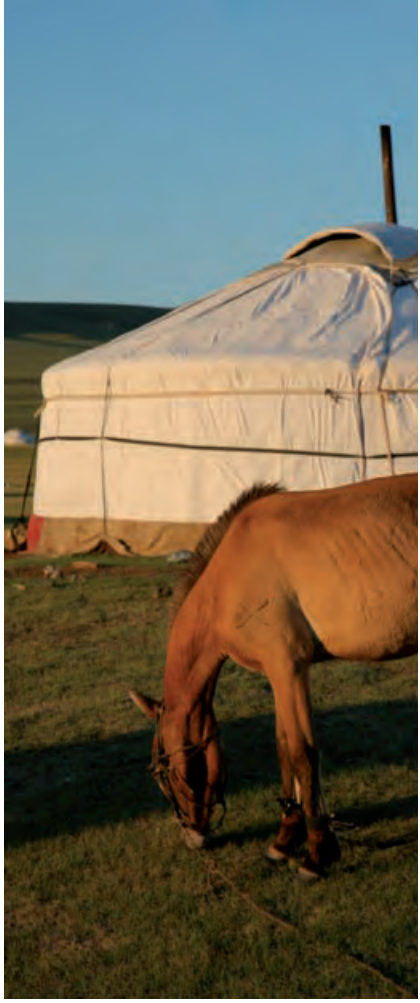
Highlights on four livestock sub-sectors in Kazakhstan



Executive summary

EXECUTIVE SUMMARY

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These "Highlights on four Livestock sub-sectors in Kazakhstan" have been prepared by the FAO Investment Centre Division in collaboration with the Analytical Centre of Economic Policy for the Agricultural Sector (ACEPAS); a company belonging to Kaz-agroinnovation of the Ministry of Agriculture (MoA) of Kazakhstan. The work has been financed entirely by FAO. The purpose of these reports is to help potential investors acquire basic knowledge about the technical features of the meat, dairy and wool sub-sectors in Kazakhstan as well of their domestic and international market positions.

The following international experts and national professionals have been involved in this work: Gerard van Rootselaar and Dastan Zholdassov (meat sub-sector); Svetlana Livinets and Nina A. Putiy (dairy sub-sector); Gregory L. Willis of Australian Agricultural Nutrition and Consulting and Vladimir Pak (poultry meat sub-sector); Ivan N. Rubanov and Dauren Oshakbayev (wool sub-sector).

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A

INTRODUCTION

At the request of the Ministry of Agriculture (MoA) of Kazakhstan, FAO has assisted the Analytical Centre of Economic Policy for the Agricultural Sector (ACEPAS) in its livestock sector studies. From December 2009 to March 2010, FAO reviewed four livestock sub-sectors: meat (beef, sheep and pork), poultry (meat only), dairy (cattle), and wool (sheep).

The review looked at the respective supply chains covering the structure and dynamics of the production systems, the resource base, services, processing, consumption, and market position. It also provided broad indications for strategies and development options. It was based on fieldwork throughout Kazakhstan, interviews with resource persons, and review of national and international documentation. Modelling and extrapolations from statistical agencies' data were also performed. Four two-person teams of international and national experts were recruited for the exercise, and their outputs were reviewed[1] by FAO.

The livestock sector is recognized by MoA as having great potential for diversifying the national economy and providing export opportunities. Accordingly, the Ministry is calling for a new strategic investment programme. FAO is continuing its support to MoA for the formulation of such a programme through a specific Technical Cooperation Programme (TCP) project, which is expected to start at the end of 2010. The review of the four livestock sub-sectors will constitute the main background analytical material for preparation of the investment programme.

1.- The review process in FAO provided valuable comments and recommendations, which are on file. Most of these have been incorporated in the final reports. Others, particularly those requiring further investigation and analyses beyond the scope of this work, will be taken into account during FAO's subsequent assistance to MoA and through implementation of the TCP.

