

INTAS Project: Supporting the International Development of the CIS Agricultural Sector

A Short Overview of Findings from the Moldovan Dairy Farm Survey

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1. Introduction

The survey of milk producers reported here was conducted in the North, Central and South regions of the Republic of Moldova. Altogether a total of 300 milk producers were interviewed of which 51 farms (17% of the total respondents) were from the North region, 114 farms

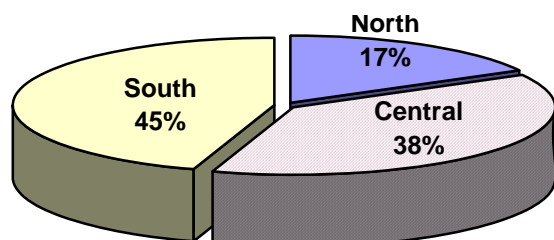


Figure 1: Geographical distribution of the interviewed milk producers (%)

(38%) from the Central region and 135 farms (45%) from the South region of the country (Figure 1).

The vast majority of interviewees were small-scale milk producers, with approximately 91% of respondents owning three or less cows of milking age in 2005.

2. Sample Characteristics

The total number of milking cows of productive age owned by interviewed farmers increased from 1482 cows in 2001 to 1864 cows in 2005. The average number of milking cows per farm also increased, from 5 cows in 2001 to 6 cows in 2005. As stated above, most farmers (91%) had no more than three milking cows, of which 11% had one cow, 71% - two cows and 9% three cows in 2005.

Table 1: Cow numbers for surveyed farms (heads)

	Milking cows of productive age		
	2001	2003	2005
Total number of animals under survey	1482	1676	1864
Average number of animals per farm	5.2	5.6	6.2
% of farms with 1 milking cow	45.0	28.0	11.3
% of farms with 2 milking cows	40.7	57.3	70.7
% of farms with 3 cows	5.0	7.3	9.0
% of farms with more than 3 cows	9.3	7.3	9.0

The increase in number of milking cows was mainly due to a reduction in the number of farmers with one cow from 45% in 2001 to 11% in 2005 and an increase in the number of farmers keeping two cows from just less than 41% to 71% over the same period. The number of farms with more than three cows remained fairly constant during this period.

Table 2: Regional characteristics for milking cows (heads)

	Obs.	Mean	St. dev	Min	Max	Mode
North						
2001	51	1.37	.87	0	6	1
2003	51	1.80	.66	1	5	2
2005	51	2.20	.78	1	6	2
Central						
2001	114	6.69	33.62	0	300	1
2003	114	7.46	33.82	0	300	2
2005	114	8.11	34.29	1	300	2
South						
2001	135	4.81	20.63	0	200	2
2003	135	5.43	23.04	0	230	2
2005	135	6.13	25.72	1	250	2

The largest average number of the milking cows per farm was registered in the Central region of the country (Table 2). On average a milk producer in this region had about 7 milking cows in 2001 and approximately 8 in 2005.

The lowest average number of milking cows per farm was to be found in the North region. On average a milk producer in the north had 1 cow in 2001 and 2 cows in 2005. Taking the sample as a whole, the average milk producer owned two cows.

Table 3: Amount of total land owned, 2001-2005, ha

	2001	2003	2005
Number of valid answers	282	295	296
% of total observations	94.0	98.3	98.7
Average	9.8	9.7	9.8
Min	0.3	0.3	0.3
Max	1800	1800	1800
Mode	1.8	3.6	3.6
St. dev	107.09	104.70	104.52

The average amount of land owned was 9.8 ha per farm and did not change significantly during the analyzed period. The percentage of farms owning up to 6 ha of land increased from 88% in 2001 to 92% in 2005. However, within this group different patterns exist, with the proportion of farms with up to 3 ha of land decreasing whilst farms with 3 to 6 ha of land increased

Table 4: Farm distribution, according to the land owned, 2001-2005, %

	2001		2003		2005	
	Farms	%	Farms	%	Farms	%
< 1 ha	7	2.3	6	2.0	6	2.0
1 to <2 ha	64	21.3	61	20.3	57	19.0
2 to <3 ha	86	28.7	82	27.3	80	26.7
3 to <4 ha	63	21.0	73	24.3	77	25.7
4 to <5 ha	34	11.3	41	13.7	43	14.3
5 to <6 ha	10	3.3	12	4.0	13	4.3
=> 6	36	12.0	25	8.3	24	8.0
Total	300	100.0	300	100.0	300	100.0
Share of farms with up to 6 ha of land		88.0		91.7		92.0

This would appear to provide evidence to suggest that the process of land parceling is slowing down, whilst the process of land consolidation is beginning.

