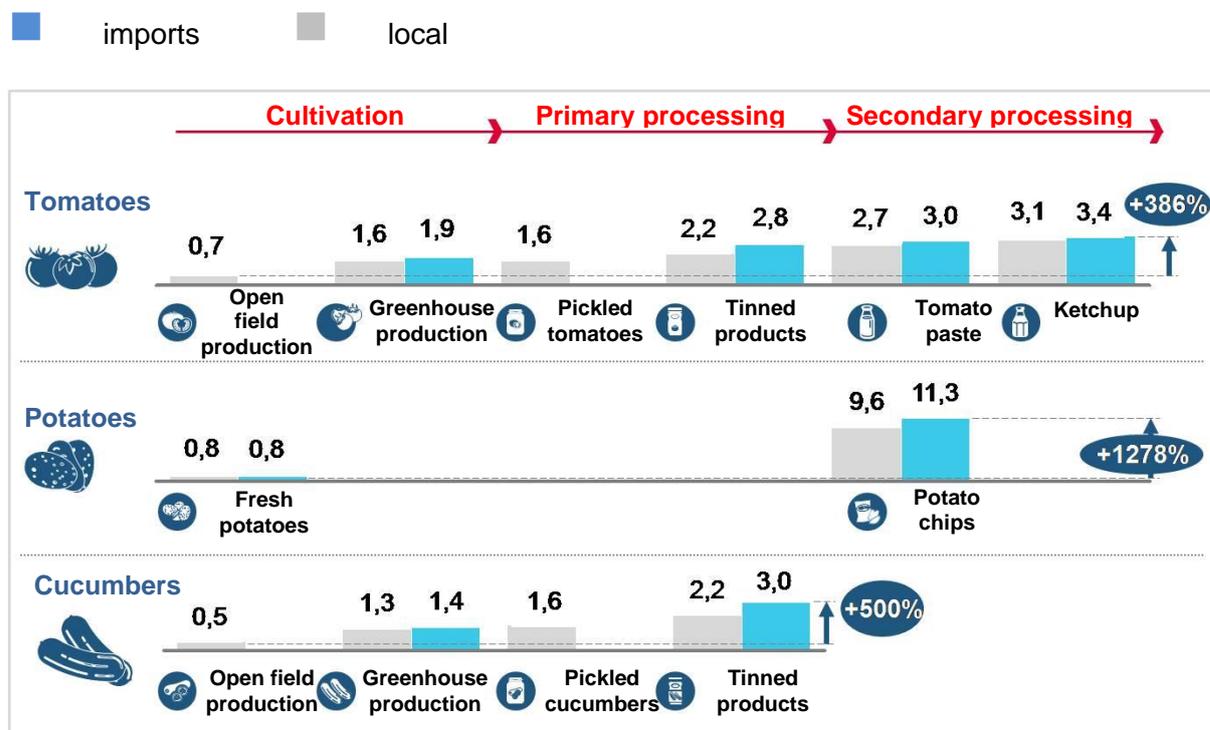
Meslin, maize, and barley also emerged as a match between top Iran imports and top Azerbaijan production crops, but their negative trade balance in Azerbaijan, driven by the relatively low number of commercial-scale cereal producers, makes them long-term rather than immediate priorities. In addition, depending on future shifts in trade balance and volume, the opportunity to export chicken, grapes, hazelnuts and persimmons to Iran could eventually be capitalized.

In addition, the potential export items may include pomegranates, potatoes, saffron, honey, wool, and animal hide. According to the State Statistical Committee, USD 20,9 million of fresh or processed potatoes was exported, and USD 12,2 million of animal hide (except for natural fur) and leather which provided a significant amount of monetary receipts to the national budget. The government intends to define support mechanisms to increase export potential and production for these products.

It is still important to realize full potential for fruit and vegetable processing. Strengthening production value chains will add value, which has already been proved by certain estimations (Exhibit 16).

For example, the value added by processing fresh tomatoes into ketchup can be almost 386 percent. Potato chips and tinned cucumber may allow value addition of 1278 % and 500 % respectively.

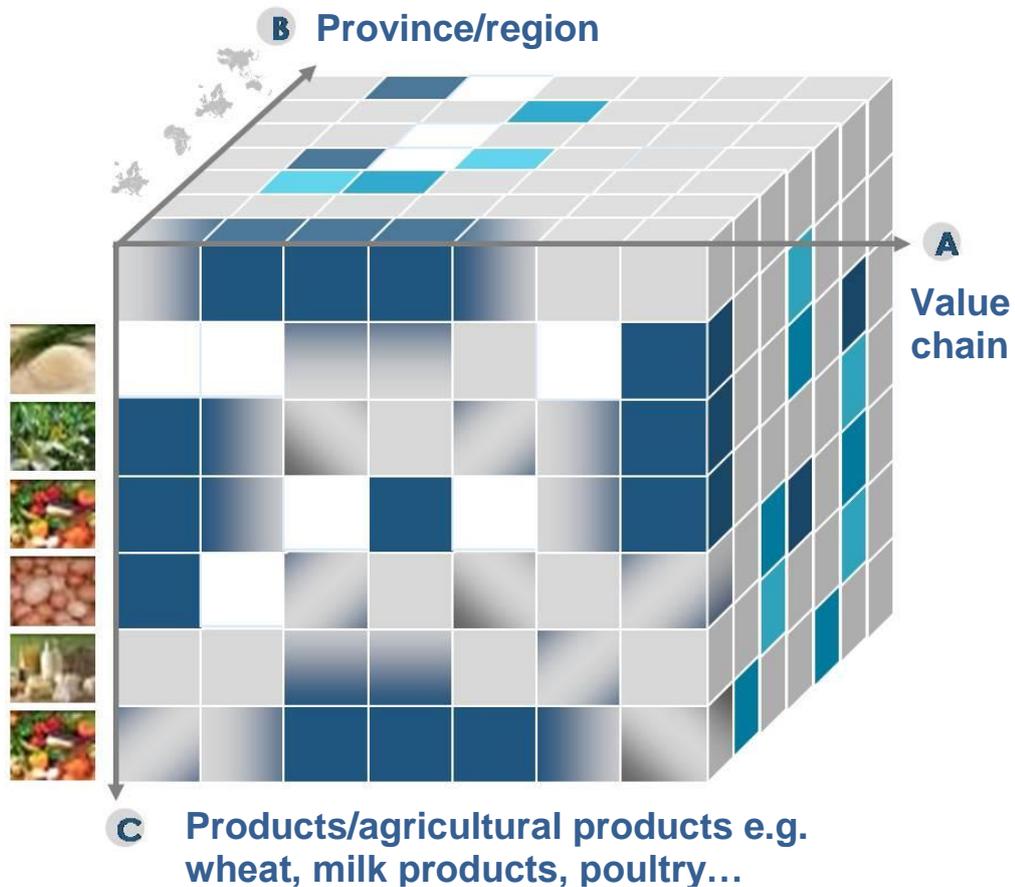
Exhibit 16. End products along the agricultural value chain (AZN/kg)



Source: State Statistical Committee of the Republic of Azerbaijan

As it can be seen, increased production along the value chain will add value as many times more than production, which necessitates adopting the three-dimensional approach which embraces the region-product-value link of the value chain in terms of agricultural production (Exhibit 17).

Exhibit 17. Integrated three-dimensional approach involving the region-product-value links of the value chain



In addition to the above, the State Statistical Committee reports that 19,5 million dollars of cotton and cotton products was exported in 2015, which indicates higher export potential for cotton production.

In addition, tobacco and cocoon production enjoys a comparative advantage which bodes well for increased production.

Generally, the following strategies will be implemented to increase cotton, tobacco and cocoon production:

- To increase the production of raw material for exports in a short-term period;
- To substitute imports and increase exports by developing local processing capacity in the long-term perspective.

To make this happen, to the production of the three crops will be brought to a focus , and relevant support types and mechanisms will be developed.

The above-mentioned crops are highly competitive in Azerbaijan's agriculture, and there may be more opportunities to export them to regional markets. The sixth strategic objective of the

Roadmap includes mechanisms designed for domestic sales and export of these crops. Based on the deep diagnostic analyses, specific programmes will be developed, plans and strategies regarding the priority crops with the focus on the global and regional developments occurring in the economic, social and geopolitical environment.

Action items

Action 2.1.1: Promoting intensive orchards (especially, pomegranates, persimmons, cherries, apples, as well as hazelnuts and other nuts) and grape plantations

This action will be targeted at evaluating opportunities and developing action plans to expand production of fruits (pomegranates, persimmons, cherries, apples, as well as hazelnuts and other nuts) and grapes on a regional level.

Action 2.1.2: Supporting fresh potato production

A detailed and comprehensive analysis will be made of the potato-producing regions across the country with the focus on the most favourable soil and weather conditions, and action plans will be developed in this regard.

Action 2.1.3: Supporting greenhouse production of early-ripening vegetables

Based on the analysis of the vegetable-producing regions, opportunities for increasing early vegetable production will be evaluated along with focused action plans designed to establish greenhouses.

Action 2.1.4: Stimulating the expansion of the network of small and medium-sized fruit and vegetable processing plants

Based on the diagnostic analyses made of each link of this value chain, the the growth of the network of small and medium-sized fruit and vegetable processing plants will be stimulated, and enabling environment will be created for efficient operation of such network.

Action 2.1.5: Supporting increased production of dried and frozen fruits and vegetables

An action plan will be developed to increase production of dried and frozen fruits and vegetables, and incentives will be provided through various support mechanisms

Action 2.1.6: Promoting cotton, tobacco and cocoon production

Support types and mechanisms will be defined for cotton, tobacco and cocoon production considering its social and economic benefits, the possibility of increasing the production of these products will be looked into, and more suitable regions will be identified. After identifying regions for production, a plan of complex measures will be developed and implemented to increase the depth of processing in the relevant regions.

Action 2.1.7: Exploring opportunities for export of non-traditional and recently exported products (purebred animals, dairy products, tinned meat products, barley, etc.) and other products with export potential (saffron, wool, leather, natural honey, walnut oil, liquorices, etc.)

Diagnostic analyses of the recently exported products will be made to clarify whether it will be a temporary tendency or an economically substantiated trend to increase their production. In addition, the possibility of increasing production of other agricultural products with export potential will be looked into, and a diagnostic analysis of their competitiveness on the international market will be conducted. Based on the results of the analyses, the export potential for these products will be stimulated and relevant action plans will be implemented.

Expected results and indicators

Competitive, export-oriented agricultural production and processing will be increased. As part of this priority, the direct and indirect GDP impacts will be AZN 220 million and AZN 230 million respectively in 2020 with a total of AZN 450 million. These estimates also add the impact of Priority 2.2.

Required investment

The actions defined in this priority will be subject to separate projects based on the need for financial resources. The amount of the initial investment required for the implementation of the actions is estimated to be around AZN 440 million or more including the investments required under other priorities.

Expected risks

Climate changes and geopolitical situation in the region may have a negative impact on the implementation of the actions.

7.2.2. *Priority 2.2. Increase and promote the production and processing of products which are capable of substituting imports*

Rationale

Important issues include reducing import costs through minimized dependence on a number of imports, and increasing level of self-sustainability with food.

According to the State Statistical Committee of the Republic of Azerbaijan, of all Azerbaijan's top 10 imported products, Russia provided the lion's share, at 37 percent, including more than half of all tobacco cigarettes, durum wheat, and meslin. Indeed, 7 percent of Azerbaijan's top 10 imported products are largely sourced from the surrounding region, suggesting that they are prime candidates for substitution due to their production in a similar climate, and business environment(see exhibit).

In 2015, Azerbaijan imported USD 122.1 million in durum wheat, USD 174,7 million in soft wheat and meslin, and USD 31,2 million in maize. Azerbaijan is not highly competitive in these cereals due to the country's relatively small average farm size and lower use of mechanization.

Azerbaijan imported USD 287,2 million worth of cigarettes in 2015. Production of raw tobacco within the country is currently limited, but it could represent a priority area for returning to legacy production given large regional imports of USD 4.4 billion.

Azerbaijan imported USD 70,3 million worth of processed vegetable oils in 2015, although the country has a large exports potential for this product. Azerbaijan exported USD 55,9 million

worth vegetable oil with sunflower seed/safflower oil accounting 54.5 % of the total vegetable oil exports. Azerbaijan is competitive in vegetable oils, especially sunflower seed/safflower oil, and thus has a significant opportunity to reduce import dependency.

Fresh meat (cattle, chicken, and sheep) is the second-largest production item of Azerbaijan, yet this product does not meet domestic demand. Thus exports are limited to prepared and preserved meat. Since current processing facilities are modern and demonstrate high labor productivity, Azerbaijan may have yet another significant opportunity to increase production of in-demand products by focusing on expanding the size and scale of these facilities.

As seen, processed products contribute more to the agricultural exports from Azerbaijan. Establishing refining facilities for agricultural products will reduce dependence from the import of some products such as tobacco, milk, wheat etc..

Generally, based on the analyses, a number of key agricultural and industrial products have been defined and grouped as follows:

- Animal products: meat, milk, poultry;
- Legumes and cereals: wheat, corn etc.;
- Industrial products: cotton, tobacco, sugar beet, medicinal plants, cocoon, animal hide.

Azerbaijan intends to develop industrial processing to achieve import substitution in the mid-term perspective.

Hence, priority crops and products for each group of agricultural products with the potential for import substitution will be defined, and actions will be taken to increase producing and processing capacity in order to achieve the priority objective. As part of the Strategic Roadmap, a deep-dive analysis will be conducted with the focus on global and regional developments occurring in the economic, social and geopolitical environment, and all-round efforts to increase agricultural production along the value chain.

Action items

Action 2.2.1: Promote establishment of large cattle breeding complexes based on the intensive farm model

The establishment of large closed cattle breeding complexes will be promoted and awareness on intensive cattle farming will be raised to increase performance of the cattle farms with the goal of providing vast opportunities for cattle production and import substitution across the country. In addition, a raft of incentives will be provided for establishing agrifarms, support Agroleasing OJSC in providing purebred animals aimed at increasing performance of the cattle breeding complexes, and efforts will be continued to expand the scope of artificial insemination as part of intensive cattle breeding.

Action 2.2.2: Spread the practice of establishing household farms designed for beef and milk production achieved under the pilot projects that have been implemented in Imishli, Barda and Aghjabedi to other regions across the country

Given that the increased potential of household farms is critical in terms of import substitution for animal products, establishing household farms designed for beef and milk production will be made a common practice. The practice achieved under the pilot projects that have been implemented in Imishli, Barda and Aghjabedi will also be applied in other regions across the country.

Action 2.2.3: Stimulate increased industrial poultry production with regard to the demand of various segments

As part of this action, additional support mechanisms will be evaluated to foster the development of broiler farms. An action plan will be developed and implemented to promote production focused on various population groups and the demand of the processing industries for slow and quick-gaining poultry production.

Action 2.2.4: Support expanding network of small and medium meat and milk processors in the regions

The key objective is to develop different mechanisms for supporting the development of the network of small (on the rural level) and medium (on the regional level) meat and milk processing companies in order to make extensive use of the producing potential of all household farms and other smallholders.

Action 2.2.5: Support development of bee production, fish production, and aquaculture

The growth of bee production, fish production, and aquaculture in rural areas will be incentivized in order to make extensive use of the producing potential of all household farms and other smallholders, provide rural employment and increase incomes, and ensure that local production contributes more to the provision of bee and fish products, and other bio-resources across the country. Different action plans will be implemented to support farmers who desire to engage in these production areas.

Action 2.2.6: Support increased production of durum and soft wheat, as well as legumes for food supply

As part of the actions to increase production of durum and soft wheat, and other legumes and cereals, the overall focus will be on identifying more suitable regions for cereal production, and increasing production through maximum intensification and enhanced performance without expanding the existing crop fields. The possibility of developing and implementing action plans will be investigated to establish macaroni producing plants in the relevant regions across the country. In addition, establishing small and medium-sized wheat grain storages in the cereal-producing regions will be considered as part of the efforts to develop market infrastructure in the country.

Action 2.2.7: Evaluate opportunities to increase local production of sugar beet and confectionaries

As part of this action, the government will evaluate the opportunity to increase local production of sugar beet and confectionaries. The studies will focus on all agricultural lands, production structure, agricultural production efficiency etc. to evaluate economic efficiency of local sugar

beet production. Based on the results of the analysis, a development plan will be implemented to supply local raw products for the production of confectionaries.

Action 2.2.8: Evaluate the opportunity to increase local production of raw materials (sunflower seed, corn, olive etc.) that are used for vegetable oil production

Initially, the potential opportunities to increase local production of oil-containing plants that are used for producing vegetable oils will be investigated. Production of sunflower seeds, corns, olives and other crops will be evaluated for economic efficiency to draft proposals with the focus on the establishment of olive groves in the drought-stricken regions across the country. Based on comprehensive analyses, relevant development plans will be prepared based on the comparison of economic efficiency between local raw material production and imports.

Action 2.2.9: Stimulate the growth of tea plantations

As part of this action, the government will consider identifying popular demand for local tea products across the country, and compare local products to similar imports in terms of performance indicators. Based on the results of the analyses, optimum indicators will be defined and relevant development plans will be implemented to expand tea plantations.

Action 2.2.10: Stimulate increased tobacco production

As part of this action, the possibility for increasing local production of both tobacco and raw products will be looked into. The studies will focus on the analysis of various economic performance indicators in terms of tobacco production for all regions in order to identify opportunities to supply the need for production with local raw materials or imports. In addition, relevant action plans will be developed and implemented in this regard.

Action 2.2.11: Develop processing industries for raw cotton, cocoon and animal hide

Based on the directions mentioned in the action plans, a special package of instruments and incentives for primary crops will be developed. This package will comprise more effective government facilities and support mechanisms that are designed to identify potential regions suitable for crop production and animal husbandry. Particularly, the government will develop different action plans to create the network of small-sized wool processing plants and tanneries, and create enabling environment for efficient operation of such network.

Expected results and indicators

It is anticipated that the actions will contribute to increasing indicators in terms of production of potential crops and products that are designed for import substitution. However, these indicators may vary with a number of natural and economic factors:

- **Reduce head count of bovine animals by 10 %, increase milk yield by 50 %, mead production 10%, and milk production by 30% based on the intensive farm model;**
- **Increase meat and milk processing by 25%;**

- **Increase wheat production, yield and quality for food;**
- **Expand tea plantations twice,**
- **Reduce tobacco imports by 50%;**
- **Increase cotton production and processing at least 4 times;**
- **Increase cocoon production and processing at least 1000 times.**

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Climate changes and geopolitical situation in the region may have a negative impact on the implementation of the actions.

7.2.3. Priority 2.3. Develop farmer partnerships and cooperation in the agricultural sector

Rationale

In Azerbaijan, fragmented smallholders, which dominate the agricultural sector, is one of the problems with enhancing the agricultural competitiveness across the country. Problems, which cause obstacles in agricultural development, include lack of acceptable mutual relations between the industrial enterprises and agricultural producers, as well as the problems with integrating the processing industry in agriculture. Among them, the main problem is the lack of contract farming and cooperatives which are successfully applied as the mechanism for the agrarian-industrial integration around the world.

Organizations like FAO, the UN International Fund for Agricultural Development (IFAD) and World Food Program (WFP) have spearheaded the establishment of farmer cooperatives (associations) in the agricultural sector for a long time. The joint report by the organizations, declares the year 2012 as International Day of Cooperatives, and highlights the role of agricultural cooperatives in supporting small agricultural producers, especially targeted social groups like women and youth. Agricultural cooperatives provide for a constant rural employment system which provides economic and moral support for the members and is based on the sustainable business models resistant to negative economic and environmental impacts. This system provides economic and moral support for the members of the cooperatives. Making a significant contribution to small agricultural producers, the agricultural cooperative is dedicated to facilitating access to all kinds of services, resources, technologies, loans, and procurement centers.

According to the World Cooperative Monitor Report, which has been developed by the European Research Institute on Cooperatives and Social Enterprises in partnership with the International Cooperative Alliance, 27 percent of the cooperative organizations are engaged in agricultural and food production. Total trade turnover of the organizations which are engaged

in agricultural and food production is estimated at USD 768 billion accounting for 26 % of total turnover of all cooperatives operating around the globe. From 2011 to 2013, the total turnover of agricultural and food cooperatives increased by 25%, which indicates higher performance efficiency. The International Cooperative Alliance reports that 60 % of the rural cooperatives are agricultural producers, 15 % are agricultural consumers, and 25 % are non-agricultural cooperatives.

Existing performance indicators of the agricultural cooperatives operating in Azerbaijan leave a great deal to be desired. According to official statistical data, the number of agricultural cooperatives dropped from 250 in 2000 to 64 in 2015. As seen, already diminished, these cooperatives are still declining to suffer negligible performance indicators in terms of production, sales and human resources in the domestic market.

Contract farming which is a form of agricultural cooperation is not applied extensively in Azerbaijan and is narrowed down to some companies which are engaged in sugar beet, cotton, tobacco, silk and tea production. Over the last years, the government has made considerable achievements in contract farming through the focused measures designed to develop cotton, tobacco and silk production.

The practice of voluntary aggregation of agricultural producers into areal and regional associations doesn't exist in Azerbaijan. The initiatives taken in this regard haven't produced any positive results, and even the formal organizations are not well organized to operate and achieve their missions.

The Azerbaijani government has adopted a number of decisions to develop agricultural cooperative and create enabling business environment for establishing network of agricultural cooperatives as part of the policy aimed at developing sustainable agriculture and food security. The Milli Majlis (National Assembly) of the Republic of Azerbaijan has adopted the Law in Agricultural Cooperation, which has been drafted based on the Presidential Decree No 152, dated April 16, 2014, on Measures to Improve Agricultural Management and Accelerate Institutional reforms in Azerbaijan. Based on the law which has been approved by the Presidential Decree No 996, dated July 18, 2016, the government will implement the State Program for Development of Agricultural Cooperatives for 2017-2020, which is designed to improve legislation in terms of development of agricultural cooperatives, develop relevant mechanisms and incentives, and raise public awareness on the importance of agricultural cooperatives.

Action items

Action 2.3.1: Improve regulatory framework for developing agricultural cooperation

Based on the international best practice, a package of proposals will be prepared to simplify the procedures for establishment and registration of agricultural cooperatives, improve the regulatory framework for contract farming, and facilitate the application of procedures for aggregation of agricultural producers into areal and regional associations.

Action 2.3.2: Consider defining and applying incentives for developing agricultural cooperatives

A package of proposals will be prepared to implement government support mechanisms for developing agricultural cooperation (for example, provide incentives for processors to increase production based on contract farming (preferential loans etc.), develop and implement dedicated grant programs to develop agricultural cooperation and increase institutional capacity of areal and regional associations of agricultural producers, implement various government support measures through consumer unions etc.).

