



Program Information Document (PID)

Concept Stage | Date Prepared/Updated: 07-Jul-2019 | Report No: PIDC194487

**BASIC INFORMATION****A. Basic Program Data**

Country Kazakhstan	Project ID P170365	Parent Project ID (if any)	Program Name Sustainable Livestock Development Project
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 12-Nov-2019	Estimated Board Date 31-Mar-2020	Does this operation have an IPF component? No
Financing Instrument Program-for-Results Financing	Borrower(s) Ministry of Finance	Implementing Agency Ministry of Agriculture	Practice Area (Lead) Agriculture

Proposed Program Development Objective(s)

The proposed Program Development Objective is to facilitate the development of a sustainable, inclusive and competitive livestock sector in Kazakhstan.

COST & FINANCING**SUMMARY (USD Millions)**

Government program Cost	1,419.03
Total Operation Cost	500.00
Total Program Cost	500.00
Total Financing	500.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	500.00
World Bank Lending	500.00



B. Introduction and Context

Country Context

Kazakhstan has grown very quickly since independence and has ambitious goals for the future. Kazakhstan is currently an upper-middle-income country with a gross domestic product (GDP) per capita of US\$7,890 in 2017 (atlas based), powered by an abundance of oil, gas, and other minerals. It has used this wealth to improve the lives of its citizens and reduce poverty, which has fallen from 36 percent in 2006 to 6 percent in 2013. In addition to the impact of economic growth, the drop in poverty has been powered by significant price and social service subsidies.

However, two recent economic downturns—namely the global financial crisis of 2008 and, most recently, the Russian economic crisis of 2014—combined with the fall of global oil prices, have severely affected the growth profile of Kazakhstan. Kazakhstan's growth rate slowed to the 3–4 percent range in 2015–18 from an average of 6 percent in 2010–14. The economic downturn in 2015 after the Russian economic crisis, hit the financial sector hard, and resources required to salvage the financial sector ultimately constrained the resources available to the real economy and social safety nets. Government interventions helped to stabilize the financial sector, but the resources available to the real economy, particularly in agriculture sector and for rural development, have remained scarce since. In this period, the share of the population in poverty doubled from 6 percent in 2013 to a peak of 12 percent in 2016. In 2017 poverty reduction resumed, falling back to 8.5 percent. Particularly hard hit were the most vulnerable households, especially in rural areas. The recent increase in poverty highlights both the risks of a growth strategy that relies too strongly on oil exports and the extent to which a lack of economic diversification leaves rural areas vulnerable.

There is a widespread agreement within Kazakhstan on the need to strengthen growth and inclusiveness and focus on economic diversification. Higher oil prices in the last couple of years have somewhat strengthened macroeconomic outlook, but downside risks to the current growth model remain. Recent social unrest in rural areas, where the population has demanded equitable access to services and more income opportunities, has re-emphasized the need for rural development policies that would have an impact on the poor. As oil output growth stabilizes from 2019 onward, real GDP growth is expected to moderate to an average annual rate of 3 percent. This may not be enough to achieve equitable growth, especially in rural areas. In this context, in 2017 the government initiated a set of new strategies to diversify the economy away from oil and mineral exports. Among these strategies is the State Program of the Agro-Industrial Complex Development of Kazakhstan for 2017–2021.

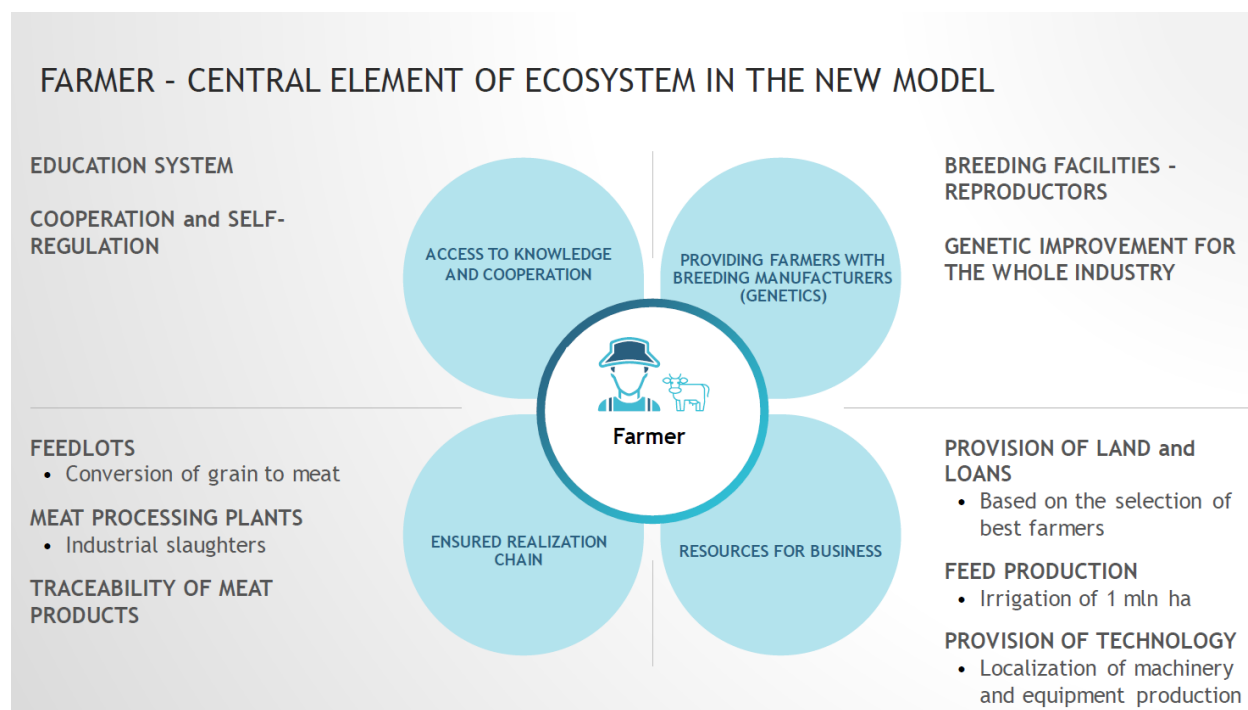
The program has four critical objectives to be achieved by 2021 in comparison with 2017: (i) increase agricultural labor productivity 2.5 times to 4 million Kazakhstani tenge; (ii) double the gross agricultural product and increase agri-food exports by 2.5 times; (iii) triple investments in the agri-food sector; and (iv) increase the availability of credit resources to the agriculture sector 9 times. As a major driver for achieving these key performance indicators (KPI), the government identifies the livestock production sector, which will use Kazakhstan's tremendous natural resource potential and will act as a pull mechanism for developing other sectors of agricultural production and services.

