

# Accounting for pastoralists in Argentina



Photo: Marian Quiroga Mendiola

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**N**O OFFICIAL STATISTICS exist on pastoralism in Argentina, so their number is not known. Between 30,000 to 35,000 households practise pastoralism, estimates Red Chaco based on the 2018 National Census. In some areas, pastoralism is alive as a mobile, extensive production system. Despite the uncertainty about the precise numbers, pastoralists play a significant role in Argentinian agriculture and society.

Argentina is a large but highly urbanized country, with 92% of the population living in towns and cities. Only 13.2% of the country is agriculturally well endowed; 70% of the land is semi-arid, and much of the rest is mountainous or too cold for growing crops. Livestock-raising is the main form of agriculture in such marginal areas, either as ranching or as pastoralism.

The country is a major grain and beef producer and exporter. The rural social and economic structure is heterogeneous, ranging from big companies to small family farmers. Commercial crop and livestock production is located mainly in the rich, arable Pampas in the centre of the country. It uses advanced technology and high levels of inputs. The livestock in these areas are generally commercial breeds (pure or cross-bred) that have been locally adapted and are traded through formal channels.

Mobile pastoralism, where livestock keepers either move with their animals or maintain a central homestead and graze their livestock on common land, is found in the harsh arid, semi-arid

## Key messages

- Argentina has perhaps 35,000 households that practise pastoralism, mainly in three regions: the Puna altiplano in the northwest, the Gran Chaco region in the north, and the mountains of northern Patagonia.
- Pastoralists are poorly documented: no official definition or statistics exist.
- Pastoralism developed out of traditional practices by indigenous groups, which were adopted by settlers from Europe. It is now largely practised by indigenous communities and Criollo people of mixed descent.
- They keep llamas, sheep, goats, cattle and horses. Their products include meat, dairy products, wool and cashmere, and hand-crafts.
- Pastoralism is estimated to contribute as much as 1.4% of GDP, compared to 7–9% for agriculture as a whole. Much of the trade in animals and products is informal.
- The livestock census should include questions on the mode of livestock production to generate data that can be used in policy-making. Research is needed on the pastoralism and its role in the economy and ecology.



*Argentina's pastoralists reside in three main areas: the Puna altiplano, the dry forests of the Gran Chaco, and the mountains of northern Patagonia*

and mountainous areas. It exists mainly in three regions: Puna in the arid northwest, the dry forests of the Gran Chaco, and the mountains of northern Patagonia. Pastoralism in these areas has been researched by various groups, and some 22,000 pastoralist households have been documented there. Pastoralism also exists in other regions of the country, but it has not been adequately researched.

The pastoralists keep different types of livestock and differ in type of mobility. They keep cattle, sheep, goats, horses, pigs, donkeys and llamas. Most animals belong to local breeds that are adapted to these conditions.

In the arid high altiplano plateau of the **Puna** in the northwest, some 4,500 families migrate with their llamas, sheep and goats from place to place. They move their animals periodically among different environments within the community territory.

In the north of **Neuquén Province, northern Patagonia**, the main form of pastoralism is transhumance. About 1,500 families move their mixed herds of goats, sheep, horses and cattle between

highland pastures in summer and lowland grazing areas in winter. They cover up to 200 km, managing their environment and animals according traditional practices (Lanari et al., 2006). The land is held in common, and a law, unique to the region, protects the traditional transhumance system. One of their products is goat-kid meat of the Criollo breed, a regional delicacy that is popular among local people and visitors, and that has been awarded a Designation of Origin.

In other parts of Patagonia much of the land is divided into large private farms, owned by ranchers who keep cattle and sheep in large, fenced areas. Smallholders in these areas also keep their animals in a similar system to ranching, but on a smaller scale. Some work for the large ranchers but also keep their own animals.

In the dry forest of the **Gran Chaco** region in the centre-north, livestock keepers maintain mobile herds of cattle, goats and sheep but themselves stay in one location all year round. They herd their animals (or allow them to roam freely) around the homestead. In Chaco province (which covers part of the Gran Chaco region), some 10,500 house-

holds practise such localized agropastoralism with cattle, sheep, goats and pigs.