Action 2.3.3: Launch awareness campaigns and provide extension services to develop agricultural cooperation

The possibility of implementing measures to raise producer awareness on the development of agricultural cooperation will be considered. These measures will include preparing instructions for the application of registration procedures, developing model regulations, supporting the producers in developing business plans, doing presentations for producers, launching legal and economic awareness campaigns to promote contract farming, raising public awareness on the advantage of bringing agricultural producers together under areal and regional association etc.

Expected results and indicators

As a result of the aforementioned actions, there will be stronger cooperation and organization among the agricultural producers, and larger farms, cooperatives, associations and unions will grow and spread faster to contribute up to 30 percent to total agricultural production.

In addition, the implemented measures will support achieving GDP growth in real terms in 2020 under real terms.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Unwillingness of the land owners to cooperate can be a potential risk.

7.2.4. Priority 2.4. Develop public-private partnerships (PPPs) to implement complex projects

Rationale

Ensuring speedy development of Azerbaijan's agriculture sector requires the establishment of multiple public-private partnerships designed to promote integration among stakeholders. From this perspective, the injection of private investments into the agro-processing sector and implementation of complex projects, that would combine processing enterprises and agricultural production areas, will fuel growth by allowing the value chain of processing industry areas to develop coherently.

Integrated public-private partnerships will offer the opportunity to streamline the agriculture value chain, develop more processed exports, scale up existing processed exports, address dependence on imports, and revitalize legacy production.

Azerbaijan will incentivize the creation of integrated public-private partnerships through three support mechanisms: land, infrastructure, and financing.

Land. The government will conduct a land survey to identify suitable areas to launch this strategic priority and provide plots of state-owned land for priority crop production and processing. Azerbaijan's 50 major commercial farms currently producing cereals provide the blueprint for this approach. Azerbaijan will also consider the use of underutilized land plots. The optimal size of land will be identified and general area and average productivity of land at farmers' disposal will be ascertained in order to determine the share of local framers in product stock-up.

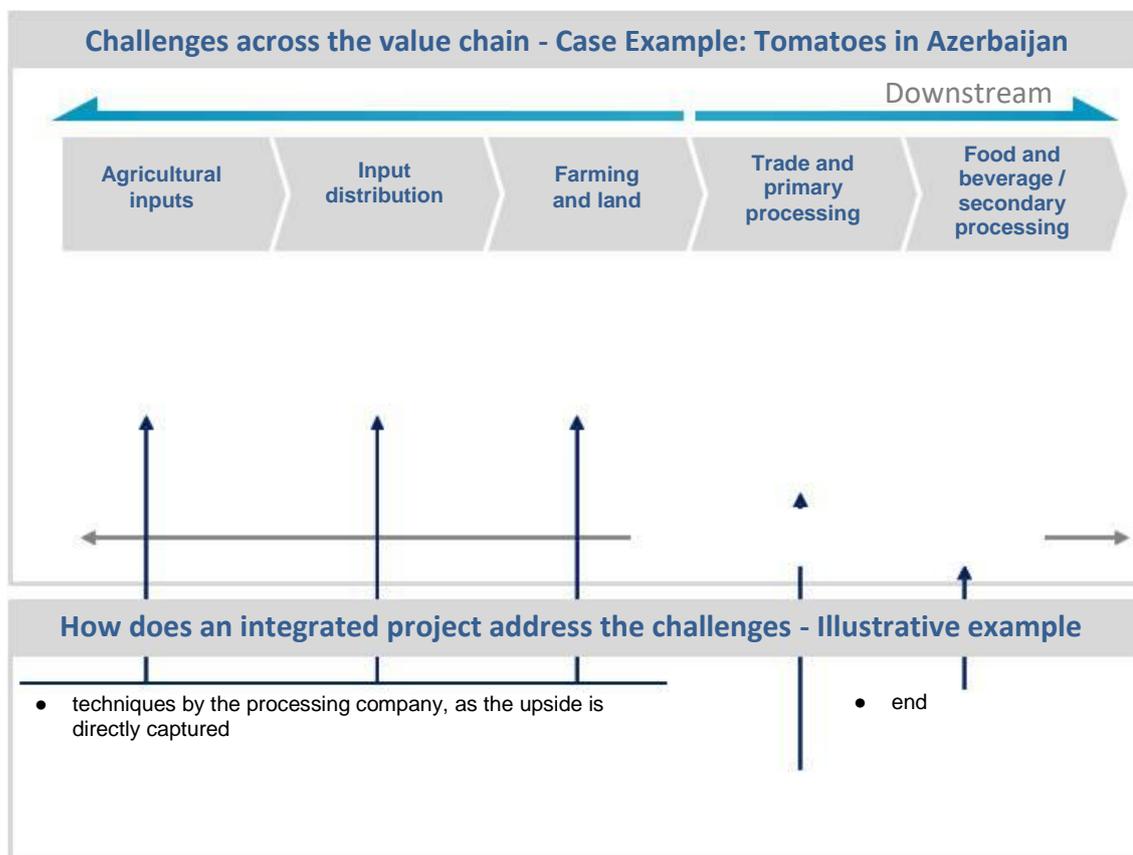
Agro-processing facilities in areas with developed infrastructure - including irrigation, energy access, and transport options - as well as incentivizing investment in these elements to support the setup of processing facilities in undeveloped areas. in these elements to support the setup of processing facilities in undeveloped areas. in these elements to support the setup of processing facilities in undeveloped areas.

Financing. Azerbaijan plans to finance integrated projects in priority industries, chosen to capitalize on rising exports and potential productivity gains. Once these sub-industries are identified, the government will implement a legal framework and financial structure. It will define eligibility criteria, identify potential projects, and prepare an investor pitch (including financial feasibility).

Streamlining the agriculture value chain An integrated approach has the potential to create a virtuous cycle by addressing challenges at every stage of agricultural production and processing (see: Exhibit 18).

Exhibit 18. Development trend of integrated projects along the value chains

Exhibit: Integrated approach could address multiple issues along the value chain for industries with high production value in Azerbaijan



1 Anteja ECG (2014) value chain analysis for Pomegranates, Hazelnuts, and Tomatoes in Azerbaijan

The collocation of both upstream and downstream components can reduce not only costs but also the level of coordination required throughout the value chain. Instead of using public money to solve challenges, private sector investments can be directed to support everything from investing in high-quality inputs and technologies to providing on-site storage facilities to ensuring end-to-end quality control.

Action items

Action 2.4.1: Confirm support package for integrated projects to facilitate public-private-partnerships (PPPs)

Ministry of Economy and Ministry of Agriculture will conduct a joint project to confirm the support package for integrated projects to facilitate public-private-partnerships. The project will include a land survey to identify suitable areas to be included in the support package, scanning all the public land registry registered to various governmental bodies. The Ministry will then prioritize available land based on existing and already planned infrastructure. It will also identify

regions where new investment in irrigation, roads or energy access would unlock significant upside.

Action 2.4.2: Define type and level of financial support

Ministry of Economy and Ministry of Agriculture will analyze current and potential production volumes in identified areas for priority crops, based on agronomic studies, and value potential in downstream value chain based on provided analysis. Then in coordination with strategic priority 1.2 and 2.2, it will define set of crops and regions that will be included in the support package. Two ministries will also conduct interviews and surveys with potential domestic and international investors to confirm type and level of financing support that would spur investments in these areas.

Action 2.4.3: Evaluate opportunities to establish a public-private investment fund

Ministry of Economy will conduct analysis on establishment of a public-private investment fund. If its establishment is considered purposeful, the Ministry of Economy will work with Ministry of Finance to define the size and structure of the fund with clear return estimations for the investors, including high level allocation for different type of investments (such as infrastructure, production and processing) and eligibility criteria for the projects to be funded.

Action 2.4.4: Develop legal and regulatory framework for the support package

Based on the results of the 3 actions, the Ministry of Economy will prepare and publish proposal for legal and regulatory framework for the support package. This proposal define the support package and its beneficiary criteria based on the projects conducted. The Ministry will also conduct necessary legal and regulatory work to provide a proposal on granting public land for use. Finally, it will define mechanism between Ministry of Economy, Ministry of Agriculture and other governmental bodies to disburse and monitor the support package.

Action 2.4.5: Prepare an investor pitch for value chains

The Ministry of Economy will prepare an investor pitch for different regions and value chains to promote the support package and spur investments. It will invite domestic and international agriculture and food companies for investment, leveraging the investor pitch.

Action 2.4.6: Define milestones for operations

The Ministry of Economy will define milestones for realization of the investments and key performance indicators for operations (such as total production of crops and processed products, number of farmers that sell products, etc.). It will continuously support investors to overcome any barriers to achieve milestones and publish updates on the indicators.

Expected results and indicators

It is anticipated that the support package will be approved in the first half of 2017, and the investor pitch will be prepared followed by the invitation of domestic and international agriculture and food companies for investment in the second half of 2017. Following the initial discussions, the milestones and key performance indicators are expected to be defined in the first half of 2018. For these indicators to be achieved, opportunities have been created for the

establishment of 15 large scale integrated projects by 2020. It is assumed that 40% of the raw materials for these projects will come from newly established farms as part of the integrated projects. The rest will be sourced from local farmers through existing production.

The strategic priority is estimated to bring AZN 70 million direct and AZN 60 million indirect incremental GDP in 2020 with a total of AZN 130 million, with majority coming from agro-processing and the rest from agricultural production. The strategic priority is estimated to add 7250 direct and indirect employment.

Required investment

Total investment required will be AZN 325 million for the strategic priority.

Expected risks

Potential risks may include delays in the development and implementation of the projects.

7.2.5. Priority 2.5. Develop support infrastructure for the growth of agribusiness

Rationale

The support infrastructure for the development of agribusiness is targeted at forming and developing large-scale, centralized and export-oriented agro parks, agribusiness incubators, and startups that are located in immediate proximity of agricultural production sites and key trade routes. Developing agro parks will allow increased efficiency of the investments into hard and soft infrastructure, enhanced competitiveness in the logistic hubs, and increasing investment flow in food industries and agricultural production sectors in Azerbaijan.

Azerbaijan can increase production of processed and unprocessed exports and stimulate production of legacy crops, and products for import substitution by developing agro parks, agribusiness incubators and startups, which will offer more opportunities to adopt a cluster-based approach in the agricultural sector.

Agroparks will allow implementing a number of key objectives to create business environment which will attract local and foreign investors. The agro park model is a more concentrated and larger-scale processing hub compared with integrated facilities, and is designed with a cluster approach. With proximity to logistics infrastructure and greater access to domestic and international markets, an agro park that can also facilitate exports achieves the necessary scale to attract international investors.

In addition to the value chains identified in strategic priorities 1.1 and 1.2, an agro park also has the potential to scale up production of existing processed exports, and products designed for import substitution. A focus on scaling up production and processing of these categories in proximity to a major trade center could decrease imports of both raw inputs and processed goods, open new markets for exports of processed goods, and improve Azerbaijan's overall trade balance.

The decision of where to locate the facility (or facilities) is of utmost importance. Four potential locations emerge as priorities given their access to major trade routes and to local agricultural production.

Baku, Alyat. Baku's transportation infrastructure offers direct connections to international market, particularly once the Baku International Sea Trade Port in Alyat opens and Azerbaijan establishes a free trade zone in Baku (as discussed in the logistics chapter).

Guba-Khachmaz. Located at the northwestern tip of Azerbaijan along the Caspian Sea, Guba-Khachmaz provides access to the Russian market and is adjacent to major fruit and vegetable production in Azerbaijan.

Ganja-Gazakh. Located at the northeastern tip of Azerbaijan, with rail and port access to European Union markets, Ganja-Gazakh is close to major grape, potato, and fruit production.

Lankaran. This region is located at the southern tip of Azerbaijan where it meets the Caspian Sea. It is proximal to Iran markets and is a region where potato, tomato, and fruit production is concentrated.

In addition an action plan to develop agribusiness incubators that are of utmost importance in terms of developing small and medium businesses, and agribusiness startups operating in the agricultural sector will be implemented.

Action items

Action 2.5.1: Support development of agro park network (including agro-industrial clusters)

Below are the milestones for the development of agro parks and agro-industrial clusters:

- ***Plan agro parks. First, the optimal location and size for establishment of the agro parks will be confirmed for the purpose of planning agro parks. Second, the sub-industry focus based on data driven analysis of production and market opportunity of different value chains will be defined. Third, targets for production levels, type and orientation of facilities such as production, processing, storage, and support services will be defined. Fourth, it will identify primary directions public provision (e.g., research services) and private company involvement (e.g., financial services) for support services to the facilities.. Last but not least, architecture and engineering companies will be hired to create project for the physical layout.***
- ***Define total investment need for agro park network. In the next phase, total public investment need will be defined, with refined estimations on the potential impact on the economy. Then, the scope, scale and nature of incentives, including tax exemptions, will be defined to attract more investors to the agro park***
- ***Prepare an investor pitch for agro park network. Investor pitch will be prepared and opportunities in value chains and potential benefits of enterprises located in proximity to the agro park will be identified. It will then prepare a target list of companies which are active in priority sub-industries identified. This pitch will help to invite investors based on the target list, secure investments and cooperate with the investors.***

- *Develop an action plan for agro park network. Milestones for realization of the investments and key performance indicators for operations will be defined. Investors will be supported to overcome any barriers to achieve milestones and publish updates on the performance indicators.*

Action 2.5.2: Support establishment of industrial districts

It is planned to establish industrial districts that will be in close proximity to agro parks and based on agri-processing in order to ensure efficient and effective performance of the agro parks. The key objective will be to minimize the costs of developing additional infrastructure, and ensure closer integration of agriculture into industries. In this regard, a plan of proposals to establish industrial districts in proximity to each agro park (Baku-Alyat, Guba-Khachmaz, Ganja-Gazakh, and Lankaran) will be developed. While establishing industrial districts, preference will be given for the PPP-based network of small businesses which are engaged in one and the same line of production. This will be geared towards each region being specialized in the production of one or more specific crops. Eventually an action plan will be prepared by defining milestones for the establishment and development of industrial districts.

Action 2.5.3: Support establishment of agribusiness incubators

Agribusiness incubators are of great importance in terms of developing startups, and small and medium businesses. For that matter, establishing agribusiness incubators will be considered based on the following milestones:

Improve institutional capacity of agribusiness extension services. In the first place, a the most appropriate model and value chains for agribusiness will be defined based on the results of the comprehensive analysis of business environment in the agricultural sector. A total of 10 business incubators are planned to be established (one business incubator for each region) across the country. Initially, establishing business incubators may start with Absheron, Lankaran, Guba-Khachmaz, and Ganja-Gazakh regions, where agro parks will be established. The process of institutionalization will cover several milestones:

- **Select crops and products with a comparative advantage for the economic regions;**
- **Develop a strategic plan which sets priorities for the operation of agribusiness incubators;**
- **Develop training materials;**
- **Provide training for trainers.**

Improve business skills of startups, small and medium businesses. After the agribusiness incubators are ready for operation, 50 residents will be selected through solicitations based on the pre-defined criteria depending on the value chains typical of each region. For example, the residents for the Guba-Khachmaz region will include input suppliers, producers, processors, distributors, and traders who are engaged in the value chains involving apples or other fruits and vegetables. The selected residents will be trained and each of them will later develop its own business plans. Furthermore, the most successful residents will be

selected based on their business plans (for example, 25 residents) to receive more intensive training in business management.

Support for business organization and startup capital. Startup capital will be provided to the residents, who have completed the training courses successfully and developed a real business plan (on condition that they pay it back later), and they will be assisted to organize their business.

Ensure access to finance. It is planned to facilitate access to finance for the persons who have started business under business incubator and continue to operate such business to expand it. These support areas will consist of facilitating access to preferential loans. To that end, potential to develop special mechanisms will be evaluated. In particular, it is planned that mechanisms as simplification of lending procedures for or providing preferential loans to those who apply for loans based on the opinion or recommendation of a business incubator.

Ensure continuous operation of business incubators. To ensure continuous operation of business incubator, the startup capital which is provided to the residents will be subject to certain amount of extra commission fees over time, which will allow establishing a capital in addition to the funds allocated to them.

Expected results and indicators

Development of management structure for agro parks and business incubators in 2017, establishment and commissioning of new agro parks and business incubators by the end of 2018 is planned. Establishment of one Agro park by 2020 can bring AZN 355 million GDP impact including AZN 135 million direct and AZN 220 million indirect GDP impact for Azerbaijan. Commissioning of agro park by 2018 is considered to be the main incubator. These facilities are forecasted to employ around 7725 employees in direct and indirect employment. In addition, a total of 25 small and medium businesses will have been established along the value chains typical of each region by 2020.

Required investment

Total investment required will be AZN 350 million for the strategic priority.

Expected risks

Potential key risks may include delays in the establishment and development of agro parks, industrial districts, and allocation of necessary funds.

7.3. Strategic objective 3. Facilitate access to finance

It is essential to facilitate access of producers to finance, and improve the mechanisms that are designed to assess and mitigate or reduce potential risks in order to foster the development of competitive agriculture in Azerbaijan.

Given the above, three prioritized are chosen for this strategic target. The first priority will focus on improvements in the agricultural financing mechanisms. The second priority will cover measures to improve agricultural insurance. The third priority target incentives to attract both local and foreign investments to the agricultural sector.

7.3.1. Priority 3.1. Improve financing mechanisms in agriculture

Rationale

Despite the recent increase in agricultural lending, agricultural loans account for less of the total loan portfolio, especially national economy. According to the Central Bank of Azerbaijan, the total volume of the loans allocated for agricultural production and processing has been AZN 409,7 million over the first 9 months in 2016, thus accounting for 2,4 % of the loans in national economy. This is related to the essential features of the agricultural sector, that is, agricultural lending contribute less to the national economy due to certain factors, such as dependence on climate, poor capital flow, unfavorable collateral conditions for agricultural producers, especially for smallholders, lack of adequate mechanisms for credit risk mitigation, low financial literacy of the agricultural producers etc.

Action items

Action 3.1.1: Define targets for financial needs in agriculture

The Ministry of Agriculture and the Ministry of Finance will together investigate the level of access to finance by agriculture in overall and its important sub-areas, and will determine the needs. For this purpose, two ministries will conduct research and set targets to scale up opportunities for access to finance.

Action 3.1.2: Consider establishing an agricultural lending risk-sharing/guarantee fund

Azerbaijan will explore opportunities to establish a guarantee fund based on risk sharing to de-risk agriculture finance value chain of credit institutions. This work will include definition of risk sharing mechanisms for system-wide external shocks (droughts, export market disruption) affecting producers of agricultural products. This action will be coordinated based on the Strategic Roadmap for Consumer Production by Small and Medium Businesses in Azerbaijan.

Action 3.1.3: Develop mechanisms for application of innovative and non-collateral loans in agriculture

The Financial Market Supervisory Chamber, in consultation with Ministry of Agriculture, will take necessary actions to create legislative and operational base for disbursement of loans and non-collateral loans. It will conduct a study of the developed countries' practice (for

example,) to define legal and regulatory framework for disbursement of non-collateral and innovative loans. It will then prepare and publish charter or regulation.

Action 3.1.4: Expand the collateral base for lending

The Financial Market Supervisory Chamber will coordinate with the central agency responsible for management of moveable collaterals, and ensure proper classification and inclusion of agricultural assets (such as agriculture machinery) in the databases. In addition, a package of proposals will be prepared based on international best practice to accept the products that are stored at storage facilities or to be produced, as collateral for lending.

Action 3.1.5: Increase financial literacy of agricultural producers

Agricultural Science and Information Advise Centers based in the regions will provide training and workshops regularly to keep agricultural producers updated in access to finance, and communicate necessary knowledge on the efficient use of financial resources based on their needs. On top of that, financial institutions will maintain a stronger presence in increasing the financial literacy of the agricultural producers. These activities will be coordinated based on Priority 5.3 of the Strategic Roadmap.

Action 3.1.6: Develop mechanisms for managing risks which affect the agricultural sector

The Ministry of Agriculture will conduct a study to define mechanisms for assessing, reducing or mitigating potential risks affecting the agricultural sector. The study will be focused on the careful analysis of major risks, their occurrence frequency and extent, and provide conclusions on the impact of such risks both on a national and sectorial level. All data that are obtained from the studies will be collected in a digital database, which will act as a key information source for making decisions with regard to the agricultural and lending activities carried out by the credit organizations.

Action 3.1.7: Stimulate agricultural lending by credit organizations

A package of proposals will be prepared based on investigation of international best practice to raise additional funds for the agricultural sector and increase access to finance by optimizing the interest rates imposed on the commercial agricultural loans allocated by credit organizations.

Expected results and indicators

The overall financing mechanism in agriculture, as well as the legal and regulatory framework for disbursement of non-collateral and innovative loans will be improved. Except for immovable collaterals, other types of collateral will be defined for lending mechanisms. As a result, non-active agricultural loans will be reduced, financial literacy of the agricultural producers will be improved and access to finance will be facilitated. It is anticipated that the following results will be achieved as a result of the implementation of the priority actions:

- **Facilitate access to finance in the amount of additional AZN 665 million;**
- **Consider establishing the guarantee fund for lending.**

The interventions here are considered as enabling forces for impact mentioned in other areas of the road map. In addition there will be a total of AZN 210 million GDP impact including AZN 115 million direct and AZN 95 million indirect impact due to increased access to finance for capital investments such as agricultural machinery, greenhouse materials or livestock.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Lack of knowledge of farmers about innovative financing mechanisms may cause decreased interest in this area. The unwillingness of credit organizations to provide agricultural loans may be another risk factor under this priority.

7.3.2. *Priority 3.2. Develop agricultural insurance*

Rationale

Currently, agricultural producers don't use insurance services as much as desired. The Ministry of Finance reports that in 2015 agricultural insurance for plants and animals accounted for 1,3 % of the total property insurance paid across the country. Agricultural insurance policy for plants and animals have been pursued mainly by Agroleasing OJSC (for imported purebred animals), and some large financial and industrial enterprises that are engaged in agricultural production. Although the government supports agricultural insurance, it has yet to be practical.

These factors show how important it is to carry out sweeping reforms to develop nationwide agricultural insurance, and improve government support mechanisms in this regard.

Lack of 30 or 40-year old database on natural disasters, animals and plant diseases, climatic conditions, agricultural performance indicators, and a proper insurance fund which is widely applied as best practice in agriculture is a key obstacle in developing a proper insurance system.

Action items

Action 3.2.1: Improve the existing legislation with regard to agricultural insurance

The Ministry of Agriculture together with the Financial Market Supervisory Chamber and other government agencies will prepare proposals to improve the legislative framework for developing agricultural insurance based on international best practices. These proposals may include applying differential insurance (for regions and crops), compulsory insurance (for some crops and products) etc.

