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**The Relationships between Member Farmers and Milk  
Marketing Cooperatives in the Armenian Dairy Sector**

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# Introduction

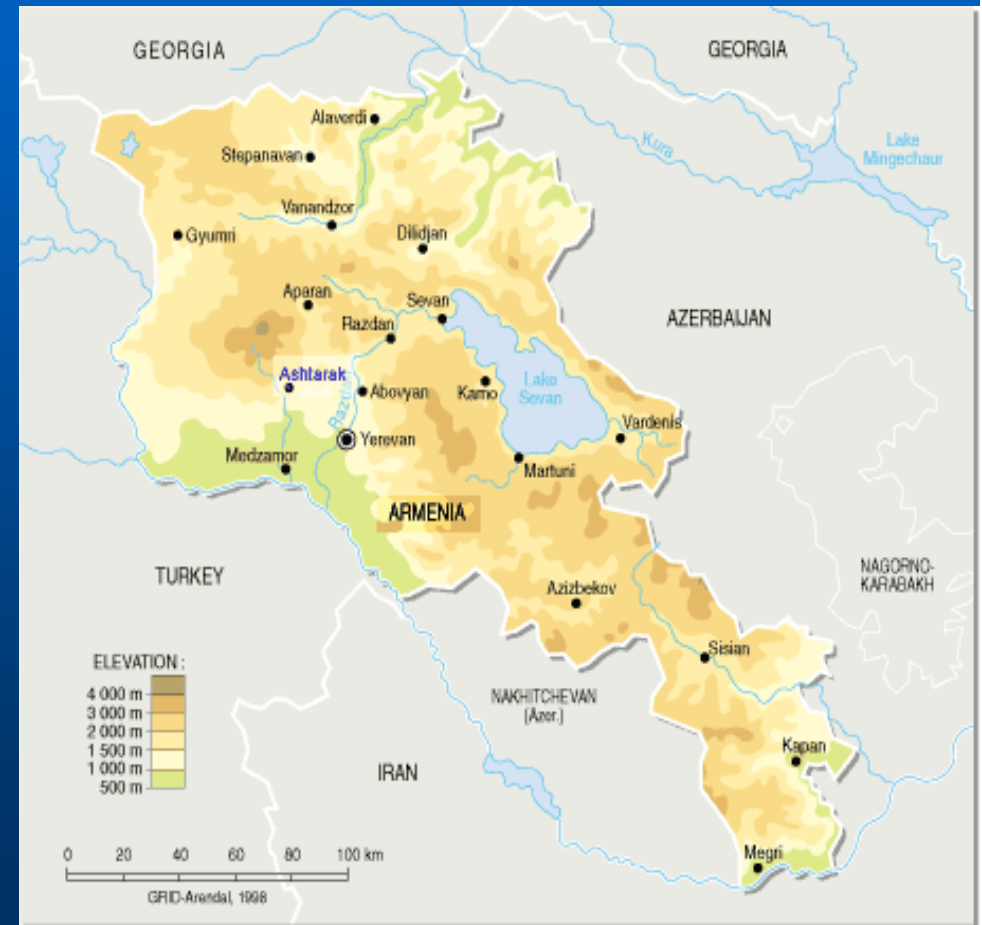
- This paper presents some findings of the survey work conducted in Armenia in the scope of the “Supporting the International Development of CIS Agriculture” (SIDCISA) project, funded by EU INTAS.
- SIDCISA project aimed at understanding the supply chain relationships of commercial milk producers in Armenia, Moldova and Ukraine.
- This paper mainly concentrates on the relationships of the member farmers and cooperatives as their main buyers as well as provides interesting comparisons with the relationships individual farmers have with their main buyers (dairy processors).

# Research Methodology

- The research was based on survey data. 300 farmers were drawn randomly from all regions of Armenia which have significant commercial milk production, based on proportions given from statistical data on milk production.
- The sample turned out containing 238 individual farmers (non-members) selling their milk to dairy processors and 62 cooperative member farmers selling their milk to cooperatives. The study compares these two sub-samples aiming to show whether there are significant differences between the relationships of member-coop vs. farmer-processor.
- Collected data concerned: farm growth, prices, yields, investment, the nature and satisfaction with relationships with their main buyer and non-price aspects of contracts.