B

MAIN CROSS-CUTTING ISSUES

Following the collapse of the Soviet Union, all animal populations in Kazakhstan rapidly declined by 50 percent. After a decade of transition, since 1998, the head count has been recovering at an average annual growth rate of about 5 percent for all species. For meat (including poultry) there are important signs of business renaissance wherever the market is able to drive production and value addition is increasing, but the other sub-sectors are lagging behind (especially wool). Most of the animal stock is still owned by household farms (HHFs),[2] but growth has now stagnated in this category; the numbers owned by peasant farmers (PFs) are increasing rapidly, while for agricultural enterprises (AEs), head counts are increasing slightly only for sheep and horses. Regarding geographical distribution, the bulk of national livestock is located in the southern and eastern regions of Kazakhstan.

The productivity parameters of all animal species are low across the country, mainly but not exclusively owing to feeding issues. The country has substantial rangeland resources, but these are underutilized because of insufficient or inadequate housing and watering infrastructure, the declining productivity of hay fields owing to limited maintenance, and the need to replace much harvesting machinery in all areas. Pasture areas near villages are strongly overgrazed. The development of a fodder production base in crop growing areas and farms is constrained by insufficient demand for high-quality forage. Farmers also have little confidence in the nutritional value of feeds manufactured in Kazakhstan, so feed mixes are largely produced on-farm, but inappropriate and unbalanced. The feed industry is underdeveloped and has old technology, and feed mills are

2.- Kazakhstan's officially recognized producer categories, which are reported by the Statistics Agency, include AEs, PFs, HHFs, and State farms (which are virtually extinct).

working at less than 60 percent of capacity. Many companies claim feed production among their activities, but their actual main output is flour and flour products. With some 7 million tonnes of low-grade grains produced yearly throughout the country, there would be an ample supply of energy ingredients for concentrate feed (although sources of protein for feeds are scarce).

By and large, government support is adequate in terms of the money allocated, and has a somewhat unbalanced beneficiary platform. The majority of PFs, which appear to be the most active category of producers, fall below the eligibility criteria for public support. In addition, there is an almost total lack of monitoring and evaluation (M&E) (including economic analyses) of public support programmes, so their efficiency and effectiveness are rather doubtful. This contributes to narrowing the revenue arena and broadening the informal economy. Regarding agricultural support services, the provision of cost-effective nationwide technical advice that is specific to different categories of farmer and production system is still in its infancy. The State-owned enterprise Kaz-Agro-Innovation (KAI), which brings together Kazakhstan's entire agricultural research and development (R&D) network and has recently (since 2009) been mandated by MoA to take over extension competencies, is making progress. Thanks also to the support of the World Bank-assisted Agricultural Competitiveness Project (ACP), KAI is establishing centres for knowledge dissemination (CKDs) attached to research institutes in each region (oblast). It is also undertaking needs assessments to improve understanding of farmers' demand for extension/training/advisory services. In addition, the information and communication technology (ICT) infrastructure is being upgraded, and on-line advisory services are being piloted through a unified call centre system.

Within the Soviet system, Kazakhstan was well-known as having scientifically advanced animal breeding capacity. Artificial insemination (AI) services are still widely available for stock breed improvement, but they are very cattle-centred, and the Assyl-Tulik Centre distributes almost exclusively Holstein Friesian semen. The disease control situation is fair, but still fragile, and much remains to be done to make the system

operate effectively. Kazakhstan is moving towards compliance with World Organisation for Animal Health (OIE)[3] standards, and veterinary services have a good monitoring capacity (including enzyme linked immunosorbent assay [ELISA] tests); a programme against highly pathogenic avian influenza (HPAI) is in place. A regulatory framework exists, and instruments concerning food safety have recently been updated, but full implementation still requires considerable work, such as in establishing disease-free zones, traceability, feed mix permits and rangeland regulations.