Action 3.2.2: Consider the possibility of establishing an agricultural insurance fund

With the support of the private insurance companies, the Ministry of Agriculture and the Financial Market Supervisory Chamber will look into the possibility of establishing an agricultural insurance fund in order to expand agricultural insurance. They will investigate international practice in this area and develop reports analyzing potential impact of the fund on agricultural producers and, generally on the agricultural sector.

Action 3.2.3: Establish Registry for Insurable Events

The Ministry of Agriculture and the Ministry of Ecology and Natural Resources will together establish a long-term information base which will contain all data on weather conditions, natural disasters, animal and plant diseases, as well as performance indicators that are necessary for effective assessment of insurable risks in agriculture.

Action 3.2.4: Develop a mechanism to pay material damages to agricultural producers due to imposed quarantine

The Ministry of Agriculture and the Ministry of Finance will develop an implementation mechanism for paying damages to agricultural producers due to imposed quarantine in plant-growing or eradicated organisms, as well as eradication, prophylaxis and prevention of animal diseases.

Action 3.2.5: Increase insurance literacy of agricultural producers

The Agricultural Science and Information Advise Centers will launch awareness campaigns to promote agricultural insurance. A raft of measures will be implemented to increase insurance literacy of the agricultural producers. These activities will be coordinated based on Priority 5.3.

Expected result and indicators

The legislative framework for developing agricultural insurance based on best practices will be developed. The agricultural producers will be given detailed information about agricultural insurance. An implementation mechanism for paying damages to agricultural producers due to imposed quarantine will be developed. The insurance literacy of the producers will increase.

It is anticipated that the following results will be achieved as a result of the implementation of the priority actions:

- **Establish the Registry for Insurable Events;**
- **Consider the possibility of establishing the Agricultural Insurance Fund;**
- **Expand agricultural insurance, i.e. increase the total number of insured agricultural producers at least 3 times more.**

Furthermore, the interventions here are considered as enabling forces for the GDP impact to be achieved in real terms in 2020 as mentioned in Priority 2.1.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Lack of past data may be a potential risk when establishing the Registry for Insurable Events.

7.3.3. Priority 3.3. Promote agricultural investments

Rationale

Despite the recent increase in agricultural investments, total investments in the agricultural sector are lower than that of other areas of economy. A closer look at the structure of the decade-long agricultural investments made as working capital will reveal an average of 3.5% contribution to national economy³. Although the foreign direct investments in national economy have increased several times over the last years, no foreign investment has ever been made in the agricultural sector.

Action items

Action 3.3.1: Assess agricultural investment needs and develop investment projects

The Ministry of Economy, with the support of the Ministry of Agriculture and local executive authorities, will make a comprehensive assessment of investment opportunities and needs based on the perspectives for developing the agricultural sector in the country. Relevant investment projects and maps (for administrative regions and areas) will be developed based on the results of the assessment. In addition, digital and printed materials related to investment opportunities in agriculture will be prepared to be disseminated in domestic and international forums, conferences, as well as bilateral meetings with local and foreign investors. Renowned agricultural and food producers (transnational corporations) will be invited to make investments in Azerbaijan, and special strategies and programs will be developed, where necessary, to attract investment by those producers.

Action 3.3.2: Improve investment environment in agriculture

The Ministry of Economy, with the support of the Ministry of Agriculture, will study and analyze the existing investment environment in the agricultural sector. Based on the results of the analyses, it will put forward certain proposals for making the investment environment more enabling and available to agricultural producers. These activities will be coordinated based on Strategic Objective 6.

Expected results and indicators

Investment projects and maps for administrative regions will be developed, and the existing investment environment in the agricultural sector be improved. It is anticipated that Azerbaijan will be integrated into the global value chains through investment made by renowned agricultural and food producers (transnational corporations) in the country. The volume of direct agricultural investments will also be increased. It is anticipated that the following results will be achieved as a result of the implementation of the priority actions:

- **Investments in the agricultural sector will be increased twice;**

³Source: the Statistical Committee of the Republic of Azerbaijan

- **At least 100 investment projects will be developed for administrative regions and areas;**

The interventions here are considered as enabling forces for the GDP impact to be achieved in real terms in 2020 as mentioned in Priority 2.1.

Required investment

The amount of the initial investment required for the implementation of the actions in this priority is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

The unwillingness of investors, especially foreign investors to make investments in the agricultural sector may be a potential risk factor.

7.4. Strategic Objective 4. Develop agricultural input market and improve provision of services

This strategic objective is targeted at 7 priorities designed to facilitate access of agricultural manufacturers to agricultural inputs.

The first priority includes actions to develop the land market across the country. The second priority is aimed at facilitating access to irrigation water supply, which is the next important agricultural input. The third priority is designed to improve provision of all types of agricultural machinery and equipment. The fourth priority is targeted at increasing the local production potential, and developing the seed and sapling market. The fifth priority involves actions to improve provision of fertilizers and plant protection products in the agricultural sector. The sixth priority is aimed at taking actions to scale up compound feed production. Last but not least, the seventh priority is designed to improve veterinary and phytosanitary services.

7.4.1. Priority 4.1. Develop the land market

Rationale

It is particularly important to facilitate access of agricultural producers to land resources, and ensure efficient use of lands as they are considered a key agricultural input in terms of stimulating agricultural production. Dominating family smallholders are a key obstacle in enhancing agricultural competitiveness across the country. Despite the recent measures, the agricultural lands not being used as designated still remains a major problem to be resolved.

Action items

Action 4.1.1: Increase transparency and simplify procedures for the sale, lease and use of agricultural lands

With the support of the competent government agencies, the Ministry of Agriculture will make a comprehensive analysis of the sale, lease and use of agricultural lands, and develop a package of proposals to simplify respective procedures in order to increase transparency in

this area. Particularly, the possibility of having the land use or lease agreements, which stipulate more than one year long land use or lease, as well as powers of attorney for lease and use of those lands in private ownership for a period more than two years approved, attested or certified by local notary offices. The possibility of applying an electronic registration system with regard to the sale, lease and use of agricultural lands will also be investigated.

Action 4.1.2: Apply relevant mechanisms to prevent agricultural lands from being kept out of use

With the support of the competent government agencies, the Ministry of Agriculture will develop a package of proposals to prepare legal and regulatory framework for reclaiming or unlocking idle agricultural lands designated for agricultural production and enforce all existing laws and regulations in this respect.

Action 4.1.3: Take actions to consolidate lands

The Ministry of Agriculture and the competent government agencies will develop a state program to consolidate agricultural lands based on best international practice.

Expected results and indicators

The sale, lease and use of agricultural lands will be facilitated, legal and regulatory framework for reclaiming or unlocking idle agricultural lands for agricultural production will be developed, efficiency of agricultural production through land consolidation will be increased, and the total size of crop fields will be expanded by 5 by unlocking the idle agricultural lands.

The interventions here are considered as enabling forces for the GDP impact to be achieved in real terms in 2020 as mentioned in Priority 2.1.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Lack of interest in the consolidation of farm lands may be a potential risk factor.

7.4.2. *Priority 4.2. Improve irrigation water supply of producers*

Rationale

Although actions have been taken to improve irrigation water supply recently, there are still issues to be addressed in this area. Given that most of the agricultural lands are irrigable, improving the irrigation water supply will increase agricultural production and productivity.

Action items

Action 4.2.1: Assess the need for irrigation water

The Ministry of Agriculture and Amelioration and Water Management Office OJSC will assess the need of the agricultural producers for irrigation water and will evaluate their needs in this regard.

Action 4.2.2: Improve the irrigation water supply

Based on the results of the needs and resources assessment, Amelioration and Water Management Office OJSC and the Ministry of Agriculture will develop an action plan to construct small reservoirs, drill artesian wells, and expand the network of irrigation canals.

Action 4.2.3: Expand application of modern irrigation systems

The use of efficient irrigation systems will be stimulated along with the policy aimed at providing government-supported concessions for the irrigation equipment that is leased or purchased through Agroleasing OJSC. In addition, relevant proposals will be presented based on the analysis of best global practices that are aimed at stimulating the use of efficient irrigation systems.

Action 4.2.4: Expand operation of the water users associations

Amelioration and Water Management Office OJSC will study international best practice to make proposals for improving and expanding the operation of water users associations, and consider the possibility of establishing an effective monitoring mechanism for water use through the associations.

Expected results and indicators

Irrigation water supply for agricultural producers will be increased by 20 %.

The interventions here are considered as enabling forces for the GDP impact to be achieved in real terms in 2020 as mentioned in Priority 2.1.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Financial difficulties may be a key risk factor for this priority.

7.4.3. *Priority 4.3. Improve provision of agricultural machinery, equipment and maintenance for agricultural producers and develop agricultural service market*

Rationale

As a result of systemized measures to improve provision of agricultural machinery and equipment for agricultural producers, the agricultural machinery park has been transformed and expanded. Currently, there are some critical issues to be addressed in order to develop the input market for agricultural machinery and equipment:

- **Conduct feasibility studies to ascertain if it is necessary to continue government support measures to replace expired machinery;**
- **Explore opportunities for upgrading and expanding the physically outdated and fatigue machinery parks in line with the intensive production and structural changes made to the crop fields (cotton, potatoes, vegetables, sugar beet and other fields);**
- **Conduct feasibility studies for the provision of agricultural machinery and equipment based on the specific needs of small and medium businesses;**
- **Expand network of private businesses that provide agricultural services in order to enhance competitiveness and quality of such services.**

Action items

Action 4.3.1: Upgrade agricultural machinery parks

The Ministry of Agriculture will assess the needs for expanding agricultural machinery parks along all areas of crop production and cattle breeding considering the perspective changes to be made to the structure of these production areas. In addition, the possibility of replacing or repairing the old machinery and equipment will be considered.

Action 4.3.2: Improve provision of innovative, also small machinery and equipment

The Ministry of Agriculture will conduct surveys and analyses to reduce losses of small and medium producers and processors, and assess their need for small agricultural machinery and equipment in order to increase performance efficiency. Based on the results of the surveys and analyses, it will present proposals to improve the supply of small agricultural machinery and equipment with due consideration given to the production of priority crops mentioned in the Strategic Roadmap by means of small agricultural machinery and equipment.

Action 4.3.3: Develop the agricultural service market

The Ministry of Agriculture and the Ministry of Economy will conduct a thorough analysis of the areal and institutional structure of agricultural services, and make proposals to increase the presence of Agroleasing OJSC and private involvement in the market.

Expected results and indicators

Agricultural machinery parks will be developed and upgraded. The government will form the service (maintenance) structure for agricultural machinery in the regions, and improve the provision of innovative, also small machinery and equipment.

The provision of agricultural producers with agricultural machinery and equipment will be increased by 20 %, thus leading to the extensive use of innovative machinery and equipment. As a result, the companies which provide maintenance services will constitute 70 % of the total service structure.

The interventions here are considered as enabling forces for the GDP impact to be achieved in real terms in 2020 as mentioned in Priority 2.1.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Potential problems with the competitive environment may hinder development of the markets. Lack of farmer knowledge about the innovative machinery and equipment may be another risk factor.

7.4.4. *Priority 4.4. Develop the seed and sapling market, and increase local production potential*

Rationale

The seed and sapling market in Azerbaijan is relatively new and has room to be strengthened. On the demand side, high-quality seeds and saplings may constitute a prohibitively expensive upfront investment by smallholder farmers. Furthermore, most farmers use their own annual production to replenish their seed and sapling supply for the next cycle. On the supply side, a limited set of high-quality seeds and saplings are accessible to farmers, the quality is not certified. Major portion of demand is satisfied through imported seeds with existing companies mainly focusing on cereals. Furthermore, few seed and sapling sources exist in Azerbaijan: seed producer farmers, private seed companies, agricultural input dealers, and Agroleasing OJSC.

Action items

Action 4.4.1: Promote seed and sapling production

The Ministry of Agriculture will assess the needs of businesses which are engaged in seed and sapling production, and lay out an action plan including some proposals to support operation of such businesses.

Action 4.4.2: Establish a quality control system for seed and sapling production, and improve mechanisms for certification

The Ministry of Agriculture take measures to align current regulatory framework for seeds and saplings with international standards. It will also establish an efficient quality control system with certification for seeds and saplings. This will include preparation and publishing of regulations to define necessary steps for certification and monitoring system. Relevant mechanisms will be developed to ensure possible involvement of Seed Producers Association in the regulation of seed and sapling markets.

Action 4.4.3: Create digital database

The Ministry of Agriculture will consider the possibility of creating a digital database to provide detailed information on seed and sapling producers, produced and marketed certified seeds and saplings, as well as their biological and economic performance.

Action 4.4.4: Improve operation of seed laboratories

The Ministry of Agriculture will consider the possibility of furnishing the existing seed laboratories with modern equipment, provide training to laboratory specialists through international experts, and take action to accredit such laboratories.

Expected results and indicators

A certification and quality control systems will be established, a digital database for agricultural producers will be created. Seed laboratories will be accredited. Seed and sapling use by agricultural producers will be increased by 90 %.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Potential problems with the competitive environment may hinder development of the markets.

7.4.5. *Priority 4.5. Improve provision of fertilizers and crop protection products*

Rationale

Currently, the actual amount of the fertilizers applied in the fields is considerably lower than what is demanded. According to the Ministry of Agriculture, Azerbaijan imported a total of 152.8 thousand tons of mineral fertilizers against the demand for 948,9 thousand tons of fertilizers in 2015. As seen, imports of fertilizers to the country supplied only 13.2 % of the domestic demand. According to FAO statistics, Azerbaijan is one of the countries with the lowest application of mineral fertilizers per hectare. Limited use of fertilizers and crop protection products will eventually cause crop losses and low yield.

Action items

Action 4.5.1: Identify the demand level for fertilizers

The Ministry of Agriculture will develop agrichemical maps showing quality of soils across the regions, and take action to regularly update the maps. These maps will help identify the ideal demand level for fertilizers. Creating a database to collect all these electronic data will also be considered.

Action 4.5.2: Promote fertilizer use

The Ministry of Agriculture will conduct a study to identify ideal demand level for mineral and organic fertilizers, based on crop distribution and targets, and benchmarks from other countries. It will then review and refine support schemes to private sector for establishment of fertilizer plants in the country, and launch dedicated campaigns to raise farmer awareness on

the use and benefits of fertilizers (through information-advisory services). It will also consider the possibility of expanding the use of biological fertilizers like biohumus.

Action 4.5.3: Improve provision of crop protection products

The Ministry of Agriculture will analyze the provision of crop protection products and set priorities for development. In addition, it will look into the possibility of applying various biological methods in plant protection using best practices.

Action 4.5.4: Increase quality control for fertilizers and crop protection products

The Ministry of Agriculture will establish effective mechanisms for controlling the quality of fertilizers and crop protection products, and develop progress reports regularly.

Action 4.5.5: Promote local fertilizer production

In case of necessity, the Ministry of Agriculture and the Ministry of Economy will consider supporting the private sector in establishing fertilizer plants (including bio-fertilizer plants). One of the potential opportunities in oil and gas sector is building fertilizer plants and action agricultural sector will be coordinated with such opportunities. The efforts are included in the strategic Objective 3 of the Strategic Roadmap for Development of the Oil and Gas Sector (including chemical products) of the Republic of Azerbaijan.

Expected results and indicators

Quality fertilizers and crop protection products including biological fertilizers and protection products will be used extensively to increase agricultural production. The use of mineral fertilizers by agricultural producers will be increased by 25%, crop protection products by 25%, biological fertilizers by 10%, and biological crop protection products by 10%.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Potential problems with the competitive environment may hinder development of the markets.

7.4.6. *Priority 4.6. Improve provision of compound feed and promote breeding*

Rationale

The demand for compound feed has recently become the focus of the agenda due to increasing production of animal products. Despite the recent initiatives, there is still much to be done in improve provision of compound feeds in order to meet the needs of cattle breeders.

There is a need to continue efforts to promote and improve animal breeding, and expand application of the intensive farm model.

Action items

Action 4.6.1: Study and develop the structure of the compound feed market

The Ministry of Agriculture will evaluate the volume of the existing and prospective compound feed market, make proposals to improve the provision of raw products, and address other related issues. Using good practices, it will also look into the possibility of diversifying the feed resources, and develop an elaborate action plan to improve the quality of total feed reserves.

Action 4.6.2: Expand application of artificial insemination and the embryo transfer method

Efforts to modernize the Artificial Insemination Center will be continued, and furnishing the Center with various purebred animals, laboratory equipment, and other special-purpose machinery and equipment will be kept under focus. The institutional base will be augmented, the regional artificial insemination centers will be upgraded with various equipment and materials. On top of that, awareness about benefits of artificial insemination and embryo transfer will be raised these methods will be promoted.

Action 4.6.3: Support development of poultry breeding

The Ministry of Agriculture and the Ministry of Economy will make a comprehensive assessment of the needs related to poultry breeding and ensuring steady supply, and will prepare relevant proposals.

Expected results and indicators

The compound feed market for cattle breeding will be developed and animal breeds will be improved. The head count of productive animals and compound feed supply level will be increased by 20 % and 25% respectively.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Potential problems with the competitive environment may hinder development of the markets.

7.4.7. *Priority 4.7. Improve provision of veterinary and phytosanitary services for agricultural producers*

Rationale

As part of the efforts to develop the veterinary and phytosanitary services system, works on improvement of relevant standards have been started, laboratories have been upgraded and action have been taken to enhance the full institutional potential of the system in collaboration with international organizations.

However, it is important to ensure effective delivery of veterinary and phytosanitary services to agricultural producers, bring the service potential in line with international standards, and speed up the reforms in order to develop the network of private veterinary and crop protection service providers across the country.

Action items

Action 4.7.1: Develop network of private veterinary service providers

The Ministry of Agriculture will put forth proposals and take relevant actions to establish a mechanism for transferring relevant veterinary services (animal treatment, vaccination against infectious diseases) to the private sector and developing the private veterinary service network.

Action 4.7.2: Establish an effective system for tracking and monitoring animal health

The Ministry of Agriculture will take action to establish an effective system for tracking and monitoring animal health based on WAHO (World Animal Health Organization) standards in order to improve risk management with regard to animal health.

Action 4.7.3: Establish an effective system for tracking and monitoring plant health

The Ministry of Agriculture will take action to establish an effective system for tracking and monitoring plant health based on International Standards for Phytosanitary Health of International Convention on Plant Protection in order to improve risk management with regard to animal health.

Action 4.7.4: Establish and apply integrated pest management systems for crop protection

Integrated pest management systems for crop protection (agronomic practices, mechanical, physical and chemical control, quarantine etc.) will be developed and applied.

Action 4.7.5: Modernize veterinary and phytosanitary laboratories

The Ministry of agriculture will continue actions to improve, accredit and modernize veterinary and phytosanitary laboratories, as well as those operating under the Center of Quarantine and Examination, and the Center of Toxicology and Quality Control.

Expected results and indicators

The risk management system for animal and plant diseases will be brought in line with international standards. The network of private veterinary and plant protection service providers will be expanded, and the number of private veterinary service providers will be increased by 30%.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Deep-rooted institutional traditions and procedures may hinder the reforms.

7.5. Strategic Objective 5. Improve agricultural science, education, and extension services

3 priorities have been selected to reach this strategic objective. The first priority is aimed at improving the quality of agricultural science to draw more attention, improve material and technical resources for agricultural schools, and develop curricula based on best practices. The second priority is targeted at improving agricultural research and developing mechanisms for the application of research findings to diversify funding for scientific-research institutes, develop legislative framework for enforcing intellectual property rights in agriculture, and maintain stronger relations between the international think tanks and local scientific-research institutes.

Last but not least, the third priority is designed to form adequate extension service network, and transfer best practices to agricultural producers. To make this happen, laws regulating agricultural extension services will be drafted, material and technical resources of public service providers will be improved, and online advisory services will be developed.

7.5.1. Priority 5.1. Ensure transition to a new development stage with regard to the quality of agricultural education

Rationale

Azerbaijan has achieved initial positive results by focusing on the substantial modernization of the agricultural education system over the last years. Nevertheless, agricultural education hasn't received a lot of attention, that is, the total enrollment plan for 2016-2017 for State Agricultural University included a total of 1320, with 660 of them being state ordered agriculture specialties in 2016-2017, while the enrollment plan for 2015-2016 was targeted at a total of 1275 students with 480 of them studying agriculture. At the same time, a total of 949 students were enrolled to the university (accounting for 74,4 5 of the total enrollment plan) in the academic year of 2015-2016, while this number was 1169 (80,8%) in 2016-2017. According to the Ministry of Education, about 2670 students were enrolled to vocational schools in 2015⁴. 56% of them were received degrees in different areas of agricultural machinery. However, agro-processing professions had only 40 enrollments in 2015. Hence, meeting the demand for highly-skilled agricultural specialists is one of the important issues to be addressed.

Action items

Acton 5.1.1: Develop agricultural education

Azerbaijan State Agricultural University will continue developing adequate curricula to improve the quality of agricultural education. These curricula will allow bringing agricultural professions in line with demand of the existing domestic labor market. In addition, awareness and promotion programs will be launched to draw more attention to agricultural education, and will assist students with employment (for example, through labor fairs). The possibility of exchanging students and teachers with leading international schools and implementing "double degree" programs will be investigated. On top of continued efforts to improve material

⁴Except for students studying textiles

and technical resources of State Agricultural University, special programs will be developed to promote participation of students and teachers in international conferences, workshops, and advanced training courses in order to ensure that they learn best practices and improve their knowledge. The Ministry of Agriculture and the Ministry of Education will present proposals analyzing the opportunities for other high schools to provide agricultural education.

Action 5.1.2: Develop vocational education in agriculture

The Ministry of Agriculture and the Ministry of Education will form a working group to coordinate agricultural-vocational training programs. This group will consist of the scientists, as well as the representatives of the agricultural and private sectors. The primary function of the group will be developing a roadmap designed to increase the potential of vocational schools which provide agricultural education. To make this happen, the TOT (Training of Trainers) approach will be adopted, and the curricula of vocational schools will be updated based on international best practices. A raft of important measures will be implemented to bring and accredit the agricultural-vocational education in line with international standards. In addition, relevant mechanisms will be established to build partnership between the extension centers and the vocational schools. These activities will be coordinated through the Roadmap for Development of Vocational Education and Training in Azerbaijan.

Action 5.1.3: Develop measures to strengthen partnerships between agricultural education providers, and agricultural producers and processors

Comprehensive actions will be taken to expand cooperation between agricultural education providers and agricultural producers and processors. Under such cooperation, the number and skill set of future graduates will be identified through the surveys conducted in the agrarian science centers, and farms. Focus areas (or professions) and curricula compliance will be identified through consultations with agricultural producers leading to strengthened partnerships which will allow increased practical knowledge.