# Background: Armenia in Transition

- During the Soviet period Armenia was an industrialized country with a large rural population. Armenia was exporting its outputs chiefly to the other “brother” republics, and in turn relying on them for key inputs.
- The market-oriented reforms introduced in 1991-92 comprised the privatization of many productive resources and organizations.



# Problems During Transition

- Like in many transitional countries of Europe and Central Asia (ECA), a major problem in Armenia during the transition period was the breakdown of the relationships of farms with input suppliers and output markets.
- The result is that many farms and rural households face serious limitations in accessing essential inputs (feed, fertilizer, seeds, chemicals, etc.) and selling their output.
- Widespread forms of contracting problems like long payment delays or non-payments for delivered products (Swinnen, 2005) were apparent in Armenia during the transition.

# Dairy Industry in Armenia

## Prior to Transition

- Annual capacity of 320000 tons of dairy production.
- 27000 tons of cheese and 13000 tons of ice-cream.
- 42 state-owned dairies.

## After the Transition

- All former 42 state-owned dairies have been privatized, many of them do not operate at all.
- Many small plants exist, which produce salted cheese under inadequate hygiene conditions.
- Several large dairy processors produce a wide range of dairy products: sour cream, yogurts, milk, ice-cream and cheeses.
- No FDI and JV in the dairy sector.
- Emergence of milk marketing cooperatives.

# Sample Characteristics and Growth

Sample characteristics based on selected parameters	COOP		IND	
	MEAN	St. D	MEAN	St. D
Milking Cows 01	5.62	7.09	9.26	14.33
Milking Cows 03	8.35	10.86	11.25	15.63
Milking Cows 05	11.84	5.66	13.76	19.24
Land Owned 01	3.77	4.78	5.28	6.83
Land Owned 03	4.06	4.97	5.59	8.31
Land Owned 05	4.28	5.5	5.66	8.31
Land Rented 01	5.10	13.86	9.66	33.81
Land Rented 03	7.03	13.88	7.99	34.13
Land Rented 05	11.54	40.28	8.18	34.31
FT Employees 01	2.47	1.99	2.45	2.42
FT Employees 03	2.72	1.92	2.57	2.65
FT Employees 05	2.90	2.68	2.68	2.98
Percent of turnover counted for by dairy farming 01	45.44	35.89	45.84	29.47
Percent of turnover counted for by dairy farming 03	59.16	25.86	52.45	25.43
Percent of turnover counted for by dairy farming 05	66.14	22.06	56.30	23.69

# Buyer Relationships

How is your milk collected?

	I take to station	Dairy firm collects	
IND	24.37	75.63	100.00
COOP	51.61	48.39	100.00
-----+			
Total	30.00	70.00	100.00

When are you paid for the milk you supply to your main buyer?

	On delivery	After delivery
IND	15.55	84.45
COOP	1.61	98.39
-----+		
Total	12.66	87.33

# Buyer Relationships

<b>DAYS</b>	<b>COOP</b>	<b>IND</b>
7	0.0%	7.0%
10	18.0%	20.8%
15	44.0%	33.7%
20	0.0%	7.0%
30	36.0%	30.2%

Coop members were mainly receiving their money on the 15<sup>th</sup> day (44%), another common period was 1 month (36%).

Farmers working with dairy processors had many periods for receiving their money, it was mainly based on negotiation, or the existing tradition of the processor.

# How important are the following factors in your choice of main buyer?

How important are the following factors in your choice of main buyer?	Very or Most Important	
	COOP	IND
Reliability of payments by buyer	96.77	87.22
Higher prices offered by buyer	75.81	77.73
Extra services offered by buyer (e.g. credit)	67.74	29.83
Price stability	91.94	83.62
Buyer is trustworthy	100.00	97.42

The cooperative member farmers factor priorities for choice of main buyer were “Buyer trustworthiness”, “Payment reliability” and “Price stability”. Non-member farmers also had the same ranking of these factors but with less percentages.