More specific issues of the livestock sub-sectors and their development opportunities are described in the following sections. In general, all areas would benefit from a new orientation of current government support schemes. In particular, public support should focus on restructuring and broadening the current economically significant subsidization programme. This could include the introduction of dedicated credit lines through commercial banks, and credit interest subsidies; the issuing of guarantee funds and rebate schemes for lending programmes; operational grants; and temporary tax relief. The sector-related risk assessment capacity of participating financial institutions could also be supported. Investment should be directed to specifically public goods areas (e.g., rangeland rehabilitation), human resources development, and the provision of technology and essential services (e.g., cost-effective veterinary and advisory services). An impact assessment of the current government subsidy programme is certainly warranted.

3.- Office International des Epizooties

C

PERSPECTIVES ON THE MEAT SUB-SECTOR

Per capita meat consumption in Kazakhstan has returned to high levels (at 69 kg/year), while exports are negligible (2008 data).

Production, export, import and consumption of meat and meat products, 2008

	Herd numbers	Production	Imports	Exports	Used for products[a]	Consumption	Consumption per capita
	thousand	thousand tonnes					kg/year
Total, excluding poultry		**867**	**57.6**	**0.4**	**45.6**	**878.5**	**56.4**
Cattle/beef	6 008	400	11.7	0.4	16.9	394.5	25.3
Horse meat	1 366	66	2.1		2.1	66.3	4.3
Sheep/mutton and goats	16 938	131	0.3		0.3	130.8	8.4
Pork	1 384	206	9.1		13.7	201.6	12.9
Other		6	0.6			6.1	0.4
Processed offal[b]		12.5			12.5	0.0	0.0
Sausages	40.5	41	28.4			68.9	4.4
Canned meat	5	5	5.4			10.4	0.7
Poultry	30 687	65	132.6	2.5		195.4	12.5
Total, all meat		**932**	**190.2**	**2.9**	**45.6**	**1073.9**	**69.0**

[a] Breakdown of meats used in the processing estimate.
[b] Offal used for direct consumption is not included in the data.

Source: Statistics Agency of the Republic of Kazakhstan, Custom Control Committee under the Ministry of Finance of the Republic of Kazakhstan.

Only a minor share of meat (14 percent, 125 000 tonnes) is slaughtered in recognized premises under veterinary control (and is thus value-added tax [VAT]-levied). However, this situation is expected to change gradually

but progressively, owing to the public health obligations that have been enacted with the new veterinary law and also because the sausage factories and – most of all – the supermarkets are imposing higher standards on producers and processors. Despite the market push and consumer trends, formal slaughtering capacity in the country is low and used at 70 percent.

The prices of meat are increasing, but at a lower rate than growth of the Consumer Price Index (CPI) and average per capita income. More knowledge of consumer behaviour is needed, to steer investment orientation and volume: Will demand be for more meat or for meat of better quality and presentation? However, it appears that standardized slaughtering capacity will be required to scale up four- to fivefold in the medium term, reaching about 800 000 tonnes of processed meat per year, some of which could be exported.

Regarding profitability levels, the estimated margins (as a percentage of present sales prices) for PFs and HHFs range from 57 percent for beef, 53 percent for horsemeat and 48 percent for pork, to minus 10 percent for mutton (demand for which is considered to have reached its peak). Despite such margins, producers' earnings over invested capital remain modest, especially for large animal species. In all cases, there is a need to decrease the current medium to high costs of meat production, through more efficient feeding, which would make Kazakh meat, particularly pork and beef, competitive on world markets. In this regard, important deficit countries to consider are Egypt, the United Arab Emirates and the Russian Federation (taking the new Customs Union [CU][4] into account). Although pork has interesting potential, beef production should be the priority.

The analysis identified the following broad recommendations for development of the meat sub-sector:

(a) *Focus development efforts on the PF category*, which currently appears to be the one most likely to grow profitably.

(b) Direct efforts to *increasing the productivity of existing breeds*, through multiplication, improving feeding and nutrition,

4.- The CU with the Russian Federation and Belarus has been effective since 1 January 2010.

evaluating on-farm performance, and managing information and databases.