Expected results and indicators

As a result, young people will take a deeper interest in agricultural and vocational education, thus leading to increased scientific and practical knowledge of the teaching staff and students in agriculture. Material and technical resources of the educational institutions will be improved, and the existing curricula will be brought in line with international standards, as well as new adequate training modules and materials will be developed and published based on agricultural professions for high schools. It is anticipated that these actions will reach the following priority indicators:

- **Increase enrollment in agricultural high schools by 20%;**
- **Increase enrollment in agricultural-vocational schools by 20%;**
- **Increase the number of teachers and researchers attending international conferences, workshops, and advanced training courses by 30%.**

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Low pay may cause agricultural specialists to seek employment in other sectors. In addition, the government may provide less financial assistance due to declining budgetary revenues.

7.5.2. *Priority 5.2. Plan and conduct agricultural research, and improve mechanisms for applying research findings*

Rationale

There are only few scientific-research institutes conducting agricultural research in the country. Nevertheless, it is one of the pressing issues to be addressed in order to make rapid transformations in the scientific-research system to bring agricultural education providers in line with international standards, and introduce new technologies in agriculture.

Action items

Action 5.2.1: Set priorities and increase outcome orientation for agricultural research

The possibility of establishing the Coordination Council under Agrarian Science and Information Center will be considered with the support of leading farmers, professional organizations, university representatives, and independent experts. Members of the council will meet from time to time during the year to define priorities for agricultural research activities based on the domestic and international trends.

Action 5.2.2: Establish mechanisms for promoting scientific research

The Ministry of Agriculture will set incentive mechanisms for conducting agricultural research in priority areas. These incentive mechanisms will include both material and non-material mechanisms. The Ministry will work with the Scientific Development Fund under the President of the Republic of Azerbaijan to establish material incentives, conduct interviews among and award prizes for researchers to promote agricultural research

Action 5.2.3: Upgrade agricultural scientific-research institutes with modern laboratories, equipment and devices

The Ministry of Agriculture will assess the need of agricultural scientific-research institutes for laboratories, equipment and devices. Thereafter an action plan will be developed to improve their material and technical resources. These activities will be coordinated and geared towards Actions 4.4.4, 4.6.2, 4.7.5 and 7.3.3 of this Strategic Roadmap.

Action 5.2.4: Transfer research findings to farmers through extension service providers

The Agrarian Science and Information Center under the Ministry of Agriculture will establish mechanisms for transferring research findings (technologies, new plant varieties and animal breeds, management tools etc.) to farmers through extension service providers. These mechanisms will stimulate application of innovations and scientific findings in the agricultural sector.

Expected results and indicators

Scientific research will be brought in line with international best practice in order to ensure sustainable development of the agricultural sector. Material and technical resources of the educational institutions will be improved, efficient use of the material and technical base will be ensured, and the groundwork for the application of research findings in the agricultural sector will be laid. As a result, the number of fundamental and practical researches in agriculture will increase by 20%, the number of scientific articles published in the international journals will increase by 25 % as of 2018.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

It may require some time to publish the research findings in international journals. Adoption of the scientific achievements may be hindered by the dominating number of small household farms.

7.5.3. *Priority 5.3. Form extension service network based on agricultural needs*

Rationale

The primary goal of the extension service providers and scientific-research institutes which are operating under the Agrarian Science and Information Center of the Ministry of Agriculture is to ensure adoption and transfer of agricultural skills and knowledge across the regions. However, there is a need for an effective system which provides extension services to all the farmers across the country. According to the results of the surveys and interviews conducted so far, farmers lack the basic knowledge of good agricultural practices. Best practices related to soil cultivation, planting, fertility, preservation and irrigation, as well as animal breeding, feeding, and management are applied in a limited way. Most of the information necessary for ensuring economic efficiency of the farms is not available to the farmers. Farmers need to focus on the production of higher value-added crops, as farm yield doesn't measure up to their expectations. It is required that clear-cut decisions be made with regard to economic performance, and skills and knowledge of the agricultural producers be improved.

Action items

Action 5.3.1: Establish mechanisms for regulating the extension services in agriculture

The Ministry of Agriculture will conduct investigations and implement necessary measures to establish rules and improve the legal and regulatory framework for the provision of extension services.

Action 5.3.2: Improve performance of the Agrarian Science and Information Center

The Ministry of Agriculture will develop an annual action plan to implement measures within the mandate of the Agrarian Science and Information Center, and set priorities for defining the nature of relations to be established between the center and farmers. These activities will include establishment of demonstration farms, winter schools, field training and other ways of delivering information and advice.

Action 5.3.3: Establish network of extension service providers with country coverage

Under the leadership of the Agrarian Science and Information Center, the Ministry of Agriculture will consider the possibility of establishing the network of extension service providers involving respective think tanks, veterinary, phytosanitary and seed control agencies, representatives of professional unions and consulting companies, and independent experts. A certification system will be established to assess skills and knowledge of the extension agents, and if necessary, provide training to potential consultants. An electronic database of extension service providers will be established to improve management. The possibility of cooperating with educational institutions as well as “Family Business Support Centers” (the FBSC) of the Agrarian Science and Information Center will be considered when organizing these training sessions.

Action 5.3.4: Establish the system of electronic, media and publishing services

The Ministry of Agriculture will establish the system of electronic, media and publishing services in order to facilitate access of agricultural producers to extension services. The agricultural producers will be able to obtain detailed information about market developments and practices involving all stages of agricultural production (for example, efficient planting, cultivation and feeding practices etc.) by entering the online information portal. This will have positive impact on effective production planning. On top of that, extensive services will be communicated to the producers more effectively through social media and phone services. Video clips will be posted on the Internet and aired via TV programs for farmer education. The Agrarian Science and Information Center will submit proposals to respective agencies for establishing a farmer’s radio station or farmer’s TV channel. Furthermore, extension posters, brochures, and other publications will be disseminated among the agricultural producers.

Action 5.3.5: Increase the financial sustainability of extension centers

The Ministry of Education will implement dedicated programs to increase financial sustainability of the Agrarian Science and Information Center. It will consider the possibility of increasing the incomes of the center by providing extension services to big agricultural producers and agribusinesses.

Action 5.3.6: Look into the feasibility of providing extension services to agricultural producers through input suppliers, processors, and financial institutions

In addition to the Agrarian Science and Information Center, input suppliers, processors, and financial institutions may be actively involved in providing extension services to agricultural producers. The Ministry of Agriculture will look into these possibilities, and set forth relevant proposals.

Expected results and indicators

A flexible system will be devised which will facilitate access to extension services. Extension services provided by businesses will cover all the regions across the country. The system of electronic, media and publishing services will be made available to all agricultural producers.

Required investment

The amount of the initial investment required for the implementation of the actions is included in Priority 2.1 along with the investments required under other priorities.

Expected risks

Limited use of online extension services by agricultural producers, especially smallholders may be a potential risk.

7.6. Strategic objective 6. Develop the agricultural market infrastructure and facilitate producers' access to markets

Reducing post-harvest losses, improving product quality, and more importantly, facilitating the producers' access to markets create the need for improved market infrastructure. The existing market infrastructure puts certain obstacles in creating favorable conditions for agricultural producers to enter markets, and sometimes they have no choice but sell their products at lower prices offered by resellers. Underdeveloped market infrastructure, particularly inefficient wholesale and retail networks cause the producer prices to plummet 2 or 3 times as low as the market prices. In developed countries, the wholesale market is key to collecting and disseminating all necessary data related to trading, logistics and market development, as well as adding value and controlling the demand and supply.

One of the priorities under this Strategic Roadmap is the implementation of large-scale measures to increase the access of the agricultural and food producers to export markets. One of the preconditions for increasing export opportunities is linked to developed market infrastructure. In this regard, development of domestic agricultural and food market will stimulate exports. On top of maintaining a strong presence in the traditional export markets, there is need for complex measures to enter new export markets

3 priority targets will be reached with regard to the above-mentioned issues.

The first priority will include actions to develop the infrastructure of the agricultural market.

The second priority will be aimed at improving the regulatory system of the agricultural market.

The third priority will be targeted at providing guidance for promoting and supporting agricultural and processed exports. To make this happen, actions will be taken to expand geographical coverage of agricultural and processed exports, and promote and support exports for producers with a competitive advantage.

7.6.1. Priority 6.1. Develop agricultural market infrastructure

Rationale

Currently, the agricultural market infrastructure needs to be developed in several directions. In the first place, new wholesale and logistics centers should be established for agricultural

production in the regions along with expanded retail network of agricultural producers in Baku and other big cities. New slaughterhouses complying with high veterinary and sanitary standards should also be established in all regions across the country.

It is particularly important to establish a network of fruit, vegetable and grain storages based on the needs of small and medium producers in the regions.

There is a need to improve transport and shipping services to facilitate the access of the small and medium producers to domestic and international markets, and improve the regulatory system for such services in order to offer favorable conditions to the producers.

Considering the scope of the actions, first of all, a feasibility study will be conducted, and based on the outcome of such feasibility study far-reaching reforms will be carried out.

Action items

Action 6.1.1: Establish market infrastructure facilities which provide wholesale and logistical services to fruit, vegetable, potato and melon producers in the region

Through public-private partnerships and active involvement of "Procurement and Supply of Food Products" OJSC, new wholesale and logistical centers will be established in the regions across the country. These centers will operate as an important market infrastructure necessary for facilitating producers' access to markets, increasing exports, and carrying out procurement activities in the regions.

Action 6.1.2: Support establishment of modern adequate slaughterhouses in Baku and regions

The feasibility of allocating preferential loans will be investigated with the support of competitive agencies through public-private partnerships for the projects submitted by private investors, and slaughterhouses that are in compliance with relevant veterinary and sanitary standards will be promoted.

Action 6.1.3: Support establishment of small and medium-sized cold storages for fruits, vegetables, potatoes, and melons

The establishment of cold storages with an adequate capacity based on the needs of small and medium farms will be supported in order to improve storage infrastructure for procurement. These storages will be used both by the producers and production unions (associations).

Action 6.1.4: Support establishment of small and medium-sized grain storages in the cereal-producing regions

The establishment of adequate grain storages to be used by processors, suppliers, as well as the production unions (associations) of small and medium farms will be supported.

Action 6.1.5: Support establishment of the network of "green markets" and "farmer stores"

The possibility of allocating preferential loans through PPPs for the projects submitted by businesses to establish adequate "green markets" and "farmer stores" will be considered.

Action 6.1.6: Improve the digital database containing data on wholesale and retail prices of agricultural products

The Ministry of Agriculture will improve, update and upgrade the database containing data on the wholesale and retail prices of fruits, vegetables, potatoes, and melons as well as the procurement prices of cereals and industrial plants including the selling and procurement prices offered by processors.

Action 6.1.7: Assess needs and take actions to develop transport services

A package of proposals will be developed based on the results of needs assessment in order to improve transport services and the regulatory system for compliance with technical standards, tariffs etc., and facilitate access to domestic and international markets.

Expected results and indicators

As a result of the actions, a well-formed market infrastructure will be established for the agricultural producers. A network of regional wholesale and logistical centers, and small and medium grain storages may also be established in major cereal-producing regions. The would-be modern transport network will ensure timely and safe transport of frequent shipments (including perishable products and livestock). This will result in ensuring compliance of 90% of slaughtering with relevant veterinary and sanitary standards, establishing 5 “green markets” and 50 “farmer stores” in Baku and other large cities, and reaching 30% ratio of general storage volume to the volume of fruit and vegetable production.

Required investment

The need of each region for storages, cold storages, as well as packaging and logistical centers will be assessed, an action plan will be implemented and the size of necessary investments will be defined.

Expected risks

Lack of interest by producers in the services offered by storage, cold storage, packaging and logistical centers may be a key risk.

7.6.2. Priority 6.2. Improve the regulatory system of the agricultural market

Rationale

State regulation of agricultural production including government support measures are conventionally focused on the first links of the value chain. Currently, the strategic challenges with regard to sustainable agricultural development include ensuring effective regulation of the access of agricultural producers to markets under favorable conditions. In case the market prices of agricultural products are not affordable, a need arises to make procurement interventions, protect the domestic market against unfair trade practices, and enhance the effectiveness of the institutional system to address other related issues.

Action items

Action 6.2.1. Improve the legal and regulatory framework for trade registration of agricultural products in the domestic market

The legal and regulatory framework for trade registration of agricultural products will be reviewed, and the possibility of applying new supervisory facilities will be considered.

Action 6.2.2: Improve agricultural and food supply

The agricultural and food supply system will be developed in two ways. In the first place, in accordance with the functions of the “Procurement and Supply of Food Products” OJSC, a centralized supply system will be established to meet public needs, and mechanisms will be created to coordinate these activities with agricultural producers based on laws and regulations. In case the market conditions are unfavorable for agricultural producers, the feasibility of establishing focused mechanisms will be looked into to make interventions in procurements as part of the development measures targeted at developing the food procurement system.

Action 6.2.3: Establish the system of interventions in case of unfavorable market conditions

The system of market interventions will be devised in order to achieve the optimum level of agricultural prices to ensure profitability for producers, and make food products available to consumers. In this regard, relevant best practices will be analyzed to consider the possibility of establishing intervention tools, and information systems related to prices and consumer costs.

In addition, there will be considered applying mechanisms for stimulating certain imports from time to time in case it shows a need for providing food to the population under favorable conditions.

Action 6.2.4: Establish an effective system to effectively regulate imports in order to protect the domestic agricultural and food market against unfair trade practices

The customs tariff and non-tariff regulation system will be improved to protect the domestic market from undesired impacts with the focus on the timely imposing of seasonal tariffs on agricultural imports, and the application of clear-cut procedures geared towards the tariff escalation policy.

In case of necessity, agricultural imports will be regulated in conformity with quality requirements including controls on genetically modified organisms (GMOs).

Expected result and indicators

As a result of the actions, the agricultural market regulation system will be improved, and all agricultural producers will gain easy access to markets. In addition, the difference between the farm-gate price and the final consumer price will be 50% maximum.

Required investment

Under the priority, an action plan will be laid out for each region and the size of required investments will be defined.

Expected risks

Monopolistic forces may have a negative impact on access to markets.

7.6.3. *Priority 6.3. Promote and support agricultural and industrial exports*

Rationale

Under this priority, Azerbaijan will develop specific strategies to diversify the export market. In this regard, capturing long and short-term export opportunities for key crops and products based on the UN Comtrade data will be the major point of focus, and the most suitable markets in terms of geographical coverage will be chosen.

In choosing target market for short-term two neighboring countries seem to provide more real and attractive opportunities: first, the potential to capture more of the Russian market; and second, the possibility of increased trade with Iran following the removal of trade sanctions. There are real opportunities for maintaining a stronger presence in the both markets by increasing agricultural production and yield. The key exports with the short-term export potential for the markets are discussed in detail in the Second Objective of the Strategic Roadmap.

Second part of the export strategy focuses on identifying target markets and potential products for those markets proximate to the country (Exhibit 19).

Exhibit 19. Potential export markets and key exports



- 1 Selected Central Asian, former Commonwealth of Independent States countries: Kazakhstan, Turkmenistan, Uzbekistan
- 2 Austria, Belgium, Denmark, France, Germany, Greece, Hungary, Italy, Netherlands, Poland, Portugal, Spain and UK
- 3 Saudi Arabia, UAE, Bahrain, Kuwait, Qatar

Russia. There is a potential for the increase of tomatoes, cucumbers and gherkins exports, which are put under the “Not identified in any source” category by the UN(classified as more than USD 40 million based on the value of imports from Azerbaijan and from the region overall).. Spirits obtained from grape wine are also among the items with major upside potential, while shelled hazelnuts, fresh cherries, and fresh peaches are classified as moderate potential exports (more than USD 25 million potential).

Central Asian countries. Azerbaijan already supplies 75 percent of this region's imports of cane/beet sugar. Fresh cherries, sunflower seed/safflower oil and margarine, represent additional major potential export opportunities. Fresh peaches and fresh fruits, which are put by the UN under the “not identified in any source” category represent moderate potential exports.

European Union. The European Union is a gigantic market for agricultural imports. In 2014 the European Union spent a total of USD 1.48 billion in the region—but just USD 37 million went to Azerbaijan (including top 20 products exported by Azerbaijan). Given this volume, the European Union represents a largely untapped export market for Azerbaijan. Shelled hazelnuts, fresh cherries, sunflower seed/safflower oil and single fruit/vegetable juice all represent major export opportunities, while fresh fruits , cane/beet sugar which are put by the UN under the “not identified in any source” category are moderate export opportunities.

Ukraine. Ukraine imported USD 44 million in fresh tomatoes from the region in 2014—but none from Azerbaijan. Fresh tomatoes thus represent the biggest export opportunity with Ukraine. Black tea in packages less than three kilograms and spirits obtained from grape wine also represent opportunities with moderate upside potential.

In addition to identifying major export markets, incentivizing export of economically more favorable products with higher competitive potential in international markets is one of the major tasks. In this regard, in line with the products indicated in this priority, export of the export-oriented products described in priority 2.2 will also be incentivized..

Action items

Action 6.3.1: Provide support for geographical expansion of the export markets, and maintaining a stronger presence in the traditional export markets

Regular marketing investigations will be conducted in the existing and prospective export markets for agricultural production and processing, proposals will be made, and the producers will be kept updated on the results of the investigations.

Action 6.3.2: Promote the “Made in Azerbaijan” branding

A national marketing campaign will be launched in target international markets, building national products as a brand. First, budget for the marketing campaign will be secured, providing business case for the investment. Second, campaign strategy and execution plan will be designed by using the services of international marketing companies, based on national priorities in different value chains. Then, it will execute marketing campaign in target markets and track regular indicators for the impact, and optimize marketing spend mix according to the initial results.

Branding and promotion efforts will also capitalize on a country’s attributes and characteristics to emphasize its distinctive products in the marketplace. In this context, launching a national marketing campaign in targeted international markets will be considered to brand selected Azerbaijan products.

A council responsible for spearheading advertizing-promotion campaigns with the overall focus on target markets will be established. The council will identify target regions and countries for selected products, and launch focused advertizing measures promoting these products. Characteristic features of Azerbaijani products will be advertized and promoted in news bulletins, and websites. “Azerbaijan Airlines” OJSC will treat passengers as well as foreign visitors with Azerbaijani products in trade conferences, international fairs and other events.

In addition, efforts will be continued to create an internet portal containing information about local products and producers in order to promote the “Made in Azerbaijan” brand across the world. Producers of the products will launch promotion campaigns to post such information in the portal, and disseminate information about the portal through mass media.

Action 6.3.3: Keep farmers informed about potential export markets

Farmers will be informed about the potential export markets which will be identified based on marketing investigations. To make this happen, the farmers throughout the regions will receive

training and attend workshops, and will be provided with reference books, information bulletins, and other hand-outs.

Action 6.3.4: Identify potential exporter-farmers

Based on the results of the workshops and awareness campaigns, potential exporter-farmers with export potential who possess skills and knowledge in relevant exports (for example 200 farmers) will be identified.

Action 6.3.5: Improve the certification system, and ensure compliance with international standards

The certification system will be improved in order to ensure that the exports comply with the requirements of international markets, and farmers will be supported in obtaining international certificates.

Action 6.3.6: Provide support for obtaining export documents

Building on the previous actions, support mechanisms will be established to help farmers obtain relevant export documents. A flexible mechanism will be established to effectively solve the issues with export documentation.

Expected results and indicators

As a result of these measures, agricultural producers will acquire the habit of producing export-oriented products, which will lead to the expansion of agricultural export geography, increase agricultural exports, achieve the real direct GDP impact worth AZN 35 million, and indirect impact of AZN 55 million (a total of AZN 90 million) in 2020. This priority is expected to bring in 5060 direct and indirect jobs. About 200 farmers will have specialized in agricultural exports by 2020.

Required investment

Within this priority, the amount of the required investment is estimated at AZN 40 million.

Expected risks

Escalating tensions both in the domestic and international geopolitical situation may obstruct the achievement of the results.

7.7. Strategic objective 7. Environmental protection, sustainable utilization of natural resources, and management of impact by natural factors on agriculture

Agriculture depends on natural factors, that is, it suffers significant damage from floods, hail, drought, frost, mass spread of pests and diseases etc. every year. To top that off, poorly organized agricultural activities exert a serious impact on land and water resources, and climate. For example, according to official statistical data of 2015, the total volume of greenhouse gas emissions was 3.1 million tons of CO₂ in non-energy industries, while it was 7.2 million tons of CO₂ in agriculture. Also, the improper application of good agricultural practices, overdosing of chemicals, inefficient use of irrigation water, lack of fully-functional collector-drainage networks, and other factors contributed to land degradation. Formation of

deserts, land salination, erosion, lack of land layers suitable for cultivation, shrinking natural grass layers, improper use of winter and summer pastures, failure to implement necessary measures have caused most of the pastures to degrade.

Actions to be taken in this field over the next years will be based on 4 priorities. In the first place, proper mechanisms to mitigate the negative impact of climate changes and other factors on agriculture will be established, and an action plan for adequate adaptation will be developed.

As part of the priority actions to improve environmental protection mechanisms, adequate indicators to be achieved will be provided in order to ensure compliance with environmental standards in the agricultural sector, greenhouse gas emissions will be reduced based on the results of evaluations, protective forest belts will be established, and other relevant actions will be taken.

As part of the measures to improve mechanisms for sustainable use of land and water resources, targeted mechanisms to modify land designation will be established, pasture management and irrigation lands will be improved, land salination will be prevented, and other problems impeding sustainable development of the agricultural sector will be resolved.

The last priority of the strategic objective will foster the development of eco-agriculture.

7.7.1. Priority impact of climate

Priority 7.1. Establish mechanisms for mitigating the negative changes and other natural factors

Rationale

Climate changes are characterized by gradual average temperature increases (the global average annual temperature is expected to rise by 4° C in 2080), uneven distribution of precipitation⁵, 1,2-1,6-time increase in the physical evaporation of water and lands, changing wind intensity and direction, increasing storms and hurricanes, droughts, diminishing number of forests and shrubberies, and other factors. Crop fields and pastures may suffer extensive damage from lack of humidity due to the falling level of atmospheric precipitation. Official statistical data indicate that more than 80% of the agricultural crops are grown in irrigation lands in Azerbaijan. Hence, agricultural producers may face serious challenges due to shrinking water resources, and climate changes.

It is important to increase effectiveness of the field and pasture management, and improve the legal and regulatory framework in order to reduce the damage to agricultural producers from climate changes and ensure maximum adaptation of agricultural production to such changes. To make this happen, an action plan will be developed to make an impact assessment of climate changes, and “large-scale smart agriculture” will be promoted. More efforts will be put in growing high-yield plant species that are resistant to biotic and abiotic stress, and an advanced agri-meteorological system for agricultural production will be formed. This system will be designed to establish cooperation with farmers, insurance companies, and other think tanks

⁵Report on Climate Changes, Water and Food Security by the UN FAO, 2011

operating in the agricultural sector. The application of “large-scale smart agriculture” will be stimulated to ensure sustainable development of the agricultural sector, and relevant actions will be taken to mitigate the negative impact of climate changes and other natural factors on agricultural production.