In the newly formulated National Livestock Development Program for 2018–2027 (Livestock Program)



the government declared the farmer-centric (as opposed to industrial agri-corporations- centric) approach to agriculture sector development as the preferred way of achieving of these KPIs. As rural population comprises around 42 percent of the total population, the new approach has the opportunity to address the much-needed job creation and economic opportunities for the rural population.

Figure 1. The government has declared the farmer-centric (as opposed to industrial agri-corporations- centric) approach to livestock sector development as the preferred way of achieving its KPIs



Source: The government’s Livestock Program.

While patterns of equitable growth in rural areas and the farmer-centric approach to agricultural development have captured attention in recent years (Figure 1), it is important to recognize that agricultural development since independence has been achieved by extensive subsidies to large agri-enterprises and corporate farms. These subsidies have enabled large agri-enterprises to gain new technology, improve productivity, and access export markets. However, these subsidies were not broad-based and did not have trickle-down effects for other agricultural producers and food processing industry. The productivity gap between large and small agricultural producers increased, concentrating productivity gains mostly in the large corporate agribusiness sector. Many small agricultural producers exited the sector, as evidenced by the significant reduction of the labor force in agriculture since transition, partly driven by the creation of jobs in non-agricultural sectors. Those who remained in the sector did not improve their productivity and profitability. For example, the average milk yield per cow in 2017 at agri-enterprises was 3.9 tons; individual farms, 2.4 tons; and households, 1.9 tons.

The government realizes that while supporting the large corporate agri-enterprise sector it may help to achieve its objectives of non-oil export expansion, but this would not help to improve the socioeconomic well-being of most of the rural population. Also, such approach may not create more jobs and income



opportunities for smaller-scale entrepreneurs—individual farmers. Therefore, the government is looking into attracting and retaining export-oriented and efficiency-seeking investments that would not only be critical for overall economic diversification, including in the agriculture sector, but would also help to promote rural employment and the well-being of the rural population: hence the farmer-centric approach to agriculture development. Achieving economic diversification that also leads to broad-based employment and income growth in rural areas, thus reducing the productivity and income gap for small and medium farmers, is not trivial. In the context of the current growth model—given the vested interests of large business and the inefficiencies inherent in targeting public services for agricultural development, as well as lack of resources to promote broad-based growth—transformative approaches would be required. The forthcoming World Bank report *Harvesting Prosperity: Technology and Productivity Growth in Agriculture* notes that policies that promote agricultural knowledge generation, extension services, risk mitigation opportunities, and access to finance can enhance technology adoption, reduce the productivity gap, and improve incomes for small and medium farmers.¹

Sectoral (or multi-sectoral) and Institutional Context of the Program

Positioning the agriculture sector as one of the drivers for economic diversification is warranted because the sector has the natural resource potential and can benefit from proximity of lucrative markets. Kazakhstan is a major producer of agricultural commodities and plays an important role in regional grain commodity markets. The country is in the world's top 20 for the production of grains (wheat, barley) and oilseeds (sunflower seeds), and in the top 10 for the grain exports. Growth in Kazakhstan's agriculture sector averaged 4.3 percent annually in 2001–18, despite being uneven during this period owing in part to climatic factors. The share of agriculture in Kazakhstan's GDP declined steadily until 2010, but it has been stable since then, at about 4.2 percent. The rural population is 42 percent of the total population and the sector employs nearly one-fifth of the working-age population and, as such, is critical for addressing rural income generation as well as food security and poverty reduction. Kazakhstan has a total cultivated area of 23.5 million hectares (ha) and 181 million ha of rangeland, one of the largest areas in the world.

The country's vast pasturelands constitute a solid base for the livestock production system. However, it suffers from underutilization because of a lack of infrastructure and degradation and land tenure issues. In 2012, 181 million ha were classified as pastureland.² Of these, 30 million ha were classified as eroded or degraded in 2010.³ In addition, it has been estimated that 30–40 million ha are wooded or saline.⁴ Finally, 120–130 million ha of rangeland are considered usable for grazing when drinking water for the livestock is or can be made available. The pasturelands of Kazakhstan are or have been subject to frequent droughts and wind erosion. Most of the land is owned by the state and leased to

¹ Forthcoming.

² Agriculture, Forestry and Fisheries Statistical Books of Kazakhstan, 2008–2012.

³ Highlights on Four Livestock Sub-Sector in Kazakhstan, FAO, 2010.