(c) Promote widespread *demonstrations of improved technologies* (particularly for feeding and breeding) in producing areas, and continue investment in the encouraging extension systems and network that are being developed.

(d) Stimulate private investments by directing public expenditure to *pasture infrastructure rehabilitation* (water and energy supply, road access and mobile field facilities).

(e) Facilitate the development of a *modern feed industry*, through the renovation of existing feed mills, including improved laboratory facilities for producing feed of ensured quality, and the provision of specialized technical assistance.

(f) *Expand formal slaughter and processing capacity* near producing areas, with attached facilities for chilling carcasses prior to their transport to cities for further processing; establish the highest quality standards in special units for export.

(g) Consider the creation of preferential zones for export production, after further analysis.

D

THE SPECIFIC CASE OF POULTRY MEAT

The per capita consumption of poultry meat is 12.4 kg/year, which is somewhat lower than that in developed countries. The annual market for poultry meat in Kazakhstan is currently valued at about USD490 million, with a positive upwards trend in per capita consumption over recent years (except for the last two years, which show an overall supply decrease). Decreased imports are being partially compensated for by increased domestic production and market share. Of the 185 000 tonnes of poultry meat marketed in 2009, only 40 percent was produced domestically. Domestic supply is largely (85 percent) provided by ten leading vertically integrated enterprises (three of which account for 56 percent of this capacity). There is also an important backyard poultry population, estimated at more than 14 million head (almost half the poultry population of Kazakhstan) of mainly layers, but which provide about 14 percent of total broiler meat.

The domestic poultry meat industry is upgrading its capacity and modernizing its technology. Recent investments are expected to boost total annual poultry meat supply to 130 000 tonnes, which equates to 70 percent of the current market level.

All poultry meat is retailed frozen in Kazakhstan. Although the poultry meat sector is heavily subsidized at more than 50 percent of the landed price of imported frozen chicken, the country is still not competitive with the Russian Federation, Ukraine, the United States of America, Turkey and Brazil, inducing high imports (currently 60 percent of the market). The great majority of these imports (88 percent) are second-grade "grey meat"[5] from the United States. In all cases, imported poultry meat retails

5.- Called "bush legs".

at lower prices than domestic produce, notwithstanding subsidies, tariffs and VAT.

The recent CU with the Russian Federation and Belarus should provide higher protection from imports and lead to an increased domestic market share, but also provides a strong opportunity for tariff-free Russian chicken. In all cases, competition in the market is projected to increase substantially over the next one to three years, owing to the entrance of strong Ukrainian and Russian enterprises; imports from the United States of America are expected to remain strong for at least the short term, as they satisfy the segment of consumers with lower purchasing power. It is also possible that the new CU regulatory framework and the banning of chlorine in antimicrobial washes for frozen products in the Russian Federation may act as non-tariff barriers.

Regarding the costs of production, feed costs represent 65 percent of the total cost of a live bird. Wheat commonly comprises 50 to 60 percent of broiler rations, which is an advantage as domestic producers have wide access to convenient wheat supplies. More constraining is the availability of soybean meal (SBM), which is subject to frequent shortages. When these occur, SBM needs to be imported and the percentage share of imported ingredients in ration costs rises to almost 50 percent.

The current use of genetically advanced breeds (such as Hubbard, Ross and Cobb) should be maintained, as it is in line with worldwide practice. Breeding activities would not contribute much to improving the sector's competitiveness, as the parent stock material accounts for only 2.5 percent of total production costs. Investments would be better placed in other segments, such as reducing feed costs and increasing value-added products. Surveys of retail shopping trends indicate that open markets and specialized stores are becoming less popular. Shoppers now prefer modern stores and supermarkets, which are more conducive to the development of value-added products. Given that 50 to 75 percent of the soybean content of rations could be replaced by decellulosed sunflower meal, this opportunity should also be investigated.