Action items

Action 7.1.1: Assess the impact of climate changes on agricultural production, and develop an adequate adaptation plan

Impact of climate changes on agriculture will be assessed, vulnerability levels will be defined, and an adequate adaptation and mitigation plan will be developed to minimize potential losses. The regions that are most affected by climate changes will be identified, and the volume of investments necessary for covering initial damages caused by such changes will be defined.

Action 7.1.2: Improve the agri-meteorological database

More efforts will be put into expanding the use of agri-meteorological data in agriculture, preparing a summary of bulletins, disseminating agri-meteorological comments and summaries through communication media, examining pastures and crop fields, and organizing expeditions to study the agri-hydrological properties of soils. Agri-meteorological methods will be improved, and efforts to observe soil moisture and evaporation in the crop fields and pastures will be increased. This information will be made available to agribusinesses.

Action 7.1.3: Look into the feasibility of building an intervention and protection system against adverse weather conditions and hail for agricultural purposes

International practice suggests that agricultural interventions are made in order to deal with potential consequences of adverse weather conditions including hailing, reducing or increasing the precipitation based on the interests of communities, forestry departments, and utility companies etc. Based on the needs of the country, activities to establish a proper intervention and protection system for agricultural purposes will be carried out.

Action 7.1.4: Strengthen coordination between the competent authorities, and improve the legal and regulatory framework

The existing legal and regulatory framework will be improved taking into account the problems that may arise when taking actions. Furthermore, the possibility of establishing an agency responsible for coordinating the activities of the relevant authorities will be considered, and the impact of climate changes on agricultural production will be mitigated.

Expected results and indicators

As a result of these actions, an impact assessment of climate changes will be made; an adequate adaptation plan to mitigate the negative impact of such changes will be laid out, “large-scale smart agriculture” will be promoted, high-yield plant species that are resistant to biotic and abiotic stress will be grown, and an advanced agri-meteorological system for agricultural production will be formed.

Required investment

Given the scope of action within this priority, the amount of the required investment is estimated at AZN 7 million.

Expected risks

Lack of highly skilled specialists in assessing the impact of climate changes in terms of potential risks, and providing funds for the intervention and protection system may be a potential risk.

7.7.2. *Priority 7.2. Improve environmental protection mechanisms in agriculture*

Rationale

With a focus on environmental protection, studies will be conducted to reduce greenhouse gas emissions from crop production and cattle breeding, apply waste-free technologies in agri-processing, and minimize environmental impact. Delays in the implementation of control measures in limiting the application of harmful chemicals may cause grave environmental concerns with regard to ensuring compliance of agricultural production with environmental standards. These priority actions will be targeted at establishing protective forest belts, and growing cost-effective plant species (almonds, pistachios, pomegranates, mulberries, figs, apricots etc.) for landscaping. At the same time, continued efforts to protect agricultural-biological diversity and proposed alternatives for establishing gene banks will help achieve the goal. This also shows a need for use of alternative energy in providing heat to greenhouses.

Action items

Action 7.2.1: Establish indicators and make assessments of agricultural compliance with environmental standards

The possibility of making an integrated assessment of agricultural compliance with environmental standards will be considered. If it is decided to make such assessments, the need for promoting the application of waste-free technologies in agriculture, limiting the use of toxic chemicals in agricultural production, augmenting state quality control measures through all periods of pesticide application, and relying heavily on biological control measures against pest and weeds will be assessed and proposals will be prepared.

Action 7.2.2: Reduce CO₂ emissions in the agricultural sector

To reduce greenhouse gas emissions in crop production and cattle breeding, the feasibility of promoting the use of methane produced by animal manure will be considered as an alternative energy source. All cattle breeding activities will be brought in line with greenhouse gas emission reduction measures.

Action 7.2.3: Establish protective forest belts

Establishing multi-layered protective forest belts along the crop fields will be supported, and the respective action plan will be developed by 2025. It will involve international donors in establishing protective forest, field and water belts.

Action 7.2.4: Adopt an economic approach to environmental protection

Use of cost-effective plant species (almonds, pistachios, pomegranates, mulberries, figs, apricots etc.) will be supported for landscaping. The existing terraces will be planted with various fruit trees and perennials in order to prevent land erosion in foothills and highlands. Cost-effective plants will be grown in the non-agricultural lands for landscaping purposes with an overall focus on expanding the application of dry farming in the areas that are highly sensitive to exogenous processes. On top of that, the impact of extensive use of plastic bags on plants, animals, and land and water resources will be assessed, and a specific action plan to abate pollution be laid out.

Action 7.2.5: Protect agricultural-biological diversity

Action will be taken to protect agricultural bio-diversity, and to put more efforts in establishing gene banks. Work to collect, study, and protect genetic resources of local plants and animals will be expanded.

Action 7.2.6: Evaluate the transition to “green economy” in agriculture, and use alternative energy sources in providing heat to greenhouses

The transition process to “green economy” in agriculture will be evaluated, and the application of organic compost in greenhouses will be promoted. The possibility of using solar collectors, biogases and thermal water resources will be investigated for providing heat to greenhouses.

Expected results and indicators

In case the result of the feasibility study is positive, agricultural compliance with environmental standards will be assessed, the application of waste-free technologies in agricultural production will be expanded, the use of toxic chemicals by agricultural producers will be limited, CO₂ emissions in crop production and cattle breeding will be reduced, protective forest belts along the crop fields will be established, cost-effective plant species for landscaping will be grown, contamination caused by plastic bags abated and an action plan to protect agricultural and biological diversity will be laid out. Totally, the application of toxic chemicals will be reduced by 30 %, carbon emissions will be reduced in plant growing and animal breeding, while the use of cost-effective plants will be increased by 30% and use of alternative energy sources in greenhouse heat supply will be increased by 20%.

Required investment

The amount of the required investment will be based on the result of the feasibility study.

Expected risks

The result of the feasibility study will decide if the priority action will be taken. If the result is positive, the potential risks will include the willingness of producers to make more money without complying with environmental standards, challenges in obtaining alternatives for toxic chemicals, unexpected gaps in the operation of the state control agency, increase in use of plastic bags and lack of interest in the use of alternative energy sources.

7.7.3. *Priority 7.3. Improve mechanisms of sustainable use of agricultural lands and water resources*

Rationale

It is important that a package of relevant proposals be developed to increase efficient utilization of agricultural lands, reclaim lands exposed to salination, and preserve and enrich the vegetation cover of pastures and haylands. There is a need for regular and thorough monitoring of land resources, comprehensive mapping of the chemical structure of crop fields, stimulation of technologies and methods designed to reduce land degradation while expanding the application of farming practices. It is essential to apply and improvement and recultivation practices in order to restore and reclaim salinated, bogged and contaminated lands.

To ensure sustainable use of land and water resources is a key issue to be addressed. Azerbaijan lags behind the developed countries in terms of freshwater resources, i.e. per capita freshwater reserve is less than 1000 cubic meters during the years of drought.

The mineralization level of the Kura and Aras rivers has gone up in recent years due to contamination with heavy metals and other toxic substances. Most of the rivers across the country have suffered a dramatic drop as a result of anthropogenic activities. They dry out in the summer, but get restored to cause raging floods and mudflow during spring and winter months. The irrigation channels, collector-drainage networks, and hydro-technical facilities which were constructed back in the 1950s and 1960s, are physically corroded and fatigued now.

According to the Amelioration and Water Management Office of the Republic of Azerbaijan, currently, about 6430 million cubic meters of water is consumed, and used for irrigation in Azerbaijan.

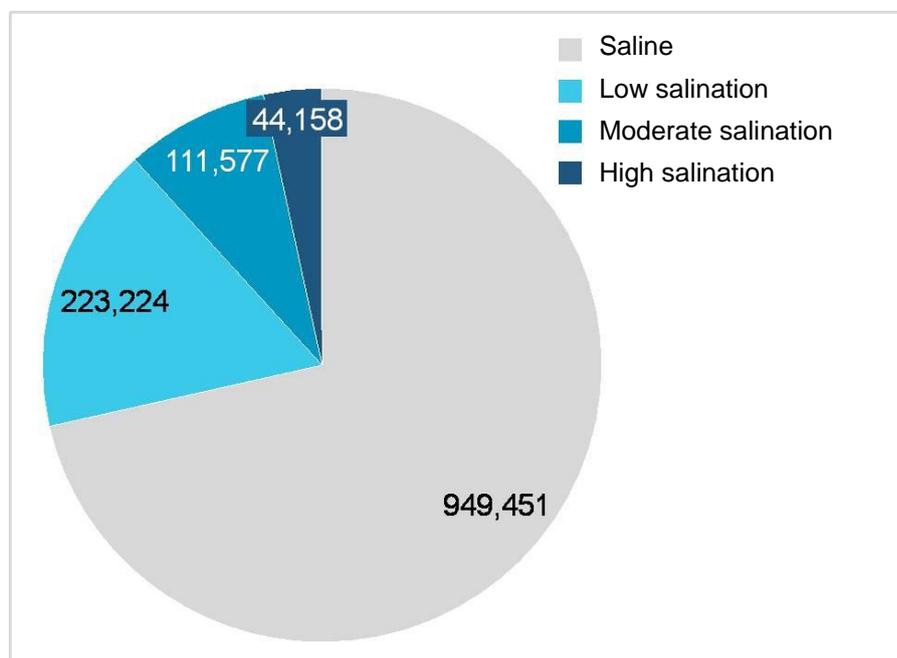
In 2014, one third of the water was lost before it reached the consumers. Most of the water losses come from agricultural lands. The truth of the matter is that agriculture accounts for 89 % of the total water supply or one fourth of the water losses. Inefficiency of the unlined irrigation channels (especially, in rural areas) is the main cause of the water losses.

To increase water use efficiency, investments will be made in the reconstruction of old irrigation pipes with expired useful life (the pipes which cause huge water losses during water passage); clean the unlined channels every 2-3 years; invest in the irrigation channels instead of unlined ones, and lay out a development plan to avoid over-irrigation of fields in rural areas.

According to the Amelioration and Water Management Office, huge investments have been made in the nationwide irrigation system over the last years to make considerable improvements in the supply of material and technical resources, construct or reconstruct thousands of kilometers of irrigation channels and collector-drainage networks, provide water to over 266 thousand hectares of irrigation lands, improve over 218 thousand hectares of agricultural lands, reclaim about 43 thousand of irrigation lands for agricultural production, drill 1493 sub-artesian wells, and embank a total of 1000 kilometers of soil along the Kura, the Aras, and other mountain rivers.

It should be noted that some of the agricultural irrigation lands are affected by salination. According to the report by the Amelioration and Water Management Office (January 01, 2016), 16.8 %, 8.4% and 3.3 % of the irrigation lands are affected by low, moderate and high salination respectively.

Exhibit20. Salination level of irrigation lands in Azerbaijan (Ha)



Source: Amelioration and Water Management Office

Currently, 495166 hectares of irrigation lands in Azerbaijan need to be meliorated. To make this happen, there is a need to investigate the possibility of taking large-scale actions to improve condition of the land and prevent its re-salination.

To ensure efficient use of water resources, the advanced irrigation technologies should be applied extensively. In this regard, it is intended to conduct a feasibility study to expand the application of efficient irrigation systems and equipment (such as drip irrigation, sprinkling etc.), reinforce the irrigation and drainage network, conduct monitoring of water resources, construct new irrigation channels and reservoirs, ensure effective management of floodwater in mountain rivers, minimize the destructive impact on the environment and rural areas, improve the irrigation network, and use the drainage system in the saline areas. Land improvement measures will be matched with the perspective development plans with the increased focus on the use of rainwater in drought-stricken lands.

To achieve the priority goal of improving the mechanisms for ensuring efficient use of agricultural lands, the following actions will be analyzed economically, and if the result of the analysis is positive, they will be taken in a way as mentioned in the roadmap.

Action items

Action 7.3.1: Establish the mechanism of conducting environmental impact assessment with regard to changed land designation

The structural changes made to agricultural production have created the need for land designation. Expanding the application of the intensive farm model will allow reducing the need for massive grazing, and offer the opportunity to turn pastures into crop fields. However, factors like environmental impact and sustainable use of land resources should be considered changing the land designation. To make this happen, legal mechanisms will be established based on the results of the environmental impact assessment.

Action 7.3.2: Take action to ensure efficient use of land resources, and re-cultivate lands

Complex measures will be taken to reclaim low-fertility or idle lands for agricultural production. In the first place, actions for land improvement and amelioration will be continued, and a program will be implemented to identify land salinity levels and reclaim barren lands. On top of that, it will consider the possibility of establishing greenhouses based on soilless technologies, and set forth respective proposals, and develop programs designed to fertilize lands with high salinity levels (for example, application of gypsum, use of special seeds etc.).

Action 7.3.3: Perform chemical soil tests

Agri-chemical laboratories will be modernized and soil tests will be performed. To make this happen, agri-chemical land maps providing a detailed description of the agricultural lands will be prepared. Based on the maps, fertilizer use will be promoted in line with the yield level of soils, and plant requirements.

Action 7.3.4: Improve pasture management

An inventory of lands will be made, and more intensive actions will be taken to enrich the vegetation cover of pastures through the application of advanced technologies and satellite images. Considering the per-hectare yield and types of pastures and haylands, as well as the degree of difficulty in the use of pastures due to soil structure, action will be taken to determine specific use fees per hectare, and establish funds to improve pastures. It will also build up simple pasture and hayland stocks and establish cultural pastures in order to enrich and preserve the vegetation cover of all pastures.

Action 7.3.5: Reduce water losses to consumers

Competitive authorities will be regularly tasked with cleaning unlined irrigation channels. Investments will be made in the reconstruction of irrigation channels in order to reduce water losses. An investment plan will be developed to prevent over-irrigation in rural areas.

Action 7.3.6: Ameliorate and prevent re-salination of irrigation lands

Action will be taken to construct or reconstruct collector-drainage networks. It will increase efficiency of the actions and implement innovative projects to improve saline lands.

Action 7.3.7: Provide information based on the evaluation of water resources

Monitoring of water resources will be conducted for proper evaluation and management. A water use plan will be prepared. Current situation of waste water treatment will be studied and this practice will be expanded. Timely provision of hydro-meteorological data will be ensured

in a manner as defined by the agricultural departments in order to efficiently use the irrigation lands and water resources.

Action 7.3.8: Improve water use in drought-affected regions

Action will be taken to construct new irrigation channels and reservoirs, and maximize efforts to ensure efficient use of rainwater in the drought-affected regions. New water reservoirs and water catchments will be constructed to collect rainwater and regulate water flow. More efforts will be put in applying new technologies in order to use non-tradition water, i.e. seawater, collector-drainage water, industrial and household waste etc. for irrigation purposes.

Action 7.3.9: Mountain river management

Action will be taken to effectively manage floodwater in the mountain rivers, and minimize its impact on the environment. Considering the importance of expanding the irrigation lands over time, artificial lakes (water catchments) will be created in order to ensure efficient use of floodwater and mudflow.

Expected results and indicators

If the results of the feasibility studies are acceptable, the irrigation lands will be improved, the idle lands will be reclaimed for agricultural production, crop rotation will be expanded, mechanisms for pasture management will be established, the vegetation cover of the pastures will be enriched, regular and thorough monitoring of land resources will be conducted, a large database of land resources will be created, agri-chemical maps providing a detailed description of the chemical structure of crop fields will be developed, and appropriate methods and technologies will be applied to mitigate land degradation. In addition, the use of efficient irrigation systems and equipment in the crop fields will be expanded. Furthermore, regular quarterly monitoring of water resources will be conducted to effectively manage flood water in the mountain rivers, minimize negative impacts on the environment and rural areas, and action will be taken to use rainwater in the drought-affected regions. Generally, crop rotation will be increased by 15%, the vegetation cover of the pastures will be enriched by 25%, and 30% of the irrigation lands will be improved.

Required investment

If as a result of feasibility study realization of this priority is ascertained, the amount of the investment required to take action will be defined based on the results of the feasibility study.

Expected risks

Potential risks include farmers' unwillingness to apply crop rotation, lack of funds to intensify the measures against land salination, insufficiency of laboratories, and shortage of skilled labor.

7.7.4. *Priority 7.4. Development of eco-agriculture*

Rationale

According to the International Federation of Organic Agriculture Movements (IFOAM), about 2.3 million farmers are currently engaged in organic agriculture in 172 countries across the world.

Azerbaijan laid the groundwork for eco-agriculture in the 1990s. The Law on Eco-Agriculture of the Republic of Azerbaijan, which was adopted on July 13, 2008, provided the legal and regulatory framework for this field of agricultural activity. Eco-agriculture offers opportunities to effectively address the social, economic, and environmental concerns. The above-mentioned issues make the development of eco-agriculture a priority. These priority actions will be taken to coordinate eco-agricultural activities and implement pilot projects for organic agricultural production. Furthermore, social and economic incentives for the development of eco-agriculture will be expanded.

Actions will be taken to implement state programs for the development of eco-agriculture, and organize agricultural fairs for agricultural producers.

Action items

Action 7.4.1: Improve the legal framework for eco-agricultural production and look into the possibility of developing state programs for that purpose

The issues related to the improvement and harmonization of the legal framework for the development of eco-agriculture in line with international laws and regulations will be addressed. Specific actions will be taken to establish mechanisms of certifying organic agricultural products. A state program for the development of eco-agriculture will be developed in order to scale up organic crop or cattle production.

Action 7.4.2: Promote eco-products

Farmer training and education programs will be developed for eco-agricultural production. Specialists will be trained in eco-agriculture, and this training will incorporate some of the important elements of the agricultural training. Local and international scientific conferences will be organized to evaluate the application of research findings in eco-agricultural production, as well as training and education courses, and permanent vocational training centers will be established to train specialists in the relevant field of work. Extension brochures and other related materials on eco-agricultural production will be printed to raise farmer awareness on its advantages.

Action 7.4.3: Establish eco-agricultural farms

The possibility of establishing farms specializing in eco-agriculture will be considered. If the results of the studies allow, actions will be taken to produce and apply inorganic fertilizers which are fundamental to eco-agriculture. Moreover, incentives will be set for expanding the fields where crops are grown organically. Eco-agriculture will be promoted through the supply of agricultural inputs like seeds and planting materials. Pilot projects designed for eco-agricultural development will be implemented.

Action 7.4.4: Develop eco-agricultural market

Support will be provided for the development of the eco-agricultural market. In addition, eco-agricultural fairs for consumers will be organized, “pilot markets” or “pilot bazaars” will be developed for eco-agricultural products, focused programs will be implemented to increase consumer interest in such products, more efforts will be put in promoting the achievements made in eco-agriculture through national and international trade shows, and eco-agricultural exports will be supported.

Expected results and indicators

To achieve this priority objective, eco-agricultural activities will be coordinated through a dedicated system and pilot projects will be implemented to organize such activities. On top of that, eco-agricultural fairs will be organized in Baku and other regions across the country. Developing a state program for eco-agricultural production will be considered. Total number of the farmers engaged in eco-agricultural production will be increased by 50% and eco-agricultural production will be doubled.

Required investment

Given the scope of the actions, the amount of the required investment is estimated at AZN 15 million.

Expected risks

Lack of farmer interest in eco-agriculture, lingering process of establishing the rules, insufficiency of local human resources, and loopholes in the certification process are considered key risks.

7.8. Strategic objective 8. Enhance state regulation of agriculture, and improve business environment

The Presidential Decree on the Acceleration of Institutional Reforms and Improvement of Agricultural Management, No 152, dated April 16, 2014, lays the groundwork for identifying new challenges with regard to top priorities in agriculture, improving the institutional structure and agricultural management, stimulating the innovations, and transitioning to a new phase in terms of quality. Improving the state regulation of agriculture in this phase is preconditioned by continued integrated agricultural measures.

On top of improving agricultural management, it is important to improve state support policy for agricultural producers in line with development objectives, and harmonize these improvements with WTO requirements, and new circumstances. The first of the 5 priorities to achieve this strategic objective is designed to continue actions in order to create enabling agribusiness environment. In this respect, the licensing, authorization and certification system will be improved, unfair competition will be prevented, and anti-monopoly control will be enhanced. The next priority action will help establish e-agriculture, and address a number of issues concerning the improvement of the registration and statistical system. To make this happen, the Land Cadastre and Registration System will be designed, the E-Agriculture Information System will be completed, the subsidization system will be enabled to operate through these facilities, and further actions will be taken to achieve this objective.

By achieving the priority objective of building the capacity of authorities, it will help develop an action plan for the Ministry of Agriculture and its subordinates, and strengthen the potential of the regional offices of the Ministry.

The other priority is targeted at improving the state support policy for agricultural producers in line with development objectives. The last priority of the strategic objective is aimed at monitoring and evaluating the results of the agricultural policy, and developing respective reports, and improving the performance of the Farm Data Monitoring System.

7.8.1. Priority 8.1. Take action to create enabling agribusiness environment

Rationale

Integrated measures are taken to expand businesses, and enhance competitiveness and create more enabling business and investment environment in the Republic of Azerbaijan. Based on the Law on the Suspension of Inspections in Businesses, dated October 20, 2015, all inspections of businesses had been suspended for 2 years since November 01, 2015 (except for tax inspections and the inspection of cases which may pose a threat to human health and life, state security, and economic interests). Based on the Presidential Decree No 920, dated May 21, 2016, the State Customs Committee has developed a relevant infrastructure for the application of “Green Corridor” and other clearance systems. As of August 01, 2016, businesses can use the ‘Green Corridor’ and other clearance systems. The Presidential Decree in the Approval of Tax Reforms for 2016 and Improvement of Tax Administration, No 2257, dated August 04, 2016, is a critical step towards enhancing mutual confidence and transparency between the taxpayers and tax authorities, and creating enabling environment for businesses.

However, this shows a need for increasing efforts to prevent unfair competition in the agricultural and food market, and procurement in order to create enabling agribusiness and trade environment for agricultural producers.

It is also important to continue improvements in increasing the anti-monopoly control, licensing and authorization of agribusinesses and agricultural producers. No doubt, the “Family Business Support Centers” (FBSC), which were established based on the Presidential Decree No 1047, dated September 23, 2016, will significantly contribute to the process. These centers will be organized based on the “single point of contact’ principle for product certification. To achieve the objective, these priority actions will also include making changes and modifications to the taxation system in order to improve the agricultural investment environment, and promoting foreign direct investments in the agribusiness sector,

Action items

Action 8.1.1: Improve the licensing, authorization and certification system in agriculture

Proposals will be set forth to analyze and simplify administrative procedures for the production, processing, storage, transport and trading of agricultural products, and the feasibility of creating an integrated e-database containing all information about such procedures will be investigated. Efforts to improve and simplify the licensing, authorization and certification system in agriculture will be continued, “Family Business Support Centers” (FBSC) will be

organized based on the “single point of contact” principle for product certification, and outreach campaigns will be launched to ensure that small and medium businesses make maximum use of these opportunities.