⁴ T.W. Schillhorn van Veen, Rangelands in Transition, World Bank Technical Paper, 2004.



private contractors. Kazakhstan hosts the largest landowners in the world.

Against this backdrop, livestock production represents a natural driver to pull the growth of agriculture sector and promote jobs and income opportunities in rural areas. Livestock production represented 46.6 percent of agricultural output in 2018. Whereas over half of grain production is concentrated in large agricultural enterprises of over 10,000 ha, the livestock sector is dominated by household plots and individual farmers. These smaller-scale agricultural production holds about 80 percent of the ruminant herd. The poultry sector is more consolidated, with three poultry companies controlling 30 percent of national supply. As a new form of agricultural business in post-Soviet Kazakhstan, individual farms vary significantly in size. Although they can be as small as a single household, they represent a formal means of participating in agricultural production. The share of individual farms in livestock production has increased over time and surpassed the share of agricultural enterprises in the early 2000s. Although most of the livestock production is still in the household plots, individual farms and agri-enterprises tend to have higher productivity and participation in formal markets.

Developing a competitive livestock sector in Kazakhstan has several challenges. Despite vast natural resource availability, severe climatic conditions limit the year-round availability of fodder. Because of this limitation, any sectoral development strategy for livestock needs to take in account that feed constitutes the major share of the overall cost of animal production (between 60 and 90 percent). It is a major determinant for the efficiency of a production system as well as for the competitiveness of meat production.

Government expenditures have traditionally favored large producers and focused on increasing agricultural production through direct subsidies rather than improving the quality and safety of products. In 2016, there were 65 subsidy programs, but in recent years the government began to make improvements. In 2017, the number of subsidy programs decreased to 54, and output payments to livestock farmers/agri-enterprises were replaced by subsidizing the costs of feed, the purchase of breeds, and capital investments.⁵ The challenge is to make most subsidies conditional on meeting certain conditions such as climate smartness, quality improvements, or working with small farms (for example, cross-compliance), increasing the transparency of subsidy allocation, and reallocating some subsidies to the delivery of general support services.

Another challenge is low productivity. The Kazakhstani cattle herd counts 7.5 million animals, with relatively low productivity but huge potential for growth and improvement. About 70 percent of the herd is dedicated to milk production and the rest to beef. Winter feed availability, suboptimal management of common pastures, and poor animal genetics are major constraints to yield in both milk and meat sectors. Recent progress made in those areas—for example, by breeder associations and private investments in feedlots—are, however, contributing to ongoing productivity gains. The average carcass weight of beef cattle slaughtered for export has risen from 150 kilograms to 190 kilograms since 2010. For reference, the average carcass weight in Canada, with similar climatic conditions, is 380 kilograms. Closing the productivity gap would enable national production to surge. Furthermore, the vast extent of unused and underused rangeland, as well as the surpluses of relatively cheap grain, can support a larger herd (average cattle density on pasture is currently half of that observed in Mongolia, and a tenth

⁵ OECD (2018). Agricultural Policy Monitoring and Evaluation 2018, OECD Publishing, Paris.



of the average density in Canada).

With this potential, Kazakhstan has vast export opportunities, but they are currently unutilized. The basic and preliminary assessments of the World Bank/IFC and the benchmarking of production costs of beef in Kazakhstan indicate that Kazakhstani pasture-fed beef may be competitive in global markets, if the sector improves its practices and production scales, lowering costs. The primary potential export markets include China (US\$2.6 billion worth of imports and growing), the Middle East (US\$1.8 billion worth of imports and growing), and the Russian Federation (US\$1.3 billion worth of imports and contracting). In terms of trade infrastructure, Kazakhstan's geographic, economic, and political proximity to China and the economic opportunities created by China's Belt and Road Initiative offer an opportunity to enter the Chinese beef market. Kazakhstan is already increasing its agricultural exports (grains, lamb, vegetables, fruits) to China, and there are good reasons to believe that beef could be the next big opportunity. Kazakhstan is also a member of the Eurasian Economic Union, where it enjoys a free trade regime with Russia—still a significant beef importer. Therefore, Kazakhstan has the potential to be able to cater to the Russian market—especially in Siberia and the Ural regions of Russia, where it has established transport routes and historical contacts. The export of food and agriculture products accounted for 5 percent of Kazakhstan's total exports. A major part of agriculture exports (US\$1.7 billion in 2018) comes from the export of grain and flour. The export of meat and meat products, which reached US\$44.7 million in 2018, is noticeably higher than the same exports of US\$20.0 million in 2017 and US\$18.7 million in 2016.

Despite these promising neighboring markets and the production growth potential, exports are still low. This is mostly caused by the lack of a traceability system and veterinary inspection services that operate to international standards and by insufficient export infrastructure, as well as by the absence of a clear export strategy that builds on the country's comparative advantages (quality, price, and halal certification).

To realize this potential, the Government of Kazakhstan has declared its intention to develop an export-oriented livestock sector. In this context, the government's 10-year Livestock Program—the Concept of Implementing a Sectoral Investment Program for Livestock Industry Development, 2018–2027—addresses these key development objectives. The government's Livestock Program anticipates about US\$10 billion in investment over the 10-year period for the sector development and intends to attract an additional US\$10 billion from the private sector (including farmers' co-financing), financial institutions, and international donors. Over the proposed period of 10 years, the government intends to double beef output and give the opportunity to 80,000 small and medium farmers to be included in the export-oriented beef value chain and benefit from better income opportunities and job creation in rural areas. The focus of the government program is to: (i) increase the beef cattle herd in the country by importing cattle stock of genetically high quality and acclimatizing it to local conditions; (ii) expand productive pasture and grassland by investing in infrastructure (roads and irrigation) and quality seed production; and (iii) improve market linkages and productive service provision for beef cattle producers by investing in animal health, traceability, trade logistics, and so on.