Pastoralists who keep animals in mobile systems are also found in other provinces in western and central Argentina. In Mendoza, transhumant livestock keepers herd goats and other species to the Andean ranges. In Tucumán, herders take their cattle and other animals to the eastern Andes. In Formosa, on the border with Paraguay, livestock keepers change location with their cattle and other animals in search of fodder and water, in tune with the seasonal dynamics of the wetlands.

**History of pastoralism** Pastoralism has roots in both traditional indigenous societies and in the immigrant Spanish and other European groups. Before the arrival of the Spanish conquerors in 1516, indigenous groups such as the Mapuche, Huarpes, Guaraníes and Colla followed the seasonal movements of native livestock (the domesticated llamas) as well as the wild vicuñas and guanacos. In the Andes and its foothills, they moved to higher altitudes in the summer and to lower altitudes in the winter.

The current rural population is mostly Criollo people of mixed indigenous and European descent. Rural communities continue the same seasonal movements as the indigenous people, herding both the native camelids as well as cattle, sheep and goats brought in from Europe. These species were brought into Argentina in the 16th and 17th centuries. Over the years, they have become highly adapted to the local environment.

**Vegetation** Around 2 million km<sup>2</sup> in arid and semi-arid areas are suited to extensive livestock production such as ranching and pastoralism. Pastoralists use a variety of vegetation types: forest, steppe, high deserts, xerophilous forests, dry mountain valleys, the Yungas grasslands and forests that line the eastern flanks of the Andes, and high wetlands and steppes.

**Products** The most important products of pastoralists are meat, dairy products, sheep and llama wool, cashmere from goats, and skins. Pastoralists also make and sell handicrafts. Home-consumption is very important, accounting for 36% of the meat production in Puna and 75.6% in north Neuquén.

Investment in infrastructure and new technology is low, access to formal markets is limited, and trade is often local and is not recorded officially. Pastoralist communities are neglected as producers. Their visibility is limited, and they are often regarded as rural, poor, “old-fashioned” and “primitive”.



Photo: María-Rosa Lanari



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**Table 1** Numbers of pastoralists in selected regions in Argentina

Region	Households	Area (000 hectares)	Source
Puna	4,541	127	Quiroga Mendiola et al. (2019)
Patagonia	8,822	77,240	Pérez Centeno et al. (2019)
Chaco region	10,500	9,963	Red Chaco
<b>Total</b>	<b>23,863</b>	<b>87,330</b>	

## Definition of pastoralism

Argentina has no official definition of pastoralism, as it does not exist as an official category. There is no official information on (or official understanding of) pastoralism or the mobility of livestock.

A group of specialists define pastoralism as a way of life based on extensive livestock production system with periodic spatial mobility in search of fodder and water. It usually develops in drylands and is based on the use of natural rangelands, although sown pastures may be used as a strategic reserve. Most of the work is done by family members, and local traditional knowledge is transmitted from generation to generation. "Pastoralists" are people whose livelihood is based on this form of animal husbandry and the care of rangelands. They follow particular cultural practices, rules, norms, and are recognized as such by their own community.

Pastoralists in Argentina can be regarded as a subset of family farmers: all pastoralists are family farmers, but only a minority of family farmers are pastoralists. Obschatko et al. (2007) define "family farmers" as those who run a farm using family la-

bour, without paying permanent non-family workers. This category is defined in Law 27118/2014 and there is an official Register of Family Farmers (RENAF). There is no specific register for livestock family farmers. Information on family farms must be estimated by filtering the data according to three criteria:

- Limited access to land and production supplies, with thresholds varying depending on the region: farms in Patagonia are very large, while those in Chaco or Puna are much smaller.
- The use of family labour (family farms rely principally on family labour).
- The level of income (family farms typically have lower incomes than "capitalized" farms).

Some 220,000 "family farms" exist according to this categorization in Argentina (Obschatko et al. 2007). This number includes not only pastoralists but also a large number of farmers who keep few or no livestock, or who manage their livestock at fixed locations.

## Data situation in Argentina

Official data for agriculture sector is collected by the National Institute of Statistics and Census (INDEC), whose last completed agriculture census was made in 2002. Another national census was conducted in 2018 but has not yet published definitive data for livestock. The census normally collects information about livestock species and sex/age categories. The 2018 census included for the first time a question about animal breeds.