Action 8.1.2: Prevent unfair competition trends and increase anti-monopoly controls

Regular monitoring agricultural and agribusiness competitiveness will be conducted and reports will be prepared thereon. Anti-monopoly controls will also be increased.

Action 8.1.3: Monitor access of businesses to product market and availability of inputs, and develop reports

Monitoring access of agribusinesses to markets will be conducted and reports will be developed on availability of inputs.

Action 8.1.4: Establish a risk-based inspection system

Based on the study of international best practice, the possibility of establishing a risk-based inspection system embracing all integrated inspections that are designed to take precautions will be considered, potential risks which may pose a threat to human health and life, state security, and economic interests will be mitigated and prevented.

Expected results and indicators

All respective laws and regulations in this area will be improved, unfair competition trends in the agricultural and food market will be prevented, anti-monopoly control will be increased, the licensing, authorization and certification system in agriculture will be improved and simplified based on the “single point of contact” principle for product certification, and foreign direct investments in the agribusiness sector will be increased by creating an enabling environment.

Required investment

In addition to the funds allocated from the state budget for the actions under this priority, the amount of the required investment is estimated at AZN 9million.

Expected risks

Potential risks include delays in the improvement of laws and regulations, prevention of unfair competition trends, and other cases that may cause the unwillingness of foreign investors to make investment in the sector.

7.8.2. *Priority 8.2. Establish e-agriculture, and improve the registration and statistical system*

Rationale

It is important to design an “e-agricultural” information system in order to increase efficiency and transparency in modern management. Currently, Azerbaijan is taking practical and critical steps towards establishing the Subsidy and Policy Information System, which is the combination of the land identification system, farmer registry, business analyses and reporting, document management, application processing, payment permit, and risk analysis modules.

The Land identification System, which is based on the identification of the current status of agricultural lands, type of planting and cultural crops and geographical information systems, the Farm Registry, which is designed to register agricultural producers, and the Application Processing Modules, which register and analyze the applications filed for subsidization have already been established and tested.

Azerbaijan has already started to establish the Land Cadastre System, which will contain cadastre indicators of lands divided among the producers, and allow eliminate discrepancies between the actual and cadastre indicators. This system will improve the state mechanism of land management, increase efficiency of state controls, stimulate the growth of land markets, ensure transparency of operations, and act as an information base for reclaiming or unlock non-agricultural lands for agricultural production. Regulating the land market through this system will help discover and use hectares of unused non-agricultural lands. To make it happen, it is important to complete the proposed activities as planned. Although there are facilities built in pastures and fields, they are still registered as designated pastures in old documentation. Therefore, the proposed activities should be carried out only when all necessary arrangements are made.

It is particularly important to identify the problems facing agricultural producers, improve the state control, registration and statistical systems in order to ensure effectiveness of the implemented measures both in crop production and animal husbandry, and take action in order to identify and register cattle, sheep, and poultry. Given the above, a raft of actions will be taken to provide training in order to promote recordkeeping among agricultural producers, conduct complete registration of crop fields, as well as cattle, sheep, and poultry, and the registration system for summer pastures will be updated and upgraded.

Action items

Action 8.2.1: Establish Land Cadastre System

Azerbaijan is planning on e-cadastre registration of all lands across the country, preparing digital land maps, and creating a perfect land bank and automated cadastre information system. The Land Cadastre System will play a significant role in developing the National Space Information Infrastructure in line with best practices. The system will ensure development of the geo-space infrastructure, and establish efficient and transparent linkages between the government authorities and businesses. Currently, all lands, pastures and haylands are studied to draw topographic maps in order to establish the Land Cadastre System, which will, at the same time, eliminate discrepancies between documented land indicators and the actual ones. Efforts will be made to establish the Geographical Information System (GIS) of degraded lands.

Action 8.2.2: Complete the “E-Agriculture” Information System, and manage subsidization through the system

After the completion of the E-Cadastre Registration System, it will be integrated into the “E-Agriculture” Information System based on the ownership of agricultural lands, and management of the subsidization process will be carried out through this system.

Action 8.2.3: Consider the possibility of establishing the legal and regulatory framework for the registration of agricultural producers through the “E-Agriculture” Information System

The feasibility of establishing the legal and regulatory framework for the registration of agricultural producers through the “E-Agriculture” Information System will be looked into in order to facilitate services provided to the producers.

Action 8.2.4: Develop statistical reports on the possible involvement of producers in contract farming and farmer unions

This Strategic Roadmap will provide for the development of statistical reports on the possible involvement of producers in contract farming and farmer unions in order to assess the impact of actions outlined in Priority 2.3 with regard to fostering farmer partnerships in agriculture.

Action 8.2.5: Develop statistical reports and examine backyard crops

Backyard crops such as fruits, grapes, vegetables, melons, potatoes, fodder plants, and others will be examined and statistical reports will be developed.

Action 8.2.6: Group orchard crop data based on traditional, intensive and super-intensive orchards

Although we have information about the total size of orchards, it is yet to be grouped based on traditional, intensive and super-intensive orchards. A report on the grouping of vineyards will be developed with regard to the production of table and wine grapes.

Action 8.2.7: Collect statistical data of cattle breeding and make examinations

This priority action is aimed at collecting and developing statistical data on the operation and performance of cattle breeding complexes, and animal breeding and fattening farms. Furthermore, reports will be developed based on the examination of animal breeds.

Action 8.2.8: Identify and register cattle and sheep

The possibility of implementing an action plan will be investigated to establish an animal identification system which will allow complete control of animal replacement and diseases. Best practices applied in the identification and registration of cattle and sheep will also be studied, and appropriate measures will be implemented to make it happen.

Action 8.2.9: Establish e-database containing information about veterinary and phytosanitary control services

Currently, there is no e-database providing information on veterinary and phytosanitary control services delivered to farmers. The database will be created and operated as of 2017.

Action 8.2.10: Promote recordkeeping among the agricultural producers

Agricultural producers demonstrate unwillingness to keep records as they are exempted from all taxes other than land use tax. Primary recordkeeping will be promoted among the producers, their awareness will be raised and they will be provided with training.

Expected results and indicators

This priority will allow establishing the Land Cadastre System, and operating the nationwide “E-Agriculture” Information System, identifying and registering the cattle and sheep, increasing the number of farmers who do recordkeeping of their farms, and creating the database of all cattle, sheep, poultry, and crop fields. The primary recordkeeping will be done by at least 10 % of the agricultural producers.

Required investment

The amount of the required investment will be determined when the groundwork is laid for the implementation of the priority measures.

Expected risks

Key risks may include the improper basis for the implementation of the priority actions, problems that may arise when providing funding for the establishment of the Land Cadastre System, and the nationwide “E-Agriculture” Information System, lack of human resources, and unwillingness of the agricultural producers to do primary recordkeeping.

7.8.3. *Priority 8.3. Strengthen the capacity of regulatory agencies*

Rationale

In the current phase of agricultural reforms, integrated measures are being implemented to improve state regulation of agricultural production. Recent structural changes to the institutional capacity of the Ministry of Agriculture, establishment of regional offices of the Ministry etc. provides a striking example of achievements. After implementing a number of priority measures in the coming years, the organizational capacity of state regulation system will be improved to continue the actions started, and trainings will be provided and international cooperation will be strengthened to avoid overlapping duties, and enhance practical skills of the Ministry’s employees.

Action items

Action 8.3.1: Design a strategic development plan for the Ministry of Agriculture and other agencies attached to it

A strategic development plan will be laid out for the Ministry of Agriculture and its agencies by 2020. This plan will serve to strengthen the organizational capacity of the state regulation system.

Action 8.3.2: Develop and disclose annual reports on the activities of the Ministry of Agriculture and its agencies

Annual reports on the activities of the Ministry of Agriculture and its agencies will be developed and disclosed to the public. This process will be continued in the coming years.

Action 8.3.3: Strengthen the capacity of the Ministry of Agriculture in strategic analysis, planning and evaluation

The Ministry of Agriculture will work with international partners to implement joint projects in order to strengthen the capacity in strategic analysis, planning and evaluation

Action 8.3.4: Strengthen the capacity of regional (town) offices of the Ministry of Agriculture

Action will be taken to strengthen the capacity of regional (town) offices of the Ministry of Agriculture considering the fact that they are newly established. Training sessions will be organized to enhance the skills of the employees of the regional offices in reporting, information gathering and disclosure, computer use etc. The Ministry will also be supported in improving the language skills of its employees.

Expected results and indicators

This priority action will be taken to strengthen the organizational capacity of the state regulation system, eliminate overlapping duties, broaden international cooperation of the Ministry of Agriculture, and improve the computer skills of its employees. All of the employees of the Ministry will acquire computer skills, and half of them will be able to speak foreign languages.

Required investment

No additional investment is required.

Expected risks

Key risks may include lack of experience of state agencies in strategic planning, incomplete formation of the regional (town) offices of the Ministry, lack of interest of government officials in training and workshops.

7.8.4. *Priority 8.4. Improve the state support policy for agricultural producers based on development objectives*

Rationale

It is important that agricultural producers be differentiated based on regions and products during the coming years. Particularly, drafting and adopting a law to provide the legal and regulatory framework for such activities, and improving government support mechanisms in order to form differential subsidization, provide imported purebred animals to agribusinesses as well as provide agricultural producers with high-yield seeds, saplings and breeding animals, machinery, equipment and agrochemicals should be considered.

It is also essential to improve and clarify mechanisms of granting discounts to agricultural producers for the sale of irrigation water, increase efficiency of tax or customs concessions, lay out and implement an incentivization plan for farms located in highlands and winter pastures, offer incentive package for sheep breeders (for example, improving lands along with the farmers provided that they are partially exempted from leasing obligations etc.), promote grape and tea plantations, and conduct feasibility studies to continue subsidization of elite seed growers.

Action items

Action 8.4.1: Make assessments and present proposals to improve subsidization

Assessments will be made and proposals will be put forward for the differentiation of agricultural subsidies based on regions and crop fields, and opportunities will be considered for granting the subsidies based on finished products through production unions. Based on the results of these assessments, proposals will be set forth for establishing mechanisms of differential subsidization considering the regional and areal characteristics.

Action 8.4.2: Present proposals for improving the customs policy set for tax credits applied to agricultural producers, and the import of various agricultural inputs

The proposal to improve tax credits applied to agricultural producers will be considered, cooperation between the agricultural producers, and processors and trade networks will be strengthened, and the customs policy applied to the import of agricultural inputs will be evaluated and improved.

Action 8.4.3: Set forth proposals to provide state support for stimulating the growth of greenhouses

The projects to expand greenhouses across the country by considering their high export potential will be developed, and feasibility studies for implementing government support measures will be conducted.

Action 8.4.4: Conduct a feasibility study for the discount sale of irrigation water to agricultural producers

Currently, irrigation water is sold to agricultural producers at a much lower price. This shows a need for improving the mechanism of selling the irrigation water to agricultural producers at discount prices. To make this happen, a focused feasibility study will be conducted.

Action 8.4.5: Develop the proposal to provide state support for the growth of cattle breeding

The possibility of selling imported purebred animals to local producers under favorable conditions, and continuing to grant subsidies for each calf produced through artificial insemination will be considered. Providing incentives for the existing farms located in highlands and winter pastures will also be considered, a feasibility study for the mechanism of providing state support for sheep breeders will be conducted, farmers' participation in the efforts to improve lands will be ensured, and projects aimed at partially exempting the farmers, complying with environmental requirements, from taxes will be developed. In addition, feasibility studies will be conducted to ensure provision of the state support for the farmers who are engaged in animal fattening.

Action 8.4.6: Stimulate the growth of perennials

The possibility of developing proposals to implement state support measures to align state-supported preferential loans with the characteristics of the orchards, vineyards, and tea plantations will be considered. Feasibility studies will be conducted to establish a mechanism

of providing long-term loans or covering some of the costs in order to promote establishment of orchards.

Expected results and indicators

If the priority actions are taken as a result of consultations with competent authorities, differential subsidization will be evaluated, more crops will be included into the list for subsidization, a mechanism of differential subsidization will be established based on the regional characteristics, an incentivization plan will be laid out to promote farms located in highlands, providing imported purebred animals to agribusinesses will be continued, support mechanism for agricultural producers will be improved and made more transparent, and establishment of orchards will be promoted. It is anticipated that the total size of newly established orchards and greenhouses will be increased by 50%.

Required investment

If the actions are agreed upon, the amount of the required investment will be determined.

Expected risks

Key risks may include potential budget cuts or the suspension of subsidization in case Azerbaijan accedes to WTO.

7.8.5. *Priority 8.5. Design a system to monitor and evaluate agricultural policy outcomes*

Rationale

Azerbaijan needs a wide information network which makes all reliable data available to regions in order to conduct a thorough analysis of farm efficiency. Lack of such network causes problems and challenges in making development decisions, studying the impact of land salination on the crop yield, and conducting state monitoring of the agricultural sector.

To solve these problems, a system will be designed to monitor and evaluate the outcomes of the agricultural policy. To achieve this goal, it is important that the Farmer Data Monitoring System (FDMS) of the Ministry of Agriculture cover the entire country. It is also possible to conduct analyses and prepare outlines based on the data collected from the agricultural producers through the system. Such data may be used:

- **to monitor approved agricultural programs;**
- **to analyze and evaluate farm efficiency;**
- **to present proposals to increase profitability and productivity;**
- **to evaluate efficiency of the implemented agricultural policy measures;**
- **to conduct other economic analyses regarding agricultural production;**
- **to assess the impact of tax credits and subsidies on agricultural production.**

The Farmer Data Monitoring System (FDMS) will offer a number of benefits to the agricultural producers. That is, the farmers who are involved in the system will be assisted in doing initial recordkeeping, and the farmers will receive information about the outcomes of the annual economic analyses every year. The farmers will be provided with the results of the economic analyses of the country and regional level and this will allow them to compare the performance indicators of their farms to those of other farms. To make this happen, the possibility of establishing the Farmer Data Monitoring System (FDMS) will be considered.

Action items

Action 8.5.1: Establish a system and methodology to monitor and evaluate the outcomes of the agricultural policy

With the support of the competent state authorities and international experts, the Ministry of Agriculture will design a system of indicators designed to evaluate the outcomes of the agricultural policy considering the social, economic and environmental issues. This system will help collect data, conduct monitoring, and establish procedures regarding periodicity, responsible agencies etc.

Action 8.5.2: Develop reports on the evaluation of the agricultural policy outcomes

Based on the defined indicators and methodology, reports on the monitoring and evaluation of the agricultural policy outcomes will be developed and these reports will be used to develop proposals to make needs assessment to improve the agricultural policy.

Action 8.5.3: Improve performance of the Farmer Data Monitoring System

The Farmer Data Monitoring System of the Ministry of Agriculture will continue to operate as an important tool to evaluate the agricultural policy outcomes in all regions (except for Nakhchivan Autonomous Republic) across the country. Action will be taken to improve performance of the system (for example, to assign competent authorities the task of developing reports, to extend the system to cover Nakhchivan Autonomous Republic etc.).

Expected results and indicators

This priority will enable to obtain real data in order to analyze and evaluate farm efficiency, and make information available for evaluating effectiveness of the implemented agricultural measures.

Required investment

Considering the scope of the priority actions, the required investment is estimated at AZN 300 thousand.

Expected risks

Key risks include failure to provide funding for the system, and lack of interest of agricultural producers in the surveys.

7.9. Strategic objective 9. Improve rural employment and welfare

Agriculture is not only an economic activity, but also a deep-rooted farming tradition cherished by our nation for centuries. Although the primary function of the agriculture sector is to produce food and raw products, it also serves to foster the socio-economic development and improve living conditions in rural areas.

The Strategic Roadmap, which adopts an integrated approach to agricultural development, is designed to address the issues concerning the improvement of rural life and employment.

It is particularly important to develop small and medium businesses in order to increase rural employment in non-agricultural areas. The newly established “Family Business Support Centers” (FBSC) public legal entity will ensure active involvement of citizens in the social and economic development of rural areas. In addition to supporting the operation of family businesses, the center will create additional opportunities for stimulating the growth of small and medium businesses.

To achieve the strategic target, 3 priorities have been set. The first priority is aimed at strengthening the rural potential for socio-economic development. To make this happen, the government will implement pilot projects to contribute to the integrated development of rural areas, and establish the statistical database and monitoring system for rural development. Local municipalities will be on the front line to increase their role in contributing to rural development and employment, preserving the rural architecture and traditions, and improving living conditions in rural areas etc.

The second priority is targeted at supporting the development of alternative fields of rural activities, and stimulating the growth of rural tourism, eco-tourism and other non-agricultural areas.

The last priority is designed to support rural development initiatives. To make this happen, the sectors which account for most of the rural incomes will be promoted, and active involvement of women and youth in the social and economic life of the communities will be ensured.

7.9.1. Priority 9.1. Strengthen the potential for the implementation of the socio-economic development policy in rural areas

Rationale

Currently, the rural development measures are implemented as part of the regional development policy which is based on the national planning methodology. Azerbaijan has achieved important socio-economic results through large-scale activities carried out to develop the soft and hard infrastructure, and improve the welfare of the nation both in the regions and rural areas.

The next phase of the activities will ensure more active involvement of communities and local municipalities in the planning of rural development measures, and efficient use of rural resources.

Action items

Action 9.1.1: Develop and implement pilot projects for integrated rural development

Through the joint funding provided by the Government of Azerbaijan and international organizations, pilot projects across all economic regions will be developed and implemented based on the practice of the “Integrated Rural Development” projects which are implemented by the Ministry of Economy and the Ministry of Agriculture. These projects will entail coordinated support measures aimed at developing the soft and hard infrastructure in the pilot areas, and increasing the rural incomes. To make this happen, legal framework will be established, and proposals to improve the rural development policy will be set forth based on the practice of the pilot projects.

Action 9.1.2: Establish the statistical base and monitoring system for rural socio-economic development

As part of the measures for the improvement of the rural socio-economic development policy, a systemized comprehensive information base and monitoring system will be established for rural areas. The information base will cover the issues like rural welfare, employment structure, social services, development of infrastructure etc., enable to develop short, medium and long-term rural development plans, and ensure active involvement of local communities, municipalities, and local executive authorities in the process.

Action 9.1.3: Improve the existing legislation with regard to rural socio-economic development

Proposals will be developed by identifying the need for the improvement of laws and regulations related to the improvement of short, medium and long-term rural development plans, active involvement of local communities, municipalities and local executive authorities in this process, establishment of mechanisms for the implementation of rural development measures etc.

Action 9.1.4: Develop a state program for rural socio-economic development

A new state program will be developed based on the conception of rural development following the implementation of the state program for rural socio-economic development in 2018.

Expected results and indicators

Implementation of the priority action will result in strengthening the institutional capacity for rural socio-economic development, coordinating rural development measures through national planning, and honing the practice of the implemented pilot projects. The an information base and monitoring system will be established to address rural development issues, develop short, medium and long-term rural development plans, and increase the number of the pilot rural development projects up to 50.

Required investment

The investment required to implement the priority actions will be estimated by the competent authorities.

Expected risks

Key risks will include dependence of most of the actions on the state budget, and lack of relevant institutional capabilities.

7.9.2. Priority 9.2. Support alternative fields of rural activities

Rationale

Developing the competitive agricultural sector in Azerbaijan is one of the key targets. This sector will help reduce the contribution to employment and increase incomes in agriculture. Currently, the average nominal monthly pay in agriculture is twice less than the average nominal monthly pay. As part of the policy to be implemented in the coming years, it is planned to bring the average nominal monthly pay in agriculture up closer to the average nominal monthly pay.

At the same time, it is important to help those who will lose their jobs as a result of the formation of competitive agriculture. To make this happen, it is essential to develop alternative fields of activities in order to increase rural employment, and stimulate the growth of non-agricultural employment. This will eventually offer vast opportunities for increasing rural incomes, and encourage the youth to stay and work in the rural areas.

In the coming years, the possibility of developing rural tourism and different service areas, implementing focused projects to increase the role of non-timber forestry, adopting specific programs for vocational training and increasing woman employment will be considered, and startups in rural areas will be expanded.

Action items

Action 9.2.1: Develop rural tourism and eco-tourism

Rural tourism and eco-tourism will be developed, and rural projects in the areas with tourism potential in line with the tourism policy will be pursued across the country. This is more detailed in the Strategic Roadmap for the Development Specialized Tourism Industry in the Republic of Azerbaijan.

Action 9.2.2: Develop non-agricultural production areas

Non-agricultural production will be developed in rural areas. To make this happen, preferential loans will be provided and rural startups will be expanded. Given the Action 9.2.1, the development of various fields of traditional activities will be supported based on the needs of the tourism industry such as carpet weaving, tinkering, tinning, pottery, garden tools, popular musical instruments, toys, souvenirs, household items made from cane and reed, ornamental work on ceramic items, household items made from wood, matting, national embroidery, national clothes etc.

Action 9.2.3: Develop service areas in rural areas

Rural service areas will be developed, and small and medium businesses will be supported in developing business plans. It will focus on vocational training in various service areas, that is, community residents will be able to meet their own needs for construction work or craftsmen.

In addition to Actions 9.2.1 and 9.2.2, different projects designed to develop tourism service areas will be implemented.

Action 9.2.4: Increase woman and youth employment in rural areas

Vocational training of women in rural areas will be strengthened and a special program will be developed to create more jobs for them. A particular focus will be on increasing woman employment in traditional areas of rural tourism like carpet weaving, the making of souvenirs etc. Also, a raft of measures will be implemented to ensure active youth involvement in the innovative agricultural projects, address rural employment issues, and develop special programs for youth who live in the communities near the front line.

Action 9.2.5: Improve housing conditions for new young families

Action will be taken to encourage rural life and particularly, make rural housing more available to young families and specialists ensuring that young families living in rural areas benefit more from social mortgages. A special approach will be adopted to solve housing problems of young families living close to the frontline.

Expected results and indicators

This priority action will result in the development of rural tourism and eco-tourism as well as increasing the number of tourists twice, the number of non-agricultural production areas and employees by 30%, and the number of woman employees by 20%.

Required investment

The investment required to implement the priority actions will be estimated by the competent authorities.

Expected risks

Key risks may include preference of city residents for more affordable tourism destinations, low quality rural services, and lack of experience in establishing rural startups.