Analysis of this sub-sector identified the following development options:

(a) *Addressing competitiveness issues* by: i) improving feed and reducing feed costs through increased soybean cultivation and SBM production; ii) developing decellulosed sunflower meal; and iii) shifting from the traditional Hubbard breed types (of approximately 1.5 kg dressed weight) to larger breeds (e.g., Ross 308) of approximately 2.2 kg dressed weight.

(b) *Developing value-added products*, by producing more "deep-processed" chilled and cooked or partially cooked products with longer shelf-life, to account for 60 to 70 percent of the market, capacity building through staff training and the development of skills in cold chain management, packaging techniques and retail presentation. Improvements in refrigerated transport and cold chain distribution networks are also required, as are the upgrading and modernization of existing processing plants and equipment.

(c) *Increasing investment in the feed mill industry* by: i) disseminating information on the cost-benefit ratios of compound feeds for livestock and animal production facilities; and ii) supporting the largest vertically integrated poultry meat production enterprises with feed mill subsidiaries that also satisfy external feed demand.

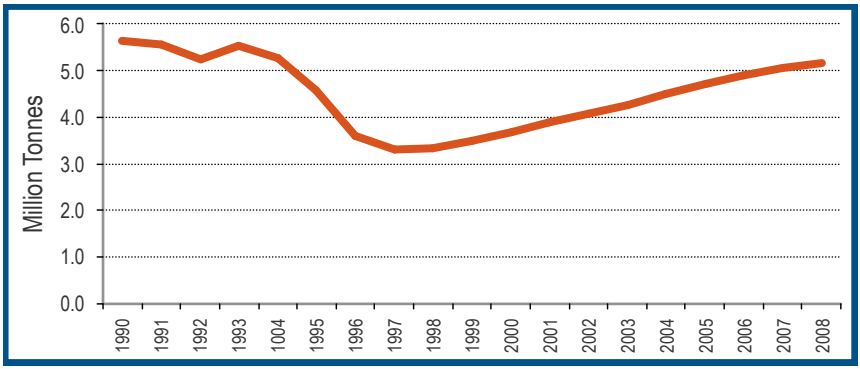
(d) *Investing in contract grower models:* The adoption of a model for large vertically integrated enterprises' contracting of broiler grower farmers could improve the scale of broiler production operations and build the capacity of smallholder farmers. A thorough socio-economic feasibility study of large enterprises and rural areas is required.

(e) *Providing demand-driven and public sector-led support to the backyard poultry industry* through training workshops and media promotion of upgraded biosecurity provisions, increased farm sizes, access to higher-quality commercially prepared feed and day-old chicks, marketing support, and credit/microfinance schemes.

E

THE DAIRY SUB-SECTOR

The dairy sub-sector accounts for about 17 percent of agricultural gross domestic product (GDP), and 38 percent of livestock GDP. The milk cow population amounts to 2.7 million head, 85 percent of which are owned by 1.6 million HHFs. Of the 5.2 million tonnes of fresh milk produced annually in Kazakhstan, HHFs contribute about 90 percent while the remainder comes from 16 200 PFs and 850 AEs. In general, cow milk productivity in Kazakhstan is low, at 2 253 litres per lactation. Nevertheless, domestic milk supply is almost back to the levels of the Soviet period, recording an average annual increase of 4.5 percent since 1998. Overall, the per capita consumption of milk and dairy products is among the highest in the world, at 307 kg/year.



Although the domestic supply is high, imports are still considerable, at 38 percent (0.9 million tonnes) of the national market for packaged dairy products. Actual consumption amounts to 4.8 million tonnes of milk and dairy products (MDPs), of which 2.3 million tonnes is packaged MDPs (including 1.4 million tonnes processed domestically), while the remaining 2.5 million tonnes is consumed unpackaged. Analysis of the MDP balance

sheet reveals that the quantity of waste and other uses is unclear and may be higher than reported. Also uncertain is the extremely high carry-over stock.