Table 5: Farm size by region 2001-2005 (ha)

	Obs.	Mean	St. dev	Min	Max	Mode
North						
2001	51	2.5	1.78	0	10	2.0
2003	51	2.8	1.71	0.3	10	2.0
2005	51	3.0	1.72	0.3	10	2.0
Central						
2001	114	3.2	5.82	0	60	1.8
2003	114	3.6	5.86	0	60	3.6
2005	114	3.8	6.00	0	60	3.6
South						
2001	135	16.9	154.67	0	1800	3.6
2003	135	17.0	154.66	0	1800	3.6
2005	135	17.1	154.65	0	1800	3.6

The average amount of land owned is higher in the South and is considerably lower in Central and Northern regions of the country. All regions saw an increase in land owned during the period reported here.

Table 6: Amount of the total land rented 2001-2005 (ha)

	2001	2003	2005
Number of valid answers	37	47	58
% of total observations	12.3	15.7	19.3
Average	198.5	157.6	132.1
Min	0.2	0.2	0.2
Max	1800	1800	1800
St. dev	444.00	399.25	380.71

A relatively small percentage of interviewed farmers rent land, however the percentage of farmers that rented land increased markedly during the analyzed period from approximately 12% in 2001 to 19% in 2005. The average amount of land rented by interviewed farmers decreased from 198 ha in 2001 to 132 ha in 2005. However these figures are skewed by large farms that rented from 200 to 1800 ha of land.

Of those farmers who rent land the majority rent up to 5 ha of land. The proportion of farms renting 5 ha or less increased steadily between 2001 (65%) and 2005 (72%).

Table 7: Farm distribution, according to the amount of land rented 2001-2005 (%)

	2001		2003		2005	
	Farms	%	Farms	%	Farms	%
Less than 5 ha	24	64.9	32	68.1	42	72.4
5 to <10 ha	3	8.1	2	4.3	4	6.9
10 to <50 ha	2	5.4	4	8.5	3	5.2
50 to <100 ha	1	2.7	2	4.3	2	3.4
=> than 100 ha	7	18.9	7	14.9	7	12.1
Total	37	100.0	47	100.0	58	100.0

In the case of small-scale milk producers the land owned is used not only for forage production, but also for other crops including vegetables, fruits and grape.

Table 8: Farm distribution according to the land rented by region 2001-2005 (ha)

	Obs.	Mean	St. dev	Min	Max	Mode
North						
2001	51	0.3	1.31	0	8.0	0
2003	51	0.4	1.63	0	8.6	0
2005	51	0.3	1.31	0	8.0	0
Central						
2001	114	30.9	170.49	0	1200	0
2003	114	31.3	168.96	0	1200	0
2005	114	33.5	187.78	0	1500	0
South						
2001	135	28.2	194.2	0	1800	0
2003	135	28.3	194.19	0	1800	0
2005	135	28.3	194.19	0	1800	0

Milk producers interviewed in the Central and South regions rent the largest amounts of land. It is necessary to mention again that the presence of several large milk producers in the dataset skews these figures somewhat.

Table 9: Amount of the owned or rented pastureland used, 2001-2005, ha

	2001	2003	2005
Number of valid answers	9	12	14
% of total observations	3.0	4.0	4.7
Average	13.1	12.9	11.6
Min	0.1	0.1	0.1
Max	100	100	100
Mode	0.3	0.3	0.3
St. dev	32.94	28.33	26.26

A small percentage of the interviewed farmer (~3% in 2001 and ~5% in 2005) do own or rent pastures. The average area of owned or rented pastures is decreasing from ~13% in 2001 to ~12% in 2005. The most predominant acreage of these pastures is 0.3 ha.