7.9.3. *Priority 9.3. Support local community initiatives for rural development*

Rationale

The Ministry of Agriculture has constructed road and water pipelines at the request of local communities under the Second Agricultural Investment Project, which has been implemented for more than 10 years to lay the groundwork for about 1800 social and economic infrastructure projects giving some experience to the communities.

Further action will be taken to support local community initiatives for rural development, enhance youth involvement, increase the municipal commitments for social and economic growth in rural areas, and support their initiatives for socio-economic rural development in order to ensure inclusiveness in the coming years. It will also implement focused programs to ensure active involvement of women and youth in the social and economic rural life, and encourage the youth to return and work in rural areas after receiving education in the cities.

More efforts will be put in developing the skills and knowledge of young farmers, and supporting local community initiatives for rural development.

Action items

Action 9.3.1: Increase municipal commitments for socio-economic development in rural areas

Municipal initiatives for socio-economic development in rural areas will be supported, and an action plan to increase their active role in this area will be developed. A rural development model will be established and applied based on the choice of the pilot community municipalities.

Action 9.3.2: Promote and support profitable community sectors in rural areas

Profitable community sectors in rural areas will be promoted and supported through respective agencies in order to enhance the performance of rural communities.

Action 9.3.3: Ensure active involvement of women and youth in the socio-economic life in rural areas

Programs will be implemented to ensure active involvement of women and youth in the socio-economic life in rural areas.

Expected results and indicators

This priority action will help the municipalities with active involvement in the socio-economic life of communities, create new jobs, increase the number of programs aimed at ensuring active role of women and youth in the socio-economic life in rural areas, and result in growing number of young people who return to communities after receiving education. The number of jobs created by the municipalities will grow by 30%, and youth development programs will increase 3 times.

Required investment

The investment required to implement the priority actions will be estimated by the competent authorities.

Expected risks

Key risks may include insufficiency of funding for the actions, lack of interest of women and youth in the social and economic life in rural areas, low pays, and low employment in the non-agricultural sphere.

8. FINANCING MECHANISMS

To reach the defined strategic targets, it is required that AZN 1170 million be invested. The actions included in the Strategic Roadmap will be implemented through the following financial sources:

- Public budget;
- Non-budgetary funds;
- Funds provided by the State Service for Management of Agricultural Projects and Lending under the Ministry of Agriculture;
- Funds provided by ANFES;
- Funds provided by Azerbaijan Investment Company;
- Local budgets;
- Funds provided by local companies, businesses and organizations irrespective of type of ownership;
- Direct foreign investments;
- Securities including shares, bonds, and derivative financial instruments;
- Local loans and grants;
- Loans, grants and technical assistance provided by international organizations and other countries;
- Other sources not prohibited by laws and regulations.

Budgets will be developed based on the result-oriented budgeting process in order to ensure efficient use of funds for the defined priorities. Most of the required funds will be provided through budget restructuring, as well as joint funding by private sector and other investors.

9. IMPLEMENTATION, MONITORING AND EVALUATION

Implementation of Strategic Roadmap

Oversight and governance: Accelerated decision making, clear accountability and additional execution capacity will ensure appropriate oversight and governance.

- A mechanism for accelerated decision making at the highest political level will be set up for the Strategic Roadmap. This mechanism will enable clearly visible guidance for other main decision makers to emphasize the importance of implementation. Decisions about implementation priorities and concrete targets will be made using this mechanism.
- Individual leaders will assume responsibility for each strategic priority in the sectors and ministers will define and commit to ministerial targets for every sector. In addition, working groups will be set for each priority under the leadership of competent agencies as mentioned in the action plan and reporting meetings will be held by the agencies quarterly to discuss implemented activities. The working groups will operate based on the action plan. Regular meetings will mainly be held at the key implementer's office upon proposal by the responsible person. The key implementer will divide tasks for the groups and allow for their continuous operation. If required, some steps will be taken to receive technical assistance provided by external experts.
- A dedicated central delivery unit will be established to monitor the implementation of the roadmap and provide central execution support in areas such as in problem solving or coordination across institutions. The unit's work will serve to create stronger organization across the institutions, processes, and technology required for implementation. Furthermore, it will be responsible for ensuring that the involved institutions arrange for the required financial and human resources, and empowered to inject additional resources when needed.

Strategic alignment and financing: To allow for an efficient implementation process that avoids wasted resources and conflicting objectives, strategic vision and roadmap will be fully integrated into other sectoral plans and existing budgets.

- All relevant strategic documents at the ministry or agency level will be harmonized with the roadmap and the mandates of key existing state agencies will be realigned to the objectives wherever necessary. This alignment work will include developing transparent, measurable implementation targets, which will be communicated publicly and used to track progress.
- Detailed implementation plans will be developed for all strategic priorities, based on provided actions, to guide implementation and provide transparency regarding the resources required and expected impact. While the assigned leader will bear overall responsibility for developing the implementation plan, all the most important institutions participating in implementation – including private sector organizations – should be involved.

Stakeholder mobilization platform: We will mobilize domestic and international partners from both the public and private sectors to join in the execution of the roadmap.

- Steps will be taken to identify and attract core strategic partners. The involvement of multiple organizations and stakeholders is required for the successful implementation each strategic priority. To ensure alignment of objectives and proper coordination, we will form advisory councils and working committees with the private sector and state owned enterprises (SOEs) as well as with critical international partners, such as international financial institutions.
- Civil society will be mobilized and engaged to generate broad support for the roadmap. This vision document marks the start of the ongoing communication of the jointly agreed narrative regarding Azerbaijan's economic development. Going forward, active communication, transparency and inclusiveness will help to mobilize the public and private sectors, society as a whole, and other relevant stakeholders.

Monitoring and evaluation of the Strategic Roadmap

The strategic Roadmap will be monitored and evaluated to ensure successful implementation of the required tools and processes. The monitoring and evaluation process will focus on the actions, expected outcomes of each priority, indicators, and compliance based on the practices developed in accordance with international methodology.

The annual action programs of the working groups will be approved by the key implementer and submitted to the coordination agency. The meetings of the working groups will be held in the presence of the members of the coordination agency.

The progress report will be submitted by the key implementer to the coordination agency at least 10 days before the meeting takes place. The coordination agency will consider the outcomes of all discussions made at the meeting, as well as the detailed analysis and evaluation to submit the outcomes of monitoring and its recommendations to the key implementer within 10 days of the meeting. The coordination agency and key implementer will take necessary measures to make sure that the outcomes of monitoring and its recommendations be considered by the working groups.

10. ACTION PLAN

No	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
Strategic objective 1. Increase institutional capacity for ensuring sustainable food security					
<i>1.1. Develop data collection and monitoring system with regard to sustainable food security and food availability</i>					
1.1.1.	Assess opportunities to establish Food Security Commission	Cabinet of Ministers	Responsible state agencies	<ul style="list-style-type: none"> - developing an integrated and systemized database on food security; - ensure access to systemized data on food security; - establish physiological consumption norms based on international standards; - make short, medium and long-term predictions across the range and volume of food products considering for sustainable food supply for 	2017
1.1.2.	Conduct regular monitoring to make risk assessments in terms of sustainable food security	Cabinet of Ministers	Ministry of Economy, Ministry of Agriculture, Ministry of Emergency, State Statistical Committee, State Customs Committee, local executive authorities		2017-2020
1.1.3.	Develop a system to regularly analyze and evaluate the volume and fulfillment of the existing and prospective demand for food products based on approved rational and physiological norms	Cabinet of Ministers	Ministry of Health, Ministry of Agriculture, Ministry of Labor and Social Protection Ministry of Economy, State Statistical Committee, local executive authorities		2018

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
1.1.4.	Develop a monitoring system to evaluate food availability for various population groups, and assess related impacts	State Statistical Committee	Ministry of Economy, Ministry of Agriculture, Ministry of Labor and Social Ministry of Economy, Ministry of Taxes, Ministry of Emergency, State Customs Committee, local executive authorities	regions and administrative regions - Coordinate food security activities through an integrated center	2018
1.1.5.	Develop an integrated information portal for the production, import, stocking and trade flow of food products	Ministry of Agriculture	Ministry of Economy, Ministry of Taxes, Ministry of Emergency, State Statistical Committee, State Customs Committee , Supply and Procurement of Food Products OJSC, local executive authorities		2017
1.2. Develop mechanisms to ensure reliable food supply for all population groups					
1.2.1	Develop food resources to ensure food availability	Ministry of Emergency	Ministry of Economy, Ministry of Agriculture, Supply and Procurement of Food Products OJSC, local executive authorities	- develop food resources based on the existing and perspective demand of Azerbaijan; - ensure that all social groups of population are fed based on food consumption norms.	2017-2020
1.2.2	Determine mechanisms to improve food supply for all population groups	Cabinet of Ministers	Ministry of Economy, Ministry of Labor and Social Protection, Supply and Procurement of		2017

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
1.2.3	Increase opportunities for supplying food in case of emergency	Ministry of Emergency	Food Products OJSC, local executive authorities Ministry of Economy, Ministry of Agriculture, Supply and Procurement of Food Products OJSC, local executive authorities		2017-2020
1.3. Form a risk-based food safety system along all links of the value chain					
1.3.1	Improve the existing legal framework based on international best practice	Cabinet of Ministers	Ministry of Agriculture, Ministry of Health, local executive authorities	<ul style="list-style-type: none"> - Eliminate overlapping duties in food safety control; - increase coordination in food safety; - Form a risk-based food safety system along all links of the value chain; - expand plant health and pest control, monitoring and observation; - improve animal health and disease control, monitoring and observation; - ensure harmonization with Codex Alimentarius with respect to food products; - ensure establishment of slaughterhouses and sales 	2017-2018
1.3.2	Eliminate the overlapped activities of the agencies which are responsible for food safety control, and develop an effective regulatory system	Cabinet of Ministers	Ministry of Agriculture, Ministry of Health, local executive authorities		2019
1.3.3	Harmonize food production, processing, storage, transport and trading standards with international requirements	State Committee for Standardization, Patents and Metrology	Ministry of Agriculture, Ministry of Health, local executive authorities		2019-2020
1.3.4	Optimize, modernize and accredit food safety	Cabinet of Ministers	Ministry of Agriculture, Ministry of Health, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
	laboratories, and improve the certification system			centers in compliance with veterinary, sanitary and epidemiological requirements;	
1.3.5	Improve public regulatory mechanisms for food safety	Cabinet of Ministers	Ministry of Agriculture, Ministry of Health, State Support Council for NGOs local executive authorities	- Bring food security standards in line with international standards; - offer vast opportunities to have access to international markets in case Azerbaijan accedes to WTO	2019-2020
1.3.6	Promote healthy nourishment	Cabinet of Ministers	Ministry of Economy, Ministry of Agriculture, local executive authorities		2018-2020
Strategic objective 2. Increase the potential for agricultural production along the value chains					
<i>2.1 Increase the production potential for competitive agricultural production and processing both in the domestic and international markets</i>					
2.1.1	Promote intensive orchards (especially, pomegranates, persimmons, cherries, apples, as well as hazelnuts and other nuts) and grape plantations	Ministry of Agriculture	Ministry of Economy, local executive authorities	- the direct and indirect GDP impacts will be AZN 220 million and AZN 230 million respectively in 2020 with a total of AZN 450 million.	2017-2020
2.1.2	Support fresh potato production	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
2.1.3	Support greenhouse production of early-ripening vegetables	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020
2.1.4	Stimulate the expansion of the network of small and medium-sized fruit and vegetable processing plants	Ministry of Economy	Ministry of Economy, local executive authorities		2017-2020
2.1.5	Support increased production of dried and frozen fruits and vegetables	Ministry of Economy	Ministry of Economy, local executive authorities		2017-2020
2.1.6	Promote cotton, tobacco and cocoon production	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
2.1.7	Explore opportunities for export of non-traditional and recently exported products (purebred animals, dairy products, tinned meat products, barley etc.) and other products with export potential (saffron, wool, leather, natural honey, walnut oil, liquorices etc.)	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2018
2.2. Increase and promote the production and processing of products which are capable of substituting imports					
2.2.1	Promote establishment of large cattle breeding complexes based on the intensive farm model	Ministry of Agriculture	Ministry of Economy, local executive authorities	- reduce head of cattle by 10%, increase milk yield by 50, milk production by 30%, and meat production by 20% through the intensive farm model;	2017-2018
2.2.2.	Spread the practice of establishing household farms designed for beef and milk production achieved under the pilot projects that have been implemented in Imishli,	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
	Barda and Aghjabedi to other regions across the country			- increase production by 25% in meat and milk processing industries;	
2.2.3.	Stimulate increased industrial poultry production with regard to the demand of various segments	Ministry of Economy	Ministry of Agriculture, local executive authorities	- increase food wheat production by enhancing quality and yield performance;	2017-2020
2.2.4.	Support expanding network of small and medium meat and milk processors in the regions	Ministry of Economy	Ministry of Agriculture, local executive authorities	- expand tea plantations twice; - reduce tobacco imports by 50%;	2017-2020
2.2.5.	Support development of bee production, fish production, and aquaculture	Ministry of Agriculture	Ministry of Economy, local executive authorities	- increase cotton production and processing at least 4 times; - Increase silk production and processing at least 1000 times.	2017-2020
2.2.6.	Support increased production of durum and soft wheat, as well as legumes for food supply	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
2.2.7.	Evaluate opportunities to increase local production of sugar beet and confectionaries	Ministry of Economy	Ministry of Economy, local executive authorities		2017-2018
2.2.8.	Evaluate the opportunity to increase local production of raw materials (sunflower seed, corn, olive etc.) that are used for vegetable oil production	Ministry of Economy	Ministry of Economy, local executive authorities		2017-2018
2.2.9.	Stimulate the growth of tea plantations	Ministry of Agriculture	Ministry of Agriculture, local executive authorities		2017-2020
2.2.10.	Stimulate increased tobacco production		Ministry of Agriculture, local executive authorities		2017-2020
2.2.11.	Develop processing industries for raw cotton, cocoon and animal hide	Ministry of Economy	Ministry of Agriculture, local executive authorities		2017-2020
2.3. Develop farmer partnerships and cooperation in the agricultural sector					
2.3.1	Adopt the Law on Agricultural Cooperation	National Assembly of the Republic of Azerbaijan	Ministry of Economy, local executive authorities	- expand cooperation and organization among agricultural producers across different areas;	2016, implemented

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
	Improve regulatory framework for developing agricultural cooperation	Ministry of Agriculture	Ministry of Economy, local executive authorities	<ul style="list-style-type: none"> - Accelerate establishment of big farms; - accelerate establishment of cooperatives, associations, and unions; - increase contribution of these farms to agricultural production by 30%. 	2017
2.3.2	Consider defining and applying incentives for developing agricultural cooperatives	Ministry of Agriculture	Ministry of Economy, local executive authorities		2018-2020
2.3.3	Launch awareness campaigns and provide extension services to develop agricultural cooperation	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020
2.4. Develop public-private partnerships (PPPs) to implement integrated projects					
2.4.1	Confirm support package for integrated projects to facilitate public-private-partnerships (PPPs)	Ministry of Economy	Ministry of Agriculture, local executive authorities	<ul style="list-style-type: none"> - bring AZN 70 million direct and AZN 60 million indirect incremental GDP in 2020 with a total of AZN 130 million in 2020 in real terms - Create 7250 jobs both directly and indirectly 	2017-2018
2.4.2	Define type and level of financial support	Ministry of Economy	Ministry of Agriculture, local executive authorities		2017-2018

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
2.4.3	Evaluate opportunities to establish a public-private investment fund	Ministry of Economy	Ministry of Finance, Ministry of Agriculture, local executive authorities		2018
2.4.4	Develop legal and regulatory framework for the support package	Ministry of Economy	Ministry of Finance, Ministry of Agriculture, local executive authorities		2019
2.4.5	Prepare an investor pitch for value chains	Ministry of Economy	Ministry of Finance, Ministry of Agriculture, local executive authorities		2019
2.4.6	Define milestones for operations	Ministry of Economy	Ministry of Finance, Ministry of Agriculture, local executive authorities		2020
2.5. Develop support infrastructure for the growth of agribusiness					
2.5.1	Support development of agropark network (including agri-industrial clusters)	Ministry of Economy	Ministry of Finance, Ministry of Agriculture, local executive authorities	<ul style="list-style-type: none"> - develop the management structure for agroparks and business incubators in 2017; - finalize all necessary actions to establish and operate 	2017-2020
2.5.2	Support establishment of industrial districts	Ministry of Economy	Ministry of Finance, Ministry of Agriculture, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
2.5.3	Support establishment of agribusiness incubators	Ministry of Economy	Ministry of Finance, Ministry of Agriculture, local executive authorities	agroparks and business incubators until 2018; - bring AZN 135 million direct and AZN 220 million indirect incremental GDP in 2020 with a total of AZN 355million in 2020 in real terms for one agropark; - operate agroparks until 2018 and create 7725 jobs directly and indirectly; - establish a total of 25 small and medium businesses along the value chains typical of each region until 2020	2017-2020
Strategic objective 3. Facilitate access to finance					
3.1 Improve financing mechanisms in agriculture					
3.1.1.	Define targets for financial needs in agriculture	Ministry of Agriculture	Ministry of Economy, Ministry of Finance, local executive authorities		2017
3.1.2.	Consider establishing an agricultural lending risk-sharing/guarantee fund	Financial Market Supervisory Chamber	Ministry of Agriculture, Ministry of Economy, Ministry of Finance, local executive authorities		2017-2018

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
3.1.3.	Develop mechanisms for application of innovative and non-collateral loans in agriculture	Financial Market Supervisory Chamber	Ministry of Agriculture, Ministry of Economy, Ministry of Finance, local executive authorities	<ul style="list-style-type: none"> - facilitate access to finance worth an additional AZN 665 million - consider establishing the risk-sharing/guarantee fund; - ensure more than AZN 115 million direct and AZN 95 million indirect GDP impact (a total of AZN 210 million) 	2017-2018
3.1.4.	Expand the collateral base for lending	Financial Market Supervisory Chamber	Ministry of Agriculture, Ministry of Economy, Ministry of Finance, local executive authorities		2017-2018
3.1.5.	Increase financial literacy of agricultural producers	Ministry of Agriculture	Ministry of Economy, Financial Market Supervisory Chamber, local executive authorities		2017-2020
3.1.6.	Develop mechanisms for managing risks which affect the agricultural sector	Financial Market Supervisory Chamber	Ministry of Agriculture, Ministry of Economy, Ministry of Finance, local executive authorities		2017-2018
3.1.7.	Stimulate agricultural lending by credit organizations	Financial Market Supervisory Chamber	Ministry of Agriculture, Ministry of Economy, Ministry of Finance, local executive authorities		2017-2020
3.2. Develop agricultural insurance					
3.2.1.	Improve the existing legislation with regard to agricultural insurance	Financial Market Supervisory Chamber	Ministry of Finance, Ministry of Agriculture, local executive authorities	- Establish Registry for Insurable Events ;	2017

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
3.2.2.	Consider the possibility of establishing an agricultural insurance fund	Financial Market Supervisory Chamber	Ministry of Finance, Ministry of Agriculture, local executive authorities	<ul style="list-style-type: none"> - Consider establishing the agricultural insurance fund; - increase the total number of insured agricultural producers at least 3 times. 	2018
3.2.3.	Establish Registry for Insurable Events	Ministry of Agriculture	Ministry of Ecology and Natural Resources local executive authorities		2017-2018
3.2.4.	Develop a mechanism to pay material damages to agricultural producers due to imposed quarantine	Ministry of Agriculture	Ministry of Finance, local executive authorities		2017
3.2.5.	Increase insurance literacy of agricultural producers	Ministry of Agriculture	Ministry of Economy, Financial Market Supervisory Chamber, local executive authorities		2017-2020
3.3. Promote agricultural investments					
3.3.1.	Assess agricultural investment needs and develop investment projects	Ministry of Agriculture	Ministry of Economy, local executive authorities	<ul style="list-style-type: none"> - increase agricultural investments twice; - develop at least 100 investment projects for administrative regions and areas. 	2017-2018
3.3.2.	Improve investment environment in agriculture	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020

No	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
Strategic Objective 4. Develop agricultural input market and improve provision of services					
4.1. Develop the land market					
4.1.1.	Adopt amendments to the Law on Notary of the Republic of Azerbaijan to simplify procedures for agricultural land use;	National Assembly of the Republic of Azerbaijan		- expand the total size of crop fields by 5 % by unlocking and reclaiming idle agricultural lands	2016, implemented
	Increase transparency and simplify procedures for the sale, lease and use of agricultural lands	State Committee on Property Issues	Ministry of Justice, Ministry of Agriculture, local executive authorities		2017-2018
4.1.2.	Apply relevant mechanisms to prevent agricultural lands from being kept out of use	State Committee on Property Issues	Ministry of Agriculture, Ministry of Ecology and Natural Resources local executive authorities		2017-2018
4.1.3.	Take actions to consolidate lands	Ministry of Agriculture	State Committee on Property Issues, Ministry of Ecology and Natural Resources, local executive authorities		2017-2020
4.2. Improve irrigation water supply of producers					