# Likert Scale Questions used for trust and general perception issues

Degree to which you agree with the following statements	Agree or Strongly Agree	
	COOP	IND
My main buyer has many suppliers to choose from	79.03	85.71
When competition is fierce, my main buyer will switch suppliers to cut costs	35.5	45.4
The actions of my main buyer have contributed to increasing my output	88.7	66.81
The actions of my main buyer have helped improve the quality of my produce	83.87	59.24
My main buyer keeps the promises it makes to us	90.33	82.77
My main buyer is genuinely concerned that our business succeeds	98.38	69.3
When making important decisions, my main buyer considers our welfare as well as its own	85.48	49.50
Our main buyer is trustworthy	98.38	90.75
We find it necessary to be cautious with our main buyer	33.82	46.54
Being able to sell to our main buyer has improved the living standard of our household	95.16	65.1
Being able to sell to our main buyer has improved the profitability of the farm operation	98.38	66.41

Surveys showed that coops are more involved in the activities of their members' businesses like: often or always visiting the premises to improve the performance, **conducting trainings and seminars (61% vs 15%)**.

# Buyer Relationships/Overall Satisfaction

Overall Satisfaction		COOP	IND
-----+-----			
Dissatisfied		0.00	3.78
Neither D/S		4.84	19.75
Satisfied		54.84	56.30
Very Satisfied		40.32	20.17
-----+-----			
Total		100.00	100.00

Total satisfaction rate of coop members are rather high compared that of with non-member farmers: 95% vs. 76%.

# Prices and Yields

Yield and Prices	COOP		IND	
	MEAN	St. D	MEAN	St. D
Winter Yield 05, lt.	6.11	2.46	5.51	2.22
Summer Yield 05, lt.	12.41	2.77	11.85	3.38
Total Yield 05, lt.	2450.58	350.10	2265.08	769.98
Average Price Received in Summer Season, AMD	94.30	8.07	87.58	15.82
Average Price Received in Winter Season, AMD	105.67	10.23	95.06	26.49

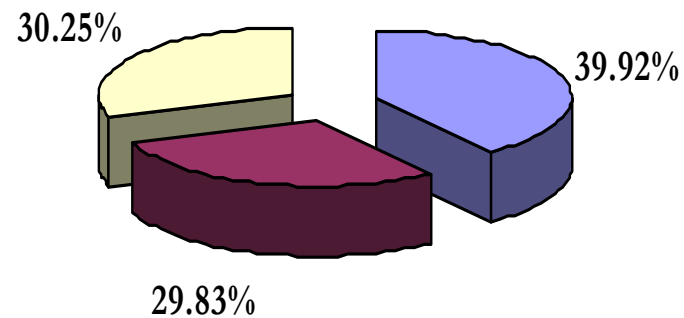
- On average the coop member farmers showed better performance in terms of getting higher yields in different seasons of 2005.
- On average, coop member farmers received about 10% more than non-member farmers. The price of the milk for 2005 the coop farmers got, made 100 AMD, which is about 0.17 Euro (with the exch. Rate =581.14 AMD, [www.cba.am](http://www.cba.am) ).

# Support Measures: COOP vs. Processors

Possible Support Measure	COOP		IND	
	YES	NO	YES	NO
Credit, Loans and Forward Payments	54.84	45.16	24.37	75.63
Physical Inputs	51.6	48.39	7.14	92.86
Machinery	6.45	93.55	0.42	99.58
Transportation	6.45	93.55	23.95	76.05
Specialized Storage	9.68	90.32	0.00	100.00
Guaranteed Prices	41.94	58.06	47.90	52.10
Veterinary Support	46.77	53.23	17.65	82.35
Business and FM Support	14.52	85.48	1.26	98.74
Harvest & Handling Support	8.06	91.94	1.26	98.74
Loan Guarantees	16.13	83.87	0.84	99.16
Investment Loans	6.45	93.55	0.42	99.58
Quality Control	85.48	14.52	81.93	18.07
Prompt Payments	90.32	9.68	86.97	13.03
Market Access	64.52	35.48	33.61	66.39