Table 10: Amount of common pasture land used 2001-2005 (ha)

	2001	2003	2005
Number of valid answers	264	272	274
% of total observations	88.0	90.7	91.3
Average	125.5	126.5	136.3
Min	0	0.2	0
Max	500	500	3350
Mode	150	150	150
St. dev	147.54	147.88	244.18

In addition to renting or owning land a large proportion of interviewees make use of common pasture land, and the percentage of farmers that do has increased from ~88% in 2001 to ~91% in 2005. The average acreage of the common pastures has also increased from ~125 ha in 2001 to ~136 ha in 2005. The modal size of the commonly used pastures is 150 ha. The average acreage of common pastures used appears to be unrelated to the number of the owned cows.

Table 11: Number of full-time employees 2001-2005

	2001	2003	2005
Number of valid answers	19	25	25
% of total observations	6.3	8.3	8.3
Average	33.1	25.2	26.5
Min	1	1	1
Max	284	284	319
Mode	1	1	1
St. dev	66.14	57.99	64.05

The milk producers mainly use their own labour force, rather than employed personnel. About 6% of interviewees employed additional full-time personnel in 2001 and ~8% of them did it in 2005. However approximately 48% of farmers that have full-time workers employ only 2 workers and just 10 farms out of 300 (~3% of the total sample size) had 10 or more full-time employees in 2005.

Table 12: Farm distribution according to number of full-time employees 2001-2005 (%)

	2001		2003		2005	
	Farms	%	Farms	%	Farms	%
<= 2 employees	8	2.7	12	4.0	12	4.0
>2 to <=10 employees	3	1.0	4	1.3	3	1.0
>10 to <=50 employees	6	2.0	2	0.7	4	1.3
> than 50 employees	2	0.7	7	2.3	6	2.0
Total farms with full time employees	19	6.3	25	8.3	25	8.3
No full time employees	281	93.7	275	91.7	275	91.7
Total respondents	300	100	300	100	300	100

Table 13: Number of part-time employees 2001-2005

	2001	2003	2005
Number of valid answers	22	28	34
% of total observations	7.3	9.3	11.3
Average	9.6	8.5	9.6
Min	1	1	1
Max	64	70	70
Mode	1	1	1
St. dev	16.57	16.64	19.52

Greater use is made of part-time employees. Approximately 7% of interviewees employed part-time workers in 2001, with this figure rising to ~11% in 2005. The average number of part-time employees per farm was however fairly stable during the period 2001-2005 (~9 workers), however the number of the milk producers using one or two part-time workers increased from ~4% in 2001 to ~7% in 2005.

Table 14: Farm distribution according to the number of part-time employees 2001-2005 (%)

	2001		2003		2005	
	Farms	%	Farms	%	Farms	%
<=2 employees	11	3.7	17	5.7	22	7.3
>2 to <=10 employees	3	1.0	4	1.3	4	1.3
>10 to <=50 employees	3	1.0	3	1.0	2	0.7
> than 50 employees	5	1.7	4	1.3	6	2.0
Total farms with full time employees	22	7.3	28	9.3	34	11.3
No full time employees	278	92.7	272	90.7	266	88.7
Total respondents	300	100	300	100.0	300	100

3. Buyer Relationships

Dairy processing units play the most important role in the milk collecting process. About 52% of identified them as their main buyer. The remaining indicated that they most of their output to collecting cooperatives (~21%) sell their milk through milk-collecting cooperatives, local buyers (e.g. at agricultural open-air markets, local schools and kindergartens, food shops and canteens) (~25%),

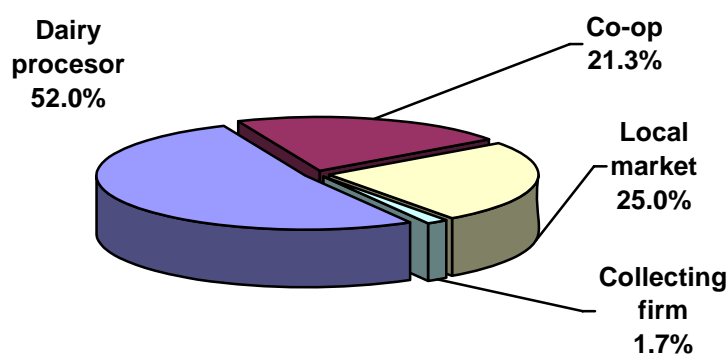


Figure 2: Farm distribution according to the main milk buyer (2005 %)