To achieve the objective of developing the export-oriented beef sector, and hence ultimately doubling beef output, requires transforming the sector so it can also address several important development objectives. The first of these objectives is to increase rural incomes by creating jobs and income opportunities in the countryside. The second is to diversify exports. The third is to take advantage of



the opportunity to use its large natural resources (grassland and pasture) potential more effectively and in a more climate-friendly manner. Given its slight experience with export-oriented beef and the considerable international experience in the beef export market of players such as the United States, Brazil, Uruguay, Argentina, and others, Kazakhstan is facing significant competition. The Government of Kazakhstan will also face a real challenge in guiding and facilitating the orderly growth of the many parts of the value chain that are essential to the effective and inclusive growth of the sector, and to comply with the quality and food safety requirements of international markets. This will require adequate planning and policy frameworks.

Kazakhstan's ambitions for developing an export-oriented beef sector will have considerable global implications on the climate feasibility of its livestock sector strategies. Therefore, to be successful, the World Bank's support to the sector should have explicit goals that address climate change implications. The program design would have a goal of zero net greenhouse gas (GHG) emissions. Direct emissions from livestock account for about 80 percent of agriculture GHG emissions (21.43 Mt of CO₂ equivalent) and 8 percent of the national GHG emissions in Kazakhstan. Indirect emissions from feed production, energy, and transport need to be added to these emissions for a full picture of the entire supply chain. Doubling the sector's output by expanding the herd would essentially result in doubling the sector's emissions. Solutions, however, exist to control emission growth, and possibly reverse them to achieve zero net emissions in the sector. These solutions include: (i) limiting emissions along the supply chain by shifting toward more productive and efficient practices (for example, in areas such as animal feeding, genetics, animal health, energy efficient equipment); (ii) sequestering carbon in pasture and rangeland (grazing management and live fences); and (iii) displacing fossil fuel consumption with renewables (biogas, solar, wind turbines). On the other hand, the livestock sector in Kazakhstan is also highly vulnerable to climate change as a result of its heavy reliance on drylands and exposed rangeland production systems. Climate change scenarios suggest that future weather conditions will increase the vulnerability of natural pastures and crop and fodder production.

Relationship to CAS/CPF

The program is fully aligned with and directly contributes to the draft CPF supporting the CPF Focus Area 1: Promoting Diversified Growth. Within this focus area, the program is aligned with the Objective 2: Promoting Market-led Agriculture Growth, which aims to strengthen institutions providing services to smallholders; improve access to finance, seeds, and veterinary services; and improve pasture land management. The proposed project is among the three projects prioritized for World Bank Group support by the Government of Kazakhstan, reflecting the World Bank Group's comparative advantage in providing transformative and strategic investment, technical assistance, and knowledge aligned to specific development challenges.



Rationale for Bank Engagement and Choice of Financing Instrument

The World Bank has global experience in supporting a sustainable livestock sector development in many countries, including in successful beef exporters, such as Uruguay. The World Bank, together with other partners, has recently developed the Livestock Sector Investment and Policy Toolkit,⁶ which provides a framework for controlling emission growth and increasing the inclusive nature of livestock value chains. The toolkit will be applied in Kazakhstan. And the World Bank has been influencing the thinking of the Government of Kazakhstan on key pillars of a successful export-oriented meat industry over the last two years, which make it strongly positioned to continue engagement through the project.

The proposed financing instrument is the Program-for-Results (PforR). It is a suitable instrument to support the implementation of the ongoing Livestock Program and influence it entirely rather than financing selected investments. As a middle-income country, Kazakhstan is well suited to use PforR for achieving better results from its budget resources. Hence the proposed PforR offers an opportunity to leverage World Bank financing to provide additional incentives for Kazakhstan to transform its livestock sector. Such transformation would require focus on the efficiency of the government's own programs by supporting improvements in its public expenditure performance as well as by focusing on the consistency of results to ensure that the key elements of the Livestock Program—namely, the farmer-centric approach and net zero GHG emissions target—are achieved. Furthermore, the proposed PforR would provide incentives for strengthening agricultural support delivery mechanisms to ensure a better focus on rural income generation and job creation.

The World Bank has several roles to play in assisting the Government of Kazakhstan in developing its meat sector. The first is to help the country to access highly competitive and regulated international markets by developing the necessary traceability system, inspection services export infrastructure, and marketing strategies. The second is to assist the government in designing interventions that could help achieve the sector's growth potential in an environmentally sustainable and inclusive manner, generating jobs and incomes in rural areas while controlling GHG emissions. In this context, the World Bank is uniquely positioned to bring its global experience in achieving triple wins: to increase sector competitiveness while designing programs for smaller farmers and minimizing the GHG emissions. The third is to assist the government in making a good choice to put in place the policies, expenditures, and institutions that will enable the transformation and growth of the sector.

⁶ Livestock Sector Investment and Policy Toolkit has been developed by a consortium involving the World Bank, the International Livestock Resources Institute, the French CIRAD, and FAO, and was successfully used in supporting the development of several Livestock Master Plans in Bank operations.



C. Program Development Objective(s) (PDO) and PDO Level Results Indicators

Program Development Objective(s)

The proposed Program Development Objective is to facilitate the development of a sustainable, inclusive and competitive livestock sector in Kazakhstan.