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
4.2.1	Assess the need for irrigation water	Ministry of Agriculture	Amelioration and Water Management Office OJSC, local executive authorities	- increase irrigation water supply for agricultural producers by 20%	2017
4.2.2.	Improve the irrigation water supply	Amelioration and Water Management Office OJSC	Ministry of Economy, Ministry of Agriculture, local executive authorities		2017-2020
4.2.3.	Expand application of modern irrigation systems	Ministry of Agriculture	Agroleasing OJSC local executive authorities		2017-2020
4.2.4.	Expand operation of the water users associations	Amelioration and Water Management Office OJSC	Ministry of Agriculture, local executive authorities		2017-2020
4.3. Improve provision of agricultural machinery and equipment, and maintenance for agricultural producers and develop agricultural service market					
4.3.1	Upgrade agricultural machinery parks	Agroleasing OJSC	Ministry of Agriculture, Ministry of Economy, local executive authorities	- increase provision of agricultural machinery, equipment, as well as small machinery and equipment to agricultural producers by 20%; - increasing the contribution of private agri-service providers by 70% through extensive use of innovative machinery and equipment	2017-2020
4.3.2	Improve provision of innovative, also small machinery and equipment	Agroleasing OJSC	Ministry of Agriculture, Ministry of Economy, local executive authorities		2017-2020
4.3.3	Develop the agricultural service market	Agroleasing OJSC	Ministry of Agriculture, Ministry of Economy, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
4.4. Develop the seed and sapling market, and increase local production potential					
4.4.1	Promote seed and sapling production	Ministry of Agriculture	Local executive authorities	<ul style="list-style-type: none"> - establish a unified certification system; - accredit the seed laboratories; - create digital database for agricultural producers; - establish a unified quality control system; - increase the use of certified seeds and saplings by agricultural producers up to 90%. 	2017-2020
4.4.2	Establish a quality control system for seed and sapling production, and improve mechanisms for certification	Ministry of Agriculture	Local executive authorities		2017-2020
4.4.3	Create digital database	Ministry of Agriculture	Local executive authorities		2018
4.4.4	Improve operation of seed laboratories	Ministry of Agriculture	Local executive authorities		2017-2020
4.5. Improve provision of fertilizers and crop protection products					
4.5.1	Identify the demand level for fertilizers	Agroleasing OJSC	Ministry of Agriculture, local executive authorities	<ul style="list-style-type: none"> - increase the use of mineral fertilizers and biological fertilizers by agricultural producers by 25% and 10% respectively; 	2017
4.5.2	Promote fertilizer use	Ministry of Agriculture	Local executive authorities		2017-2020
4.5.3	Improve provision of crop protection products	Agroleasing OJSC	Ministry of Agriculture, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
4.5.4	Increase quality control for fertilizers and crop protection products	Ministry of Agriculture	Local executive authorities	- increase the use of crop protection products by 25%; - increase the use of biological crop protection products by 10%;	2017-2020
4.5.5	Promote local fertilizer production	Ministry of Economy	Local executive authorities		2017-2020
4.6. Improve provision of compound feed and promote breeding					
4.6.1	Study and develop the structure of the compound feed market	Ministry of Agriculture	Local executive authorities	- increase provision of compound feed by 20%; - increase the number of high-yield breeds by 25%	2017-2020
4.6.2	Expand application of artificial insemination and the embryo transfer method	Ministry of Agriculture	Local executive authorities		2017-2020
4.6.3	Support development of poultry breeding	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020
4.7. Improve provision of veterinary and phytosanitary services for agricultural producers					
4.7.1	Develop network of private veterinary service providers	Ministry of Agriculture	Ministry of Economy, local executive authorities	- bringing the animal and plant disease risk management system in line with international standards;	2018-2020
4.7.2	Establish an effective system for tracking and monitoring animal health	Ministry of Agriculture	Local executive authorities		2018-2019

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
4.7.3	Establish an effective system for tracking and monitoring plant health	Ministry of Agriculture	Local executive authorities	- increase the number of private veterinary service providers by 30%.	2018-2019
4.7.4	Establish and apply integrated pest management systems for crop protection	Ministry of Agriculture	Local executive authorities		2018-2019
4.7.5	Modernize veterinary and phytosanitary laboratories	Ministry of Agriculture	Local executive authorities		2018-2019
<i>Strategic Objective 5. Improve agricultural science, education, and extension services</i>					
<i>5.1. Ensure transition to a new development stage with regard to the quality of agricultural education</i>					
5.1.1	Develop agricultural education	Ministry of Agriculture	Ministry of Education	- increase the number of those who receive agricultural education by 20%; - increase the number of those who receive agricultural education across all areas by 20%; - increase the number of teachers and researchers of agricultural institutions who participate in international	2017-2020
5.1.2	Develop vocational education in agriculture	Ministry of Agriculture	Ministry of Education		2017-2020
5.1.3	Develop measures to strengthen partnerships between agricultural education providers, and agricultural producers and processors	Ministry of Agriculture	Ministry of Education		2017-2020

No	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
				conferences, workshops and advanced training by 30%.	
5.2. Plan and conduct agricultural research, and improve mechanisms for applying research findings					
5.2.1	Set priorities and increase outcome orientation for agricultural research	Ministry of Agriculture		<ul style="list-style-type: none"> - increase the number of fundamental and practical agricultural research by 20%; - increase the number of scientific articles published in international journals (as of 2018) by 25%. 	2017-2020
5.2.2	Establish mechanisms for promoting scientific research	Ministry of Agriculture	Ministry of Finance		2017-2020
5.2.3	Upgrade agricultural scientific-research institutes with modern laboratories, equipment and devices	Ministry of Agriculture			2017-2020
5.2.4	Transfer research findings to farmers through extension service providers	Ministry of Agriculture	Local executive authorities		2017-2020
5.3. Form extension service network based on agricultural needs					
5.3.1	Establish mechanisms for regulating the extension services in agriculture	Ministry of Agriculture		- design a functional extension system in agriculture;	2017

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
5.3.2	Improve performance of the Agrarian Science and Information Center	Ministry of Agriculture		<ul style="list-style-type: none"> - ensure that extension service providers operate across all regions; - establish a system of digital, media and publishing services available to producers. 	2017-2020
5.3.3	Establish network of extension service providers with country coverage	Ministry of Agriculture	Supply and Procurement of Food Products OJSC, local executive authorities		2017-2020
5.3.4	Establish the system of electronic, media and publishing services	Ministry of Agriculture	Supply and Procurement of Food Products OJSC		2017-2020
5.3.5	Increase the financial sustainability of extension centers	Ministry of Agriculture	Ministry of Finance		2017-2020
5.3.6	Look into the feasibility of providing extension services to agricultural producers through input suppliers, processors, and financial institutions	Ministry of Agriculture	Supply and Procurement of Food Products OJSC, local executive authorities		2017-2020
Strategic objective 6. Develop the agricultural market infrastructure and facilitate producers' access to markets					
6.1. Develop agricultural market infrastructure					

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
6.1.1	Establish market infrastructure facilities which provide wholesale and logistical services to fruit, vegetable, potato, and melon producers in the region	Supply and Procurement of Food Products OJSC	Ministry of Economy, Ministry of Agriculture, local executive authorities	<ul style="list-style-type: none"> - perform 90% of the slaughtering operations at slaughterhouses which comply with veterinary and sanitary standards; - establish 5 “green markets” and 50 “farmer stores” in Baku and big cities; - bring the ratio of storage capacity to the volume of fruits and vegetables produced up to 30%. 	2017-2020
6.1.2	Support establishment of modern adequate slaughterhouses in Baku and regions	Ministry of Economy	Ministry of Agriculture, local executive authorities		2017-2020
6.1.3	Support establishment of small and medium-sized cold storages for fruits, vegetables, potatoes, and melons	Ministry of Economy	Ministry of Agriculture, Supply and Procurement of Food Products OJSC local executive authorities		2017-2020
6.1.4	Support establishment of small and medium-sized grain storages in the cereal-producing regions	Ministry of Economy	Ministry of Agriculture, local executive authorities		2017-2020
6.1.5	Support for establishment of the network of “green markets” and “farmer stores”	Ministry of Economy	Ministry of Agriculture, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
6.1.6	Improve the digital database containing data on wholesale and retail prices of agricultural products	Ministry of Agriculture			2017-2018
6.1.7	Assess needs and take actions to develop transport services	Ministry of Economy	Ministry of Agriculture, Ministry of Transport, "Azerbaijan Railway" OJSC, local executive authorities		2017-2020
6.2. Improve the regulatory system of the agricultural market					
6.2.1	Improve the legal and regulatory framework for trade registration of agricultural products in the domestic market	Ministry of Taxes	Ministry of Economy, Ministry of Agriculture, local executive authorities	<ul style="list-style-type: none"> - Improve the regulatory system of the agricultural market; - facilitate all agricultural producers' access to markets; - to reduce the difference between the farm gate price and the end consumer price by 50% in the maximum. 	2017-2018
6.2.2	Establish Supply and Procurement of Food Products OJSC	Presidential Administration of the Republic of Azerbaijan			2016, Implemented
	Improve agricultural and food supply	Supply and Procurement of Food Products OJSC	Ministry of Agriculture, Ministry of Economy, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
6.2.3	Establish the system of interventions in case of unfavorable market conditions	Ministry of Economy	Ministry of Agriculture, Supply and Procurement of Food Products OJSC, local executive authorities		2017-2020
6.2.4	Establish an effective system to effectively regulate imports in order to protect the domestic agricultural and food market against unfair trade practices	Ministry of Economy	Ministry of Agriculture, State Customs Committee		2017-2018
6.3. Promote and support agricultural and industrial exports					
6.3.1	Provide support for geographical expansion of the export markets, and maintaining a stronger presence in the traditional export markets	Ministry of Economy	Ministry of Agriculture	<ul style="list-style-type: none"> - 200 farmers specialized in agricultural export until 2020; - ensure more than AZN 35 million direct and AZN 55 million indirect GDP impact (a total of AZN 90 million) in real terms in 2020; 	2017-2020
6.3.2	Promote the “Made in Azerbaijan” branding	Ministry of Economy	Ministry of Agriculture		2017-2020
6.3.3	Keep farmer informed about potential export markets	Ministry of Agriculture	Ministry of Economy		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
6.3.4	Identify potential exporter-farmers	Ministry of Agriculture	Ministry of Economy	- create 5060 jobs directly and indirectly;	2017-2020
6.3.5	Improve the certification system, and ensure compliance with international standards	State Committee for Standardization, Patents and Metrology	Ministry of Agriculture , Ministry of Economy		2018-2019
6.3.6	Provide support for obtaining export documents	Ministry of Economy	Ministry of Agriculture, State Customs Committee		2017-2020
Strategic objective 7. Environmental protection, sustainable utilization of natural resources, and management of impact by natural factors on agriculture					
<i>7.1. Establish mechanisms for mitigating the negative impact of climate changes and other natural factors</i>					
7.1.1	Assess the impact of climate changes on agricultural production, and develop an adequate adaptation plan	Cabinet of Ministers	The Ministry of Ecology and Natural Resources, Ministry of Agriculture, local executive authorities	- assess the impact of climate changes - develop an adequate adaptation plan for mitigation;	2017-2018
7.1.2	Improve the agri-meteorological database	Ministry of Ecology and Natural Resources	Ministry of Agriculture		2017-2018

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
7.1.3	Look into the feasibility of building an intervention and protection system against adverse weather conditions and hail for agricultural purposes	Ministry of Ecology and Natural Resources	Ministry of Finance, Ministry of Agriculture, local executive authorities		2017-2018
7.1.4	Strengthen coordination between the competent authorities to improve the legal and regulatory framework	Cabinet of Ministers	Ministry of Ecology and Natural Resources, Ministry of Agriculture, State Committee on Property Issues, local executive authorities		2017-2018
7.2. Improve environmental protection mechanisms in agriculture					
7.2.1	Establish indicators and make assessments of agricultural compliance with environmental standards	Ministry of Agriculture	Ministry of Ecology and Natural Resources, ANAS, local executive authorities	<ul style="list-style-type: none"> - reduce application of chemicals in agriculture by 30%; - reduce CO2 emissions in crop production and animal husbandry; 	2017-2018
7.2.2	Reduce CO2 emissions in the agricultural sector	Ministry of Ecology and Natural Resources	Ministry of Agriculture, local executive authorities		2017-2020
7.2.3	Establish protective forest belts	Ministry of Ecology and Natural Resources	Ministry of Agriculture, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
7.2.4	Adopt an economic approach to environmental protection	Ministry of Ecology and Natural Resources	Ministry of Agriculture, local executive authorities	<ul style="list-style-type: none"> - expand protective forest belts and the use economically efficient plant varieties in landscaping by 30%; - Increase the use of alternative energy sources in greenhouses by 20%; 	2017-2020
7.2.5	Protect agricultural-biological diversity	Ministry of Ecology and Natural Resources	Ministry of Agriculture, ANAS, local executive authorities		2017-2020
7.2.6	Evaluate the transition to “green economy” in agriculture, and use alternative energy sources in providing heat to greenhouses	State Agency for Alternative and Renewable Energy Sources	Ministry of Agriculture, Ministry of Ecology and Natural Resources, local executive authorities		2018-2020
7.3. Improve mechanisms of sustainable use of agricultural lands and water resources					
7.3.1	Establish the mechanism of conducting environmental impact assessment with regard to changed land designation	Cabinet of Ministers	Ministry of Ecology and Natural Resources, Ministry of Agriculture, State Committee on Property Issues, local executive authorities	<ul style="list-style-type: none"> - increase the total size of crop fields with crop rotation by 15%; - enrich the grass cover of pastures by 25%; 	2017-2018
7.3.2	Take action to ensure efficient use of land resources, and re-cultivate lands	Cabinet of Ministers	Amelioration and Water Management Office OJSC, Ministry of Agriculture, Ministry of Ecology and Natural Resources		2018-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
			State Committee on Property Issues, local executive authorities, recommended to municipalities	- improve 30% of the irrigation lands.	
7.3.3	Perform chemical soil tests	Ministry of Agriculture	State Committee on Property Issues, ANAS, local executive authorities		2017-2020
7.3.4	Improve pasture management	Cabinet of Ministers	Ministry of Agriculture, Ministry of Ecology and Natural Resources, State Committee on Property Issues, local executive authorities		2017-2020
7.3.5	Reduce water losses to consumers	Amelioration and Water Management Office OJSC	Ministry of Agriculture, State Committee on Property Issues, local executive authorities		2017-2020
7.3.6	Ameliorate and prevent re-salination of irrigation lands	Amelioration and Water Management Office OJSC	Ministry of Agriculture, State Committee on Property Issues, local executive authorities		2017-2020
7.3.7	Provide information based on the evaluation of water resources	Amelioration and Water Management Office OJSC	Ministry of Agriculture, Ministry of Ecology and Natural Resources, local executive authorities		2017-2018
7.3.8	Improve water use in drought-affected regions	Amelioration and Water Management Office OJSC	Amelioration and Water Management Office OJSC, Ministry of Agriculture,		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
7.3.9	Mountain river management	Amelioration and Water Management Office OJSC	local executive authorities Ministry of Ecology and Natural Resources, Ministry of Agriculture, local executive authorities		2017-2020
7.4. Development of eco-agriculture					
7.4.1	Improve the legal framework for eco-agricultural production and look into the possibility of developing state programs for that purpose	Cabinet of Ministers	Ministry of Agriculture, State Committee on Property Issues, ANAS, local executive authorities		2017-2018
7.4.2	Promote eco-products	Ministry of Agriculture	Ministry of Ecology and Natural Resources, Ministry of Economy, local executive authorities, recommended to municipalities	<ul style="list-style-type: none"> - increase the number of eco-agricultural producers by 50%; - increase eco-agricultural production twice. 	2017-2020
7.4.3	Establish eco-agricultural farms	Ministry of Agriculture	Ministry of Economy, State Committee on Property Issues, local executive authorities, recommended to municipalities		2017-2020
7.4.4	Develop eco-agricultural market	Minister of Economy	Ministry of Agriculture, local executive authorities recommended to municipalities		2017-2020

No	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
Strategic objective 8. Enhance state regulation of agriculture, and improve business environment					
8.1. Take action to create enabling agribusiness environment					
8.1.1	Improve the licensing, authorization and certification system in agriculture	Cabinet of Ministers	Ministry of Agriculture, Ministry of Economy, "ABAD" public entity, local executive authorities	<ul style="list-style-type: none"> - grant licenses, authorizations and certificates based on the "one stop shop" principle in agriculture; - improve laws and regulations in agriculture. 	2017-2018
8.1.2	Prevent unfair competition trends and increase anti-monopoly controls	Ministry of Economy	Ministry of Agriculture, local executive authorities		2017-2020
8.1.3	Monitor access of businesses to product market and availability of inputs, and develop reports	Ministry of Agriculture	Ministry of Economy, local executive authorities		2017-2020
8.1.4	Establish a risk-based inspection system	Ministry of Economy	Ministry of Justice, State Committee on Property Issues, Ministry of Agriculture, local executive authorities		2017-2018
8.2. Establish e-agriculture, and improve the registration and statistical system					
8.2.1	Establish Land Cadastre System	State Committee on Property Issues	Ministry of Ecology and Natural Resources, local executive authorities		2017-2018

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
8.2.2	Complete the “E-Agriculture” Information System, and manage subsidization through the system	Ministry of Agriculture		<ul style="list-style-type: none"> - establish Land Cadastre System - establish “E-Agriculture” Information System; - organize primary recordkeeping for 10 of the agricultural producers. 	2017
8.2.3	Consider the possibility of establishing the legal and regulatory framework for the registration of agricultural producers through the “E-Agriculture” Information System	Cabinet of Ministers	Ministry of Agriculture, local executive authorities		2017-2020
8.2.4	Develop statistical reports on the possible involvement of producers in contract farming and farmer unions	State Statistical Committee	Ministry of Agriculture, local executive authorities		2017-2018
8.2.5	Develop statistical reports and examine backyard crops	State Statistical Committee	Ministry of Agriculture, local executive authorities		2017-2018
8.2.6	Group orchard crop data based on traditional, intensive and super-intensive orchards	State Statistical Committee	Ministry of Agriculture, local executive authorities		2017-2018

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
8.2.7	Collect statistical data of cattle breeding and make examinations	Ministry of Agriculture	Local executive authorities		2017-2018
8.2.8	Identify and register cattle and sheep	Ministry of Agriculture	State Statistical Committee, local executive authorities		2017-2018
8.2.9	Establish e-database containing information about veterinary and phytosanitary control services	Ministry of Agriculture	Local executive authorities		2017-2020
8.2.10	Promote recordkeeping among the agricultural producers	Ministry of Agriculture	State Statistical Committee, local executive authorities		2017-2018
8.3. Strengthen the capacity of regulatory agencies					
8.3.1	Design a strategic development plan for the Ministry of Agriculture and other agencies attached to it	Ministry of Agriculture		<ul style="list-style-type: none"> - expand international cooperation of the Ministry of Agriculture; - ensure that 100% of the employees of the Ministry of 	2017
8.3.2	Develop and disclose annual reports on the	Ministry of Agriculture			2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
	activities of the Ministry of agriculture and its agencies			Agriculture acquire computer skills and knowledge;	
8.3.3	Strengthen the capacity of the Ministry of Agriculture in strategic analysis, planning and evaluation	Ministry of Agriculture		- increase the number of the English speaking employees of the Ministry of Agriculture by 50%.	2017-2020
8.3.4	Strengthen the capacity of regional (town) offices of the Ministry of Agriculture	Ministry of Agriculture	Local executive authorities		2017-2020
8.4. Improve the state support policy for agricultural producers based on development objectives					
8.4.1	Make assessments and present proposals to improve subsidization	Cabinet of Ministers	Ministry of Agriculture, Ministry of Economy, Ministry of Finance, local executive authorities	- extend the list of crops subject to subsidization;	2017-2018
8.4.2	Present proposals for improving the customs policy set for tax credits applied to agricultural producers, and the import of various agricultural inputs	Cabinet of Ministers	Ministry of Agriculture, Ministry of Economy, Ministry of Finance, Ministry of Taxes, State Customs Committee	- form a differential subsidization system based on regional characteristics;	2017-2018
8.4.3	Set forth proposals to provide state support for	Cabinet of Ministers	Ministry of Agriculture, Ministry of Economy, Ministry of Finance,	- develop a plan of incentives for farms located in highlands;	2017

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
	stimulating the growth of greenhouses		local executive authorities	- increase the total size of newly established orchards and greenhouses by 50%.	
8.4.4	Conduct a feasibility study for the discount sale of irrigation water to agricultural producers	Ministry of Finance	Ministry of Economy, Ministry of Agriculture, Amelioration and Water Management Office OJSC, local executive authorities		2017
8.4.5	Develop the proposal to provide state support for the growth of cattle breeding	Cabinet of Ministers	Ministry of Agriculture, Ministry of Economy, local executive authorities		2017-2018
8.4.6	Stimulate the growth of perennials	Cabinet of Ministers	Ministry of Agriculture, Ministry of Economy, local executive authorities		2017-2020
8.5. Design a system to monitor and evaluate agricultural policy outcomes					
8.5.1	Establish a system and methodology to monitor and evaluate the outcomes of the agricultural policy	Ministry of Agriculture	State Committee on Property Issues	- ensure availability of information to evaluate efficiency of the implemented agricultural policy measures	2017-2018
8.5.2	Develop reports on the evaluation of the agricultural policy outcomes	Ministry of Agriculture	State Committee on Property Issues, local executive authorities		2017-2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
8.5.3	Improve performance of the Farmer Data Monitoring System	Ministry of Agriculture			2017-2020
Strategic objective 9. Increase rural employment and welfare					
9.1. Strengthen the potential for the implementation of the socio-economic development policy in rural areas					
9.1.1	Develop and implement pilot projects for integrated rural development	Ministry of Economy	Concerned central and local executive authorities, Recommended to municipalities	- Establish the statistical base and monitoring system for rural socio-economic development	2017-2020
9.1.2	Establish the statistical base and monitoring system for rural socio-economic development	Ministry of Economy	Ministry of Labor and Social Protection, Ministry of Agriculture, State Committee on Property Issues State Statistical Committee, local executive authorities		2017-2018
9.1.3	Improve the existing legislation with regard to rural socio-economic development	Ministry of Economy	Concerned central and local executive authorities		2017-2018
9.1.4	Develop a state program for rural socio-economic development	Ministry of Economy	Concerned central and local executive authorities		2017

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
9.2. Support alternative fields of rural activities					
9.2.1	Develop rural tourism and eco-tourism	Ministry of Culture and Tourism	Ministry of Economy, Ministry of Agriculture, local executive authorities Recommended to municipalities	<ul style="list-style-type: none"> - increase the number of rural tourists twice; - increase the number of non-agricultural production areas and employees by 30%; - increase the number of woman employees working in non-agricultural areas by 20%. 	2017-2020
9.2.2	Develop non-agricultural production areas	Ministry of Economy	Ministry of Agriculture, Ministry of Labor and Social Protection, local executive authorities Recommended to municipalities		2017-2020
9.2.3	Develop service areas in rural areas	Ministry of Economy	local executive authorities Recommended to municipalities		2017-2020
9.2.4	Increase woman and youth employment in rural areas	Ministry of Economy	State Committee for Family, Women and Children Affairs, Ministry of Youth and Sport Ministry of Labor and Social Protection, local executive authorities, recommended to municipalities		2017-2020
9.2.5	Improve housing conditions for new young families	Cabinet of Ministers	Ministry of Labor and Social Protection, State Committee for Family, Women and Children Affairs, Azerbaijan Mortgage Fund, local executive authorities recommended to municipalities		2020

№	Actions	Key implementer	Other implementers / recommendations	Indicators	Implementation period
9.3.Support local community initiatives for rural development					
9.3.1	Increase municipal commitments for socio-economic development in rural areas	Ministry of Justice	Ministry of Economy, local executive authorities	<ul style="list-style-type: none"> - increase the number of rural jobs created by municipalities by 30%; - increase the number of woman and youth development projects in rural areas 3 times. 	2017-2020
9.3.2	Promote and support profitable community sectors in rural areas	Ministry of Economy	Ministry of Agriculture, local executive authorities recommended to municipalities		2017-2020
9.3.3	Ensure active involvement of women and youth in the socio-economic life in rural areas	Ministry of Labor and Social Protection, State Committee for Family, Women and Children Affairs, Ministry of Youth and Sport	Local executive authorities recommended to municipalities		2017-2020