Milk and dairy product resources and their uses, 2008

	In whole-milk equivalent (WME) thousand tonnes	
MDP resources		
Total domestic whole milk production		5 198.0
Household farms	4 680.0	
Peasant farms	347.9	
Agricultural enterprises	170.1	
Stocks at beginning of year		1 216.0
Imports		860.0
Total resources		**7 274.0**
Uses		
Livestock feed		644.2
Waste		36.4
Other industrial uses		0.7
Exports		23.0
Total consumption		4 806.9
Domestic packaged MDPs	1 420.0	
Imported packaged MDPs	860.0	
Unpackaged MDPs	2 526.9	
Stocks at end of year		1 763.0
Total used		**7 274.2**
Population (average)		**15 674 000**
Consumption per capita (kg/year)		
MDPs		**306.7**
Packaged MDPs		**145.5**

Of the 265 milk processing enterprises established during the Soviet period, about 100 are large to medium-sized, but the bulk of processing capacity is in small-scale dairies. HHFs supply an estimated 60 to 65 percent of the domestic milk that is processed.

Production of packaged MDPs in Kazakhstan is reported to be decreasing slightly. This could be owing to a drop in demand, resulting from lowered purchasing power (perhaps determined by the global financial

crisis); the low competitiveness of domestic milk processing companies in the face of cheaper imported products; or a combination of both, plus other factors. It appears that consumption of ultra-high temperature-treated (UHT) milk (obtained mainly from reconstituted imported milk powder) is increasing against fresh pasteurized milk. Consumption of unpackaged MDPs is very high, at about 70 percent of domestically produced milk.

Whole milk prices are subject to seasonal and regional variations. In 2009, the average annual national farm-gate price was 46 tenge (T)/kg.[6] The current average production cost is T 36/kg, ranging from a high of 68 T/kg (on the so-called modern dairy farms [MDFs]) to T 25/kg at the HHF level. Given that the price of reconstituted milk from powder is currently T 62/kg, there is still a considerable margin of competitiveness for domestically produced fresh milk. However, the supply of quality fresh milk to processors is highly constrained because the MDFs that can provide quality milk have the highest production costs. HHFs have far lower costs, but few (only those near to processors where procurement efficiency is possible) can provide the required quality. The profitability of using more domestic fresh milk to produce MDPs is therefore problematic under current conditions, justifying imports and the use of reconstituted powder milk by processors.

However, given the considerable supply of domestic fresh milk at relatively low prices there appear to be scope for and comparative advantages in augmenting the number of producers that can provide processors with higher-quality milk, while maintaining the competitiveness of the supply chain. Viable investment options for the dairy sector identified by the analysis include the following:

(a) Focusing on *processor-led development of cold chain supply channels (off-farm)*, including cooling tanks for small-scale dairy farms, timely transportation in chilled tankers, improved milk collection, quality management, and the introduction of premium prices based on the quality of the milk. The development of cold chains would require

6.- T 148 = USD1.

investments in quality and safety control protocols and systems, laboratory equipment, and specialized technical assistance for training staff.

(b) In parallel, providing *support to small-scale producers and PFs (on-farm)*, by targeting those that can manage profitable and sustainable businesses. This would include supporting the renewal of stock sheds, the upgrading of milking units, provision of storage for fodder, maintenance of equipment, etc. These categories also need specialized technical assistance on dairy farming, ration formulation, veterinary management, milking techniques, milk cooling and storage, AI, marketing, etc.

(c) Supporting *enhanced and improved fodder and silage production* through demonstration programmes for milk farms and forage production units with technical assistance on the use of milk-enhancing feed, green fodder and silage.