PDO Level Results Indicators

At the stage of technical identification, the following PDO-Level Results Indicators were identified and preliminarily defined:

- (i) The project results in zero net emissions of Greenhouse gases (computed as "GHG emissions from beef value chains - (carbon sequestered in grassland + fossil fuel energy displaced by renewables produced on production and processing units)") (*sustainable*)
- (ii) Increased incomes for small and medium cattle farmers targeted by the project, gender disaggregated (*inclusive*)
- (iii) Expanded market access for high-value Kazakhstani beef exports (*competitive*)

D. Program Description

PforR Program Boundary

The National Livestock Development Program (covering 2018–2027) as published on the website of the Ministry of Agriculture (Livestock Program) defines the PforR boundaries less the activities that are considered ineligible. The Livestock Program sets the goals for the livestock sector development, establishes key mechanisms of achieving these goals, and provides estimates of required financing. The Livestock Program is the major strategy document in that it defines the priorities and focus for the government support of the livestock sector. To identify the funding commitment of the Livestock Program, the team delved deep in the government expenditure framework to ascertain that the Livestock Program is funded. The expenditure framework consists of two key documents: the 4-year rolling State Program of Development of the Agro-industrial Complex of the Republic of Kazakhstan for 2017–2021 and annual Budget Laws. These documents cover the entire agricultural sector expenditure framework but are not detailed in terms of strategic vision of sectoral priorities. The Livestock Program provides this vision and specific targets related to the livestock sector development. Therefore, the PforR boundary can be defined by the Livestock Program.

Based on the review of the Government Programs, the total government program cost relevant to the Livestock Program implementation for the period of 2019-2021 is estimated at around US\$ 1.42 billion. The relevant programs for the proposed PforR boundary include the following categories in the State Program (in the 2019–21 planning period): (i) creating conditions for developing the livestock sector, which covers various animal health, disease control, and food safety subprograms (around US\$ 60 million); (ii) improving access to land information systems, which covers several subprograms (around US\$ 53 million); (iii) increasing access to knowledge and research, which covers various crop and livestock research and extension programs (around US\$ 24 million); (iv) implementing various subsidy programs for livestock sector development (estimated at US\$ 617 million); and (v) various loans and



credits of KazAgro to support livestock sector (estimated at US\$ 660 million).

While there is no program for the traceability of livestock products yet, the government has taken first steps to establish such a program and thus the proposed PforR support could be available. An underlying assumption is that the government has made a comprehensive cattle breeding policy and/or strategy action plan to guide development of long-term cattle genetic resources in the country (to be reviewed during preparation).

The above programs, along with the programs on the development of pasture, fodder, and feeding practices, would provide the basis for the definition of the expenditure boundaries for the proposed PforR during the project preparation. The spatial boundaries of the proposed PforR would cover the whole geographic area of Kazakhstan. The proposed implementation period is 2020–24.

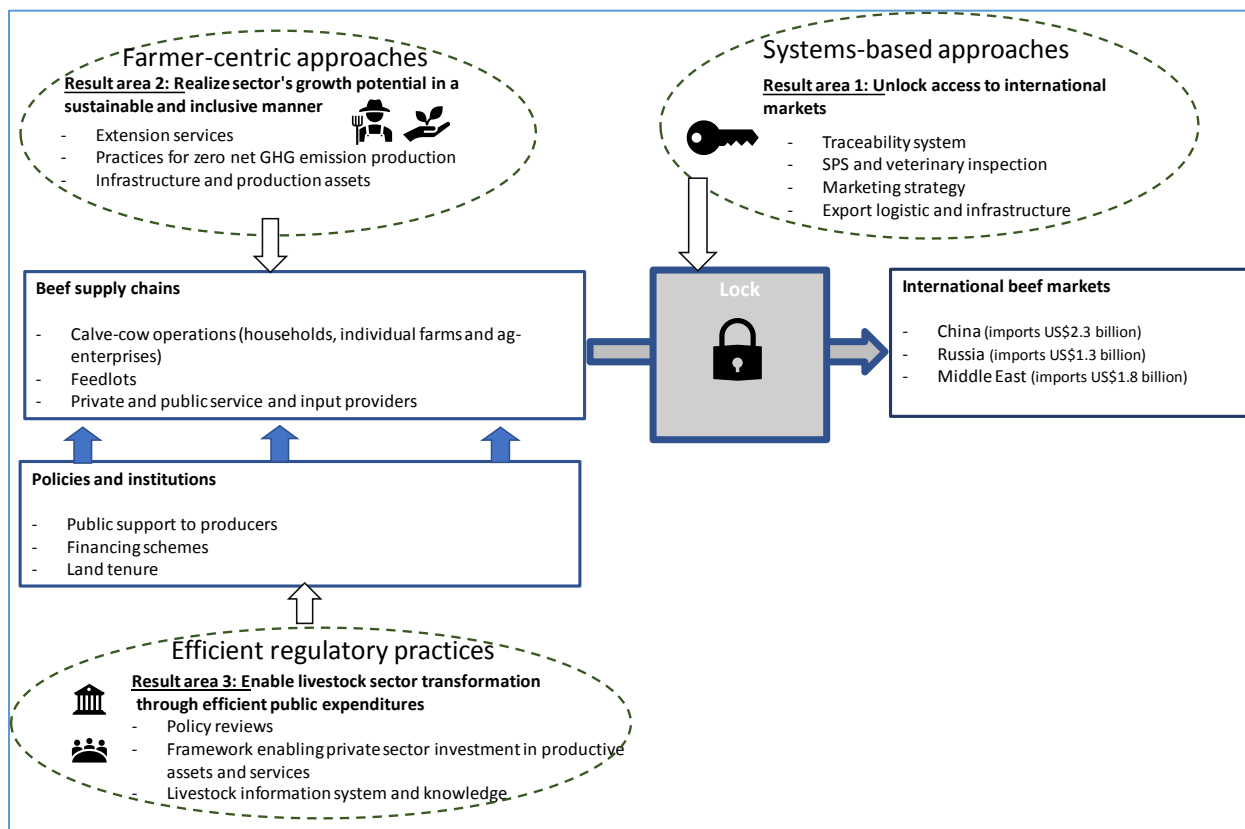
During the project preparation, the World Bank and the government will agree on the disbursement-linked indicators (DLIs), which cover their technical scope, targets, and values.