As pastoralism is not an official category, the INDEC data do not make it possible to identify the numbers of people, farm enterprises, area or outputs specific to pastoralism. Such figures must therefore be estimated roughly from data recorded for other purposes.

There are almost 22,000 family farms in the three regions of Puna, Patagonia and Gran Chaco. Many







**Table 2** Production of pastoralist products, selected areas




Studies	Area covered	Years	Products	US\$ 000	Reference
INTA	Puna	2011	Llama wool	129–279	Paz et al. (2011)
			Sheep wool	240–360	
			Llama meat	1,485	
			Sheep meat	1,160	
INTA	Patagonia (North Neuquén)	2011	Goat kid meat	3,795	López Raggi et al. (2011)
			Cashmere	350	Lanari et al. (2009)
CIRAD	Nationwide	2020	Livestock sales + home consumption	1.4% of GDP	CIRAD (2020)

**INTA:** National Institute of Agricultural Technology. **CIRAD:** Centre de coopération internationale en recherche agronomique pour le développement (French Agricultural Research Centre for International Development).



Table 3 Sources of data on pastoralism in Argentina

Institution	Parameters		Area covered	Years	Accessibility
<b>INDEC</b>	Household and livestock numbers		Nationwide	2002, 2018	<i>cna2018.indec.gob.ar</i>
<b>INTA</b>	Meat and wool sales		Puna	2011	Paz et al. (2011)
	Goat meat and cashmere sales		North Neuquén	2011	López Raggi et al. (2011)
<b>CIRAD</b>	Sales and home consumption		Nationwide	2020	CIRAD (2020)
<b>SENASA</b>	Number of traded animals and farms		Nationwide	2020	<i>www.argentina.gob.ar/senasa</i>
<b>Ministerio Economía e Infraestructura de Neuquén</b>	Number of animals by species and department		Neuquén province	2018	Gobierno de la Provincia del Neuquén

 National level       Sub-national level       Individual study

**INDEC:** Instituto Nacional de Estadística y Censos (National Institute of Statistics and Census)

**INTA:** Instituto Nacional de Tecnología Agropecuaria (National Agricultural Technology Institute)

**CIRAD:** Centre de coopération internationale en recherche agronomique pour le développement (French Agricultural Research Centre for International Development)

**SENASA:** Servicio Nacional de Sanidad y Calidad Agroalimentaria (National Food Safety and Quality Service).

(but not all) of these are pastoralists. In addition, some of the family farms in other regions also manage their animals in pastoralist systems.

Table 1 shows the numbers of pastoralists identified through door-to-door surveys conducted by the National Agricultural Technology Institute (INTA) in Puna and Patagonia, and by Red Chaco in the Chaco region (Red Chaco, pers. comm.).

The Animal and Plant Health Service (SENASA) compiles an annual database of the numbers of animals kept and their breed (based on reports by livestock keepers), and the numbers formally traded or exchanged.

Various research and nongovernment organizations have conducted studies on pastoralism, greatly contributing to the understanding of the sector. However, these generally focus only on a certain region or group of pastoralists. A reliable overview of the whole picture in Argentina is lacking.

Little information is available on the economic contribution of pastoralists. A recent study estimated this at about 1.4% of GDP (CIRAD 2020, Table 2). Since agriculture and livestock is worth only 7–9% of GDP (Andrade et al. 2017), this means that pastoralism makes a significant contribution to the total contribution of agriculture and livestock to Argentina's GDP.

## Vision for the future

While few data are available on pastoralism in Argentina, its estimated contribution of 1.4% of GDP indicates that it is a significant form of production that deserves greater attention from both the government and official bodies.

This would require a clear official definition of pastoralism, and the inclusion of questions in the census on modes of husbandry. Further studies are needed to highlight the economic contribution of pastoralism, considering the existence of informal trading, the unregistered exchange of goods, and

the importance of home consumption by pastoralists. Studies are also needed on the ecological and cultural services that pastoralism provides.

The current Covid-19 crisis reveals once again the weaknesses of production systems that rely on high levels of inputs and low levels of diversity in plants and animals. Pastoralist systems are the opposite: they have low levels of inputs and maintain high levels of diversity. They are thus inherently more resilient, and can help societies and economies reduce the risks they face.

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