Most interviewees (~71%) indicated that they transport the milk to the collecting units themselves. A further 24.3% deliver their milk directly to the milk buyers. Only for 4.3% of farms did the dairy firm collect it from the farm. As a rule, dairies collect milk from farmers that have on average ten or more cows. In many cases dairies also collect milk from milk collecting cooperatives.

Figure 3: Farm distribution according to the milk collecting process 2005 (%)

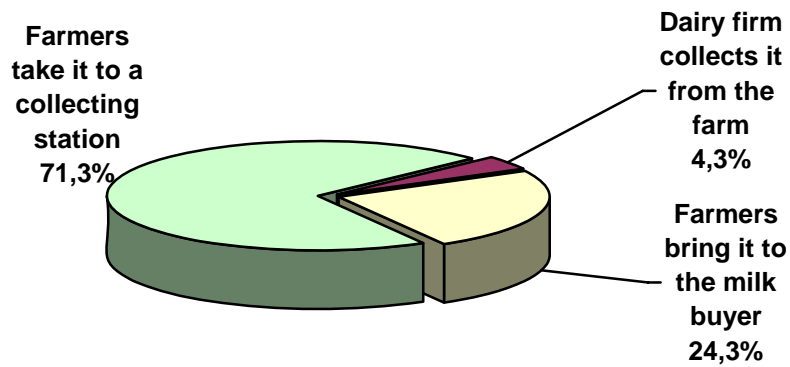
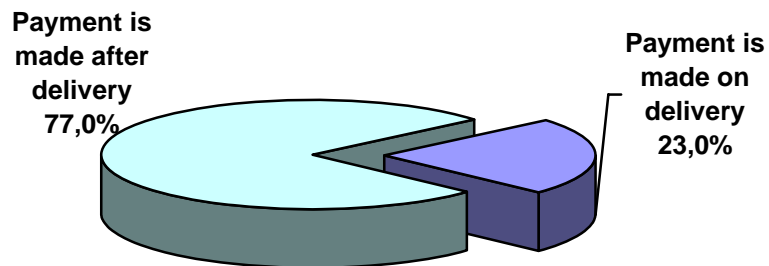


Figure 4: Farm distribution, according to mode of payment (2005 %)



Of respondents who deliver the milk to their customers, 23 per cent receive payment on delivery. Farmers supplying milk to milk-collecting cooperatives and dairy units receive the payment after delivery (77% of respondents).

Table 15: Farm distribution according to payment period 2005 (%)

Days after delivery	Interviewees	%
10 days	48	16.0
15 days	76	25.3
20 days	28	9.3
25 days	15	5.0
30 days	35	11.7
45 days	5	1.7
60 days	13	4.3
60-90 days	7	2.3
More than 90 days	4	1.3
Total	231	77.0

Of those farmers who were not paid on delivery, the majority was paid within 15 days (41%), approximately 28% received payment between 20-45 days, and approximately 8% of respondents waited 60 or more days for payment.

Table 16: Farm distribution according to the overall satisfaction with the relationship with main buyer 2005 (%)

Degree of satisfaction	Interviewees	%
Very dissatisfied	8	2.7
Dissatisfied	39	13.0
Neither satisfied nor dissatisfied	56	18.7
Satisfied	132	44.0
Very satisfied	65	21.7
Total	300	100.0

The majority of interviewees (66%) are either satisfied or very satisfied with the relationship with their main buyer. On the other hand approximately 16% of respondents are either dissatisfied or very dissatisfied with this relationship. Those respondents who indicated that they are satisfied with the relationship with their main buyer indicated that this was just because they have no other more favorable alternatives, especially in relation to the available milk price.