Theory of Change

Within this broader strategic context, the PforR would address several legal, regulatory, and institutional strengthening actions. Building a competitive and export-oriented livestock sector will likely require a decade of investment and sustained improvements in value chains and in the management practices of farmers and agri-enterprises as well as the performance of supporting government agencies, such as for research and development, education, extension, breed improvement, animal health, and so on. It will also require changes on the part of the government and livestock sector farmers and businesses that empower them to play important purposive roles in ensuring that their investments in expanding livestock production, processing, and distribution do not result in more GHG emissions and environmental degradation.

In this context, the theory of change (Figure 2) is focused on unlocking the potential of Kazakhstan's livestock sector and expanding export opportunities while ensuring environmental sustainability and zero net emissions of GHGs. The PforR will help build and apply **systems-based approaches** for ensuring meat traceability, food safety, and quality. The PforR would include **farmer-centric approaches** for promoting farmer inclusions in export value chains, expanding applications of good animal husbandry practices, and promoting on-farm technologies with low or no impact on the environment and GHG emissions. Lastly, the PforR would promote **efficient-regulatory practices** by bolstering the evidence base for enhanced agricultural support programs, improved public expenditures, and better regulation of the meat sector.

Figure 2. Theory of change: The proposed PforR operation aims to unlock the potential of Kazakhstan's livestock sector



Note: GHG = greenhouse gases; SPS = Sanitary and Phytosanitary

Results Areas

Results Area 1: Unlock access to international markets

The objective of Results Area 1 is to promote systems and mechanisms for export-oriented meat sector development by establishing an effective traceability system, improving veterinary service delivery for better animal health and nationwide disease control, and introducing environmental and climate-smart enforcement mechanisms for livestock production. The technical assessment will focus on the following:

- (i) Establishment of an effective traceability system. Currently the government's Livestock Program does not include traceability systems. However, the government has already taken important steps to establish such a system by 2020. As such, the PforR would support the establishment of the credible livestock products traceability systems, which would contribute to national food safety and export performance. During the preparation stage, the team will review options for the establishment of such animal and meat traceability systems, building on the experience of the current animal identification and registration system that is functional in Kazakhstan and using global experiences—for example, from Australia and Uruguay.



- (ii) Veterinary service delivery for safe meat production aligned with export orientation. According to the most recent OIE (World Organisation for Animal Health) evaluation of Performance of Veterinary Services (PVS) in 2018, compared to the OIE PVS 2011, Kazakhstan has made major changes and achieved general improvement across 47 parameters considered in the evaluation. Substantial specific improvements were recorded in upgrading public veterinary service provision and infrastructure as well as emergency animal disease control systems, and in establishing national strategies for key livestock disease controls. In this period, Kazakhstan achieved OIE disease-free status for several economic and zoonotic transboundary animal diseases. In fact, Kazakhstan's achievements in public veterinary service delivery have been so robust that the OIE PVS 2019 notes that these considerable achievements in the public sector may have crowded out the capacity for private veterinary service delivery.

The quality of private veterinary services is very important for the farmer-centric livestock development model, as individual farmers rely on these services. Large agri-corporations employ their own veterinarians and agronomists, which individual farmers cannot afford. Private veterinarians deliver key services that are not covered by public services and are essential for productivity improvement. The technical assessment will review options for promoting quality private veterinary service delivery. PforR interventions would be aimed at policies that create efficient markets for private veterinary services, support quality service provision, and improve access.

- (i) Environmental sustainability of livestock production. The proposed PforR would aim to reduce the environmental footprint of the livestock sector in Kazakhstan. This goal includes an aspirational target of a net zero emissions beef sector, which would contribute to the achievement of the National Determinate Contributions (2015). This aspirational target would be further refined during the preparation. A potential revision would include aiming for *zero net emissions growth*, if actual *zero net emissions* would be too challenging to achieve. The PforR would also investigate other areas of environmental sustainability, including the management of surface and groundwater resources and the preservation of biodiversity. Reducing the livestock sector footprint can be considered essential for the development of future (especially premium) beef export markets in the current context of increased consumer awareness of the sector's contribution to GHG emissions. The technical assessment will employ the *Guide to Investing in Sustainable Livestock and the Livestock Sector Investment Policy Toolkit*, as part of the program design process. This tool covers the multiple dimensions of environmental sustainability, and it can provide accessible and complete information, guidance, and instruments to support the National Livestock Development Plan. At the same time, the PforR will aim at strengthening the resilience of the sector, especially with regard to the impact of climate change on rangelands' ecology and productivity, on the exposure of animals to extreme weather events and emerging diseases, and on water resources and the yield of feed crops.