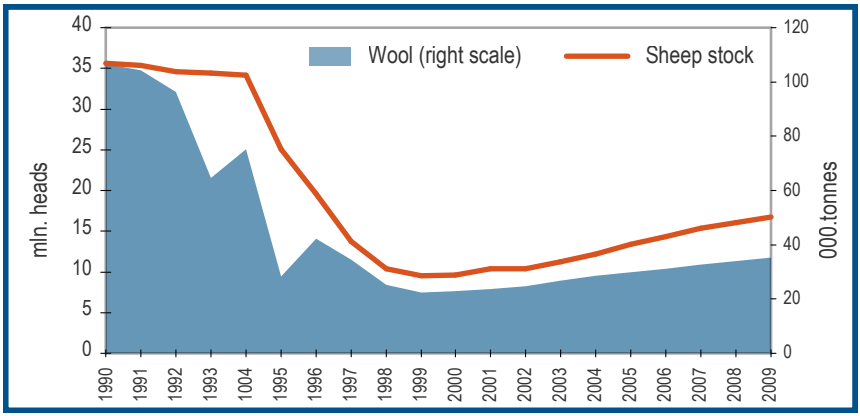
(d) Conducting *specific studies* on: i) the potential for supporting PFs and HHFs that can develop into real dairy business units/farms; ii) the MDP market and domestic demand analysis (trends/consumer behaviour); and iii) the feasibility and potential profitability of domestic milk powder production and of technological modalities and organizational options for increasing the production of UHT milk from domestic supplies.

F

A RELAUNCH OF THE WOOL SUB-SECTOR?

Three countries dictate world wool production and commodity exchange parameters: Australia, China and New Zealand. China leads in purchasing by importing one-third of the world's exported wool. The world market has decreased greatly, but is now performing stably (over the last decade). Competition from cheap fibres and cotton is still strong. Only fine (< 20µm) wool prices have recorded increases, and in the last two years even these positive trends appear to have halted. However, the International Wool Textile Organization (IWTO) forecasts a moderate increase in production and consumption of wool in the medium term.

From having a 4 percent of global wool and fine wool production during the Soviet era, Kazakhstan has lost its international wool market position. The current industry is much constrained by the opportunistic nature of its market and market players. The aggregated wool chain's return on value addition is only USD22 million/year. Profitability is negative at the production level, while profits are 13 to 20 percent at the processing and 19 percent at the trade levels.



Most production is now dominated by coarse/semi-coarse wool for minimal domestic processing (approximately 21 000 to 22 000 tonnes/year, of which 70 percent is wasted), and by low-quality fine/semi-fine sheep wool (approximately 11 000 to 12 000 tonnes/year, most of which is exported). This output is from a non-specialized sheep population of 14 million, which is mainly cross-bred (95 percent) and comes from HHFs (70 percent), almost 4 000 PFs (25 percent) and a few AEs (5 percent).

All the previous comparative advantages of Kazakhstan's wool sector have been disrupted. Most sheep wool producers have converted to meat production, and shorn wool is a by-product that is mainly wasted. The remnants of a previously sophisticated procurement system are now ineffective and non-specialized. Sheep feeding, health management and breeding issues and needs are not addressed from the perspective of wool production. The country's fully fledged classification and quality control system has been discontinued.

At the processing level, only the wool primary treatment (WPT) network has maintained some of its former functioning capacity, while advanced processing is largely inefficient and progressively losing its market position. The export trading system is mainly in the hands of a few Chinese intermediaries, which are generally not linked to a specialized mainland import demand. The retail system is underdeveloped and biased towards traditional handicrafts. A crucial decision has therefore to be taken: Will this be the end of or a new birth for the Kazakh wool sub-sector? Global market perspectives are dim, but there is a niche position in the market for a country that had several comparative advantages that can be at least partially resuscitated.

Much depends on the emergence of a dedicated private sector with a true interest in keeping the wool business going. One option would be a strategic alliance including progressive processors, entrepreneurial traders and links with professional international buyers (and joint ventures). This would require improved, leaner and more specialized procurement networks; preferential relationships with sheep producers (mainly PFs); and simplified quality control systems. These are all private goods areas

that require only improved access to financing and some public sector political sponsorship. Stakeholders should also consider the creation of a national wool association or council. This process would take about three years to complete.