Table 17: Farm distribution according to the number of potential milk buyers 2005 (%)

Number of potential buyers	Interviewees	%
1	59	19.7
2	99	33.0
3	57	19.0
4	7	2.3
5	10	3.3
More than 5	68	22.7
Total	300	100.0

72% of respondents indicated that they had between 1 and 3 potential milk buyers. For approximately 20% they have just one buyer. Only approximately 28% of respondents indicated that they could potentially sell to four or more milk buyers. As a rule, respondents who indicated that they could sell to four or more buyers tended to be those milk producers who sell their milk to final consumers at the open-air agricultural markets.

Table 18: Farm distribution according to the ease of switching to another main milk buyer 2005, (%)

Degree of easiness	Interviewees	%
Very difficult	124	41.3
Difficult	103	34.3
Neither easy nor difficult	40	13.3
Easy	29	9.7
Very easy	4	1.3
Total	300	100.0

The vast majority of farmers (76%) interviewed indicated that it would be either difficult or very difficult for them to switch to another main milk buyer. Only approximately 11% of those interviewed suggested it would be either easy or very easy to switch.

Table 19: Farm distribution according to the ease with which they feel their main buyer would be able to replace them as a supplier 2005 (%)

Degree of easiness	Interviewees	%
Very difficult	11	3.7
Difficult	52	17.3
Neither easy nor difficult	71	23.7
Easy	112	37.3
Very easy	54	18.0
Total	300	100.0

Respondents clearly felt that it was easier for milk buyers to replace them than the other way around, with approximately 51% of respondents indicating that it would be either easy or very easy for their main buyer to replace them as a supplier. Only approximately 21% of those interviewed suggested that it would be difficult or very difficult to replace them.

4. Prices and Yields

Table 20: Milk yields 2001-2005 (litres per milking cow)

	2001			2003			2005		
	Winter	Summer	Total for year	Winter	Summer	Total for year	Winter	Summer	Total for year
Mean	9.9	13.2	3099.9	10.0	12.9	3084.7	11.0	14.8	3441.5
St. dev	3.3	2.6	611.0	3.3	2.9	624.1	3.6	3.0	685.0
Min.	3.0	6.0	1400.0	3.0	6.0	1500.0	3.0	5.0	270.0
Max.	23.0	22.0	5000.0	20.0	26.0	5200.0	20.0	25.0	6000.0
Mode	12.0	14.0	2800.0	12.0	12.0	3000.0	14.0	16.0	4000.0

On average the milk yield for the surveyed farms increased from 9.9 litres per milking cow in the winter season of the year 2001 to 11.0 litres of milk in the same period of 2005. The milk yield during the summer period also increased during the period, although there was decrease in milk yield in 2003 due to the severe drought in Moldova during that year. The average total milk yield per farm per year has an increasing from approximately 3,100 litres per year in 2001 to approximately 3,442 litres in 2005.

Table 21: Milk yields by regions 2001-2005 (litres per milking cow)

	Obs.	Mean	St. dev	Min	Max	Mode
North						
2001	47	3265	522	1500	5000	3200
2003	51	3334	530	2100	5200	3400
2005	51	3825	572	2400	5200	3800
Central						
2001	103	3186	567	1600	5000	3200
2003	113	3159	594	1700	5000	3200
2005	114	3490	620	1700	6000	3600
South						
2001	130	2972	651	1400	4450	2800
2003	133	2935	641	1500	4600	3000
2005	135	3275	659	1300	4600	4000

One can observe regional differences in the milk yield. The average total milk yield per year was highest in the North region (3,265 litres in 2001 and 3,825 litres in 2005), followed by the Central (3,186 in 2001 and 3,490 in 2005) and South region of the country (2,972 litres in 2001 and 3,275 litres in 2005). The National Bureau of Statistics gives the following figures for the average milk yield per milking cow (see Table 22 below).

Table 22: National average milk yields per milking cow (litres)

	1999	2000	2001	2002	2003
Private individual milking farms	1996	2154	2417	2676	2467
Corporative milking farms	2387	2423	2878	3173	2818
All types of milking farms	2036	2179	2447	2710	2493

Interestingly, the average milk yields of interviewed farmers are higher than those recorded for official statistics in the same time period.