Results Area 2: Realize the sector's growth potential in a sustainable and inclusive manner

The objective of Results Area 2 is to support jobs and improve incomes in rural areas through the *sustainable* management and utilization of existing grasslands and pastures, increasing small and medium livestock farmers' access to grassland and pasture resources, supporting infrastructure upgrades to increase the quality and quantity of fodder, and promoting market linkages and service provision for small and medium farmers.

The technical assessment will focus on the following:

- (i) Sustainable access to grassland. Kazakhstan's rangeland resources are vast but under- or miss-utilized. Following the contraction in herd inventory, remote rangeland use decreased. As a result, vast areas of rangelands, far from human settlements, are not used. The lack of watering points limits access to remote pastures. There are also problems related to land tenure rights, secure property rights (this discourages ranchers from investing in the needed supporting infrastructure, such as watering points, roads, and barns).

In order to find the better options to expand the grassland area, the technical assessment would cover the following topics: (i) equitable land access policies and procedures; (ii) machinery and equipment availability and needs; (iii) infrastructure quality and availability (access roads, animal drinking water facilities etc.).

- (ii) Increase the supply of high-quality fodder. Livestock production and productivity are directly dependent on the quality and availability of the fodder supply. Kazakhstani producers face problems such as the low productivity of pasture resources due to the lack of management skills, as well constraints for the cultivation of forage crops due to the low level of farm equipment and modern agricultural machinery and the lack of appropriate coverage of extension services and technical assistance. In addition, in general there is a low protein content in the livestock diets.

The productivity parameters of ruminants, especially for household systems, are considerably lower than they were in the time of the former Soviet Union, especially in winter. This can be largely explained by insufficient fodder and feed, which do not provide all the nutritional need of the animals. There is little to no understanding among many current livestock owners about the nutritional requirements of animals.⁷ Raising farmers' awareness and knowledge is a prerequisite for more efficient utilization of the available resources.

The project can play a fundamental role by promoting the development of fodder production and improving feeding practices at the farm level. It could also include marketing and market development for fodder production, market information, and business planning.

To increase the supply of high-quality fodder, farm extension and advisory services need to be improved. Current activities can be more effective if they promote technology transfer mechanisms that are adapted to the farming structure, considering a bottom-up approach. In

⁷ World Bank, 2014. Fodder Production and Animal Nutrition. Report No. ACS10107.



other words, extension services can be adapted to the needs of small and medium commercial farms. In addition, it is important to reach out to most of the rural clients using successful approaches such as the farmer field schools and taking advantage of the modern technologies of information and communication.

In the same way, the project can promote and facilitate the identification of innovative ways to transfer knowledge and technology services, based on livestock associations, consulting services, and training institutes. Additionally, it can assess options for enabling livestock producers and small-scale feed producers to test the nutrient value of their fodder products.⁸

In order to get a better understanding of the described limitations, the technical assessment would focus on the following technical areas related to feed and fodder production, inter alia: (i) fodder production systems (main crops, grasses), the availability of seeds, the yields and quality of fodder, and mineral and organic fertilizer use; (ii) statistics related to fodder availability during winter months; (iii) feasibility of irrigation systems and techniques; and (iv) structure and coverage of the current extension and technical advice services.

- (iii) Developing practices for zero net GHG emission value chains. The program will support research and development and encourage private sector investment in three areas. First, minimizing GHG emissions along beef supply chains by: a) reducing direct emission of enteric methane and nitrous oxide and methane from manure management (improvement of feed rations, management of reproductive herd, management of manure); b) reducing energy consumption at production, transport and processing stages (design, energy efficient buildings and equipment); c) minimizing waste and improving their management at processing stage. Second, improving carbon sequestration in grassland, through better grazing management, targeted fertilization, and plantation of trees and live fences for wind protection. Third, research, development and promotion of renewable energy production systems for cattle farms and slaughterhouses.

- (iv) Link farmers to markets and promote sustainable productive partnerships. The program will support sustainable partnerships among small and medium farmers, feedlots and key market players. This would further develop the meat value chain and promote inclusive participation of small and medium farmers by providing appropriate incentives from government expenditure programs (it would essentially imply reallocating some of the current subsidies for such incentive payments). It is expected that participating farmers would benefit from improved income opportunities, would have a stable market for premium meat products, and would have access to services (for example, training, breeding programs, input provision, and others) provided by feedlots. The technical assessment will review (i) current practices for farmer-feedlot relationships, (ii) service provision by feedlots; (iii) small and medium farm costs and returns; (iv) opportunities for promoting good agricultural and animal husbandry practices; and (v) equitable access to subsidy schemes.

⁸ World Bank, 2014. Fodder Production and Animal Nutrition. Report No. ACS10107.



Results Area 3: Improved efficiency of public expenditures

The objective of Results Area 3 is to support the enabling policy framework by improving the efficiency and targeting of the selected livestock subsidy programs with the objectives of incentivizing productivity gains, technology transfer, climate smartness, and food quality/safety improvement.

The technical assessment will identify opportunities to adjust selected farm subsidy programs to the above listed objectives. During the preparation, the task team will evaluate conditionalities of subsidies on compliance, considering desired outcomes, changes of subsidy conditions and targeting, and the opportunity to shift funds from subsidies to general support services.

Drawing on the previous analytical work (through JERP and other analytical and advisory activities), during the technical assessment the team will carry out a detailed assessment of the targeted subsidy programs for the livestock sector that could be improved in order to increase the overall efficiency and effectiveness of public expenditures in the sector and, where feasible, will suggest options for institutional enhancements that would improve the delivery of these results. A more comprehensive approach to the Livestock Program may be warranted, based on the technical assessment, which will help transform the Livestock Program into a full-fledged Livestock Development Master Plan using the Livestock Sector Investment Policy Toolkit. The toolkit will help more comprehensively understand the economics of the sector. A proper livestock information system may follow this Master Plan.