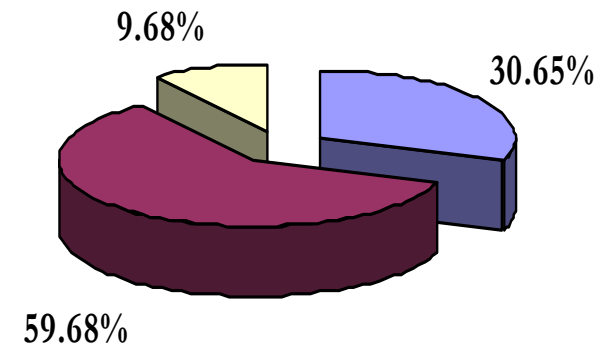
# Contractual Relationships

Contractual Basis: Non-member Farmers



Written Oral No Contract

Contractual Basis: Coop Member Farmers



Written Oral No Contract

# Contract Relationships

How important are the following factors in influencing your decision to sign a contract?	Very or Most Important	
	COOP	IND
Security for milk sales	94.64	92.16
Higher milk price than without contract	50.00	69.88
Price stability	96.43	90.96
Extra services available from dairy only if you contract	47.27	35.54
Opportunities to get a loan	60.71	51.2

The farmers consider “Security of Milk Sales” and “Price Stability” as very important influencing factors. When contract offers extra services or opportunity to get a loan, the motivation to sign a contract is relatively high among coop member farmers than non-member farmers.

# Contract Relationships

Specified in the Contract with your Main Buyer?	COOP			IND	
	YES	NO		YES	NO
Price of Milk	69.64	30.36		87.35	12.65
Quantity of milk that will be purchased	3.57	96.43		42.17	57.83
Frequency of delivery	55.36	44.64		78.31	21.69
Minimum quality requirement	98.21	1.79		87.95	12.05
Mode and speed of payment	98.21	1.79		97.59	2.41
Premiums	3.57	96.43		7.23	92.77
Penalties for breaking the contract	12.50	87.50		36.75	63.25

The most specified articles in contracts were: price, frequency of delivery, quality requirement and mode and speed of payment.

# Contract Relationships

Has it happened that your MAIN Buyer has not Respected the terms of the contract?

	OFTEN	SELDOM	NEVER
IND	0.60	24.70	74.70
COOP	0.00	3.57	96.43
Total	0.45	19.37	80.18

About 96% of the surveyed coop farmers confirmed that their cooperatives NEVER disrespected the terms of their contracts. There were seldom cases among only 4% of the respondents.

On Farm Investment	COOP		IND	
	YES	NO	YES	NO
a) New shed for cattle	41.94	58.06	25.63	74.37
b) Cattle shed enlarged	64.52	35.48	25.21	74.79
c) New stall for cattle	24.19	75.81	14.29	85.71
d) Cattle stall enlargement	20.97	79.03	12.18	87.82
e) New herdsman's camp	8.06	91.94	5.46	94.54
f) Herdsman's camp enlargement	3.23	96.77	1.68	98.32
g) Cattle stall modernized	30.65	69.35	17.65	82.35
h) Bought new milking cows	38.71	61.29	26.89	73.11
i) Bought new milking equipment	8.06	91.94	4.64	95.36
j) Bought 2 <sup>nd</sup> hand milking equipment	3.23	96.77	0.00	100.00
k) Bought more land	0.00	100.00	9.00	91.00
l) Bought new cooling tank for milk	0.00	100.00	0.84	99.16
m) Bought 2 <sup>nd</sup> hand cooling tank for milk	0.00	100.00	0.00	100.00
n) Bought or modernized fodder mixer	0.00	100.00	1.68	98.32
o) Bought or modernized fence for gr. pastures	3.23	96.77	0.42	99.58
p) Improved grazing pastures	6.45	93.55	2.10	97.90
q) Purchased of calves	20.97	79.03	15.55	84.45
r) Bought or modernized other ag. equipment	27.42	82.35	27.42	72.58

# Conclusions

- The analysis of the determinants of farmer satisfaction with their main buyer relationship highlights the importance of trust and support measures.
- More than about 95% of the coop farmers (vs. 65% of non-member's) were able to improve the well being of their household and the overall profitability of their business due to the relationship they have with their main buyer.
- Coops were able to provide more contract support measures than processors which translated into higher performance, better yields, higher prices, trust and reliability for member farmers.
- Although the majority of coop farmers had only oral contracts, it didn't stopped them receiving the support measures. About 96% of member farmers stated that their main buyers (COOP) never disrespected the terms of their contracts (vs. 74% of non-members).

Thanks for your attention !!