Table 23: Milk prices 2004-2005 (Euro/litre)

	2004/5 winter season			2005 summer season		
	Minimal	Average	Maximal	Minimal	Average	Maximal
Mean	0.154	0.165	0.179	0.165	0.178	0.193
St. dev	0.071	0.081	0.094	0.071	0.080	0.091
Min.	0.062	0.081	0.087	0.052	0.078	0.090
Max.	0.434	0.434	0.434	0.452	0.452	0.452
Mode	0.124	0.124	0.130	0.171	0.171	0.171

The average prices received by farmers from their main buyer for cow's milk was 0.165 Euro per litre in the 2004 / 2005 winter season, rising to 0.178 Euro per litre in summer 2005.¹

The average minimal price for the milk delivered to the main buyer during the 2004/2005-winter season was 0.154 Euro per litre, while the absolute minimal value was 0.062. During the summer season 2005 these prices were 0.165 Euro per litre and 0.052 Euro per litre respectively. Normally of all potential milk buyers, milk processors that buy cow's milk as raw material for their own production offer the lowest prices. At the same time, farmers that sell their milk to final consumers on open air agricultural markets receive the highest prices. Thus, the highest average prices mentioned by respondents were 0.434 Euro/litre during the winter season 2004/2005 and 0.452 Euro/litre during the summer season 2005.

Table 24: Price for milk received from the main buyer during the last month, by regions, 2005, (Euro/litre)

	Mean	St. dev	Min	Max	Mode
North	0.160	0.029	0.087	0.310	0.143
Central	0.229	0.108	0.112	0.434	0.164
South	0.159	0.045	0.093	0.310	0.152

There are also regional differences between prices offered. Interviewees from the Central region received on average the highest price for the milk they produced (0.229 Euro/litre), while respondents from the North and South regions received on average 0.160 Euro/litre and 0.159 Euro/litre respectively. A possible explanation for these variances is the fact that many farmers from the Central region sell their milk and milk products on the agricultural markets in Chisinau where prices for milk and other agricultural products are higher than in other regions of the country.

5. Contract Relationships

Food processors, local markets and milk collecting cooperatives were the most important buyers for interviewed farmers. Thus, 54% of respondents delivered their milk to food processors in 2005. Local agricultural markets and milk collecting cooperatives were the main outlets for 28.7% and 20.7% of respondents, respectively, in the year 2005.

¹ Exchange rates quoted for summer season 2005 were 1 Euro = 15.48 Moldavian lei and for the winter season 2004-2005 is 1 EUR = 16.14 Moldavian lei. Source: The official site of the National Bank of Moldova (www.bnm.md).

Table 25: Percentage of farmers selling their output to available outlets 2001-2005 (%)

Types of buyers	2001	2005
Local markets / auctions	47.0	28.7
Food processors	41.7	54.0
Marketing co-operative / organizations	11.3	20.7
Wholesalers	1.7	2.7
Household / family / non-marketed consumption	82.3	88.0
Other	15.0	14.3

The percentage of farmers selling their milk on local markets decreased from approximately 47% in 2001 to approximately 29% in 2005. In contrast, more farmers chose to make their milk available to food processors and milk collecting cooperatives. An increase was also seen in the percentage of farmers that kept at least a small part of their milk for household consumption.

Table 26: Average percentage of milk delivered to different types of buyers

Types of buyers	2001	2005
Local markets	65.3	63.5
Food processors	84.9	88.2
Marketing co-operative	51.0	87.6
Wholesalers	22.0	39.4
Other	29.0	28.7

Milk producers deliver the major part of their output to one type of buyer. Most respondents delivered their milk either to a food processor, or to a milk-collecting cooperative. The next most popular outlet for production was the local agricultural markets.

Table 27: Average number of firms/actors dealt with

Types of buyers	2001	2005
Local markets	14.7	14.1
Food processors	1.0	1.0
Marketing co-operative	1.0	1.0
Wholesalers	1.3	1.1
Other	4.2	2.6

There has been little change in the number of firms / actors dealt with between 2001 and 2005. Interviewed farmers deal usually with one buyer, be they a food processor, a milk-collecting cooperative or a wholesaler. On the local agricultural markets as a rule they have approximately 14 clients to whom they sell the milk.