B. Role of Development Partners (if applicable)

The design of the proposed operation will benefit extensively from the experience and expertise of various international partners. Program indicators related to the veterinary sector will be based on recommendations of the recently completed Performance of Veterinary Services (PVS) study that was carried out by OIE (World Organization for Animal Health). Food and Agriculture Organization of the United Nations (FAO) technical expertise will be used extensively in analyzing Ministry of Agriculture budget expenditures as well as in designing and supervising activities related to animal husbandry and fodder production. FAO GLEAM model, together with soil carbon sequestration models will be used to assess the environmental impact of the program and possible benefits from mitigation measures. FAO jointly with the World Bank environmental team will implement a project on the sustainable pasture management that is financed through the GEF Sustainable Forest Management Impact Program. The project will include a review of sustainable pasture management practices and rehabilitation technologies; conduct integrated land (pasture and rangelands) use planning; provide an economic assessment of investments in carbon sequestering projects in the agriculture sector; and include many other activities that will inform implementation of the Livestock Program.

The Asian Development Bank (ADB) as a partner organization has declared its intentions to co-finance the government's Livestock Program. ADB supports a study on pasture resource assessment in North Kazakhstan. Results of the study should be ready by the end of 2019 and should inform the PforR design.



E. Initial Environmental and Social Screening

Environmental

The PforR operation's environmental risk is rated as Substantial. The identified risks from implementing the PforR result areas include the following: (i) soil erosion due to overgrazing; (ii) water quality deterioration due to leakages of manure and other residue, (iii) increase of dust and particulate matter in the air due to degraded grazing areas and feedlots; (iv) increased noise at the feedlots; (v) increased GHG emissions (methane and CO₂ emissions) from manure and animal wastes and reduced carbon sequestration capacity of land used for grazing; (vi) biodiversity loss due to grazing and reclaiming territory for feed production; (vii) water resource decrease; and (viii) trespassing of the territory on nature reserves.

Based on the initial screening of the national legislation and regulation, the environmental management system is well defined. The Environmental Code of Kazakhstan adopted in 2007, and with the most recent changes adopted in 2018, is the principle law that regulates relations in the field of protection, restoration and conservation of the environment, and use and reproduction of natural resources in the implementation of economic and other activities related to the use of natural resources and its environmental impact within the territory of the Republic of Kazakhstan. There are number of codes and laws that cover areas of forest and water resource protection and management, as well as land and sub-soil and fauna and flora protection. There is a detailed regulatory framework that defines procedures for cattle handling, feedlot design and operation, manure management, water abstraction, slaughtering facility design and operation waste management, and so on. These regulatory procedures need to be reviewed in order to understand specific requirements for manure and other waste management. Such multiple regulations may signal overstretched regulatory and monitoring authorities and weak enforcement.

The counterpart ministry for the PforR is the Ministry of Agriculture, whose capacity on environmental and social management systems needs to be assessed in depth. The capacity of other authorities will be assessed as well. The other important ministry is the Ministry of Energy of the Republic of Kazakhstan, which has overall responsibility for implementation environmental policies. Zhasyl Damu (the Green Growth Unit) at the Ministry of Energy is in charge of GHG inventory and reporting GHG emissions from different sectors on National Communication to the UNFCCC. The National Chamber of Commerce is in charge of the extension program implementation. The majority of the agricultural curricula are delivered by the National Agrarian Science and Education Center (NANOC). Other authorized state bodies and associations (for example, the Meat Union, NANOC) working in the field of environmental and civil protection were identified and their capacity to handle environmental and social issues will be assessed.

Social

The PforR operation's social risk is rated as Substantial. Given the scope of proposed interventions, the PforR Program portrays a highly diverse and heterogeneous stakeholder profile across the length and breadth of the country: livestock farmers, agriculturists, farm scientists, veterinarians, traders, marketeers, processors and packagers, exporters, transporters, and several segments of authorities. Activity spread too, correspondingly, is quite large—livestock, water supply,



sanitation, roads, credit, transhumance, health and hygiene, and so on. Hence, one of the key challenges will lie in mapping out comprehensively the stakeholder profile and its “system.” This would imply identifying various subgroups of beneficiaries/actors/functionaries; soliciting their expectations (from the project); and ascertaining their issues and concerns. Results emanating from these enquiries will have to be adjudicated against the existing system—policies, programs, legislation, institutions, and service deliveries. Action plans will have to be drawn to bridge the gaps, if any, between the existing and expected systems of functioning. This may warrant, among other elements, an effective and inclusive information, education, and communication campaign, especially to drive home health and hygiene aspects of the action plans. All these will have to be reinforced through gender lenses, and with an emphasis on youth. To accomplish these goals, a comprehensive social system assessment will be undertaken as a part of the overall Environmental and Social Management System Assessment (ESSA).

ESSA and Its Disclosure

The ESSA for PforR will examine the Government of Kazakhstan’s existing environmental and social management systems that make up the legal, regulatory, and institutional framework guiding the Program and will define measures to strengthen the system and integrate these measures into the overall Program. Prior to appraisal, the draft ESSA will be disclosed alongside the PID with a summary of ESSA findings and recommendations. Consultations will be held with relevant stakeholders on the draft (and proposed specific actions, if necessary) before or during appraisal, and recommendations received will be incorporated in the final ESSA.

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