Table 28: Average percentage of sales made on a contract basis

Types of buyers	2001	2005
Local markets	84.5	80.4
Food processors	91.1	91.2
Marketing co-operative	83.5	93.3
Wholesalers	40.0	60.0
Other	72.0	80.0

Contracting is most evident in sales to food processors, milk collecting cooperatives and wholesalers. Where contracts existed they could be either written (21.7%) or verbal (51.3%). Even in the case of sales to the local agricultural markets milk producers often have a verbal agreement with their clients about quantity, quality, price and time of delivering.

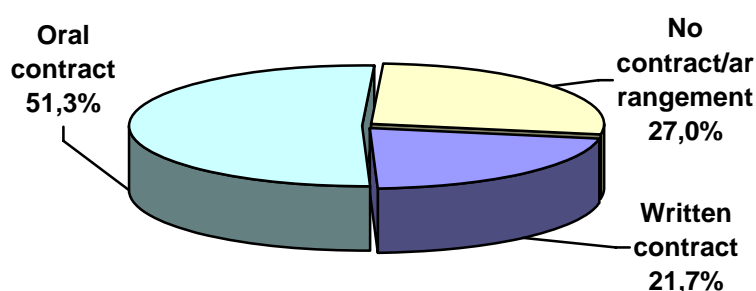


Figure 5 Contractual basis of the interviewed milk producers, %

73% of respondents have either a written or verbal contract with their main buyer. When asked about the most important factors that can influence their decision to sign a contract, milk producers cited “security for milk sales”, “higher price for milk than without contract” and “price stability” as the most important factors (Table 29).

Table 29: Importance of the factors in influencing farmers’ decision to sign a contract

Influencing factors	Obs.	Mean	St. dev
Security for milk sales	218	4.60	0.83
Extra services available from dairy only if you contract	218	1.78	1.16
Higher milk price than without contract	218	4.36	0.91
Opportunities to get a loan	218	1.42	0.89
Price stability	218	3.75	1.02

“Extra services” in case of a signed contract, and “opportunities to get a loan” were not important influencers on farmers’ decision to sign a contract.

Table 30: Percentage of farmers receiving a particular support measure

Type of support measure	Number of positive answers	% of total respondents
Credit including loans and forward payments	2	0.7
Physical Inputs	28	9.3
Machinery	2	0.7
Transportation	185	61.7
Specialized storage	146	48.7
Guaranteed prices	131	43.7
Veterinary Support	30	10.0
Business and financial management support	54	18.0
Harvest & handling support	29	9.7
Farm loan guarantees	1	0.3
Investment loans	2	0.7
Quality control	254	84.7
Prompt payments	243	81.0
Market access	161	53.7

Whilst it was not seen as a significant determinant of a farmers' likelihood of signing a contract, a number of farmers did benefit from support measures. The lack of influence of such measures can perhaps be attributed to the fact that many of these measures are most beneficial to the buyer. For example, quality control (approximately 85% of respondents received this support measure), and transportation (approximately 62%).

Table 31: Particular measures specified in contract with the main buyer (% of total respondents)

	Yes	No
Price of milk	70.3	2.7
Quantity of milk that will be purchased	11.0	62.0
Frequency of delivery	52.7	20.3
Minimum quality requirement	72.0	1.0
Mode and speed of payment	71.0	2.0
Premiums	1.0	72.0
Penalties for breaking the contract	7.7	65.3

Contracts signed with milk buyers often are very simple and contain just some basic stipulations like "price of milk" mentioned by approximately 70% of respondents, "minimum quality required" (approximately 72%) and "mode and speed of payment" (approximately 71% of interviewed farmers).

Approximately 44% of respondents indicated that their main buyers do respect the terms of their contracts. It is therefore possible to conclude that most buyers (approximately 56%) defaulted on their contractual arrangements on at least one occasion (Figure 6).

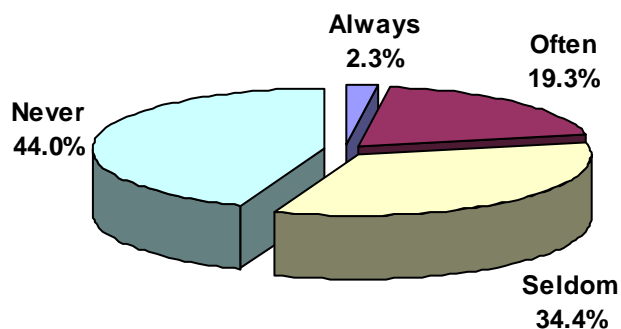


Figure 6: How often does the main buyer fail to respect the terms of contract?

6. On-farm Investment

The most frequently cited farm investments were new / enlarged cattle sheds (26% of respondents) or new / enlarged cattle stalls (27% of respondents).

Table 32 Percentage of farms that have made investments in particular items

	Positive answers	% of total respondents
New shed for cattle	43	14.3
Cattle shed enlarged	38	12.7
New stall for cattle	22	7.3
Cattle stall enlargement	58	19.3
New herdsman's camp	5	1.7
Herdsman's camp enlargement	1	0.3
Cattle stall modernized	77	25.7
Bought new milking cows	27	9.0
Bought new milking equipment	4	1.3
Bought 2 nd hand milking equipment	2	0.7
Bought more land	7	2.3
Bought new cooling tank for milk	2	0.7
Bought 2 nd hand cooling tank for milk	0	0.0
Bought or modernized fodder mixer	8	2.7
Bought or modernized fence for grazing pastures	0	0.0
Improved grazing pastures	6	2.0
Purchased of calves	6	2.0
Bought or modernized other agricultural equipment	10	3.3
Other. specify	3	1.0

None of the respondents have invested in buying or modernising fences for grazing pastures, or in buying a new cooling tank for milk. Investments were predominately financed using respondents own savings, with approximately 82% of investment financed in this way.

Table 33 Main sources of investment

Source of investment	1 st source		2 nd source		3 rd source	
	No of cases	% of total number of investments	No of cases	% of total number of investments	No of cases	% of total number of investments
Own savings	281	82.4	3	0.9	0	0.0
Remittances from abroad	20	5.9	0	0.0	0	0.0
Loan from relatives	14	4.1	1	0.3	0	0.0
Loan from non-relatives	0	0.0	2	0.6	0	0.0
Loan from bank or other credit institution with preferential interest rate	24	7.0	4	1.2	1	0.3
Loan from bank or other credit institution with commercial interest rate	2	0.6	0	0.0	0	0.0
Loan from the milk collection point where deliver milk	0	0.0	0	0.0	0	0.0

The second most important financial source for investment was “Loan from bank or other credit institution with a preferential interest rate”, mentioned in approximately 7% of investment cases. In this case, under the term of loans with preferential rates were mentioned grants from diverse international donors. Just 0.6% of investments were made using loans from banks or other financial institutions with a commercial interest rate. Remittances from abroad financed approximately 6% of investments made by milk producers. In several cases farmers had two or more financial sources for their investments.

7. Conclusions

The survey sought to uncover the nature of farmer – milk buyer relationships in Moldova. As the survey only covers producers who sold milk it should be noted that the data reported here reflects the situation in the commercial sector of milk production and not Moldovan milk production *per se*. It should also be noted that people who own as little as one cow (often retired people have 1 or 2 cows) often sell part of their milk to neighbors, or occasionally on the local markets. Some headline conclusions of the study, in addition to the tables presented above are:

- The small scale of milk production makes it difficult to establish a direct link between milk producer and processors.
- Only a small proportion of interviewed farmers rent land
- The acreage of owned or rented pastures is too small to be of commercial importance. The size of the used common pastureland in many cases is not related to the number of cows owned.

- Prices offered by final consumers are higher than those offered by milk processors.
- As a rule for farmers' families that owns three and more cows very few members have emigrated abroad in order to find a better job. On the other hand those persons that have not emigrated are forced to find new income sources, and in particular business opportunities that offer a stable income.

The descriptive tables presented here will be followed by more detailed multivariate and cross-national analysis, which will be presented in future working papers.