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## IMPROVING FEED SUPPLY AND ENHANCING PROCESSING IN THE ARMENIAN DAIRY SECTOR

July 2019

SDGs:



Countries:

Republic of Armenia

Project Codes:

TCP/ARM/3605

FAO Contribution:

USD 157 000

Duration:

1 February 2018 – 30 April 2019

Contact Info:

FAO Representation in Armenia

FAO-AM@fao.org



### Implementing Partners

Ministry of Agriculture.

### Beneficiaries

Cattle owners and producers of livestock products along dairy supply chains, staff of the Ministry of Agriculture and associated institutions, producers' and breeding associations, research personnel, and institutions that provide input services and marketing surveys.

### Country Programming Framework

The project itself was not included in the CPF, but was aligned with the CPF goals and the Agricultural Strategy of the Government of Armenia.



### BACKGROUND

Armenia's dairy sector remains underdeveloped and unable to satisfy the domestic demand for dairy products. Milk production in the country is mainly conducted by small-scale farmers, with an average of from four to 20 heads of cattle. This fragmented production has created a range of problems that hinder the development of the sector. FAO and other development organizations have worked to improve the productivity of the sector through improvements in genetics. The aim of the current project was to provide a strategy to increase productivity in milk production through the provision of improved feed for dairy cattle, enhance efficiency in the dairy processing sector, and encourage greater competitiveness in marketing and trade by providing an investment roadmap to improve markets for the various milk products.

### IMPACT

The project has enabled the Government of Armenia to improve livelihoods in the dairy sector through an improved understanding of the capacity of feed resources and of the dairy processing sector. The feed study, in particular, has highlighted the importance of feed in the productivity of the dairy sector, especially important in a country where small farmers often do not actively feed cattle, but let them graze randomly.

### ACHIEVEMENT OF RESULTS

A full understanding of feed resources and consumer demand was needed to reveal milk production capacity, to determine if Armenia was able to achieve self-sufficiency, and to assess whether there was sufficient raw material to support an export market for dairy products. The project provided a detailed analysis of the feed sector in order to estimate the ultimate capacity of milk production, analysing first-hand and secondary data and developing scenario analyses to estimate the impacts of improved feed quality and quantity.

A second study focused on the dairy products processing sector. The current situation was assessed in terms of processing capacity and the products being produced and marketed, including any export potential. A consumer preference survey was then conducted to determine trends in demand for the various dairy products. The marketing study provided information about the type of investment needed in the milk processing sector and estimated the potential for export markets, in addition to providing data on domestic milk product sub-sectors. Gaps at farm, producer, consumer and government levels were revealed during interviews with government officials, farmers, dairy product processors, consumers and experts. The study then developed solutions to improve the processing sector, and presented scenarios that could lead to investment in the sector, which would effectively form an investor roadmap.

Together, the studies provide a complete picture of the Armenian dairy industry and allow for the effective planning of activities to expand productivity and investment opportunities in the dairy processing sector. The project also complemented ongoing activities to support productivity gains from improved animal breeding, veterinary health, milk collection schemes and farmer training.

## IMPLEMENTATION OF WORK PLAN

Following changes in the Government, the project requested an extension in order to mitigate risks related to the budget and the quality of the deliverables under the project. A three-month extension was approved, with no increase in the original budget.

## FOLLOW-UP FOR GOVERNMENT ATTENTION

Bearing in mind that Armenia is not yet entirely self-sufficient in milk production, it is critical that further development of the dairy sector be closely linked to the development of the country's milk processing capacity and, in the medium term, to its ability to export dairy products.

The results of the studies and the recommendations of the investor roadmaps were prepared and shared with the donor community, including the World Bank, the Embassy of the Kingdom of the Netherlands based in Tbilisi, Georgia and the Swiss Development Cooperation. A follow-up project should be discussed with these donors.

## SUSTAINABILITY

### 1. Capacity development

The results of the project were handed over at the validation and stakeholder workshop, enabling further collaboration on the development of joint proposals for follow-up activities. The follow-up and exit strategy defined envisages the formulation of clear and precise recommendations to improve feed production and dairy processing in Armenia. These recommendations will be used in future investment plans and development programmes.

### 2. Gender equality

The surveys were developed with a focus on gender-related aspects, making it possible to draw conclusions on issues that affected men and women differently. The results were universally shared, with the validation and stakeholder workshop involving participants that represented both men and women from all backgrounds.

### 3. Environmental sustainability

The project focused on the impacts of climate change, as well as on the better management of natural resources. In their recommendations, the studies investigated environmentally sustainable solutions, such as the application of hydroponics technology to allow better water management as a result of less water consumption.

### 4. Human Rights-based Approach (HRBA) – in particular Right to Food and Decent Work

The focus of the project was on food security and reducing rural poverty by improving the livelihoods of the rural population through the development of better integrated and socially sustainable value chains. Drawing on the conclusions of the studies, further follow-up actions are expected to improve the income of the rural population, above all that of smallholders, and to ensure decent employment and fair conditions for the sale of dairy products on the market.

### 5. Technological sustainability

No technology was introduced during the implementation of the project. However, the results of the project are expected to enable the Government, research institutes, academia and relevant actors in the dairy processing sector to plan further investment and better target further interventions.

### 6. Economic sustainability

All the results of the project are accessible free of charge on the Internet.



## DOCUMENTS AND OUTREACH PRODUCTS

- ❑ FAO. 2019. Enhancing Feed and Dairy Processing in the Republic of Armenia. FAO Regional Office for Europe and Central Asia. Budapest, Hungary. 135 pp.
- ❑ FAO. 2019. Report on Enhancing Feed and Dairy Processing in the Republic of Armenia, FAO Regional Office Europe and Central Asia, Budapest, Hungary. 150 pp.



## ACHIEVEMENT OF RESULTS - LOGICAL FRAMEWORK

Expected Impact	The project will support the Government of Armenia to improve livelihoods in the dairy sector through improved understanding of the capacity of feed resources and the dairy processing sector	
Outcome	Analysis will result in improved productivity in the feed sector and efficiency in the processing sector	
	Indicator	<ol style="list-style-type: none"> <li>1. Current feed, forage, and pasturage resources estimated, and an economic analysis carried out to determine impact of various improvements in the feed sector on milk production, plus a national estimate of potential milk production.</li> <li>2. Validation workshop for findings, gaps and needs held with stakeholders to determine best way to increase productivity of feed, forage and pasture.</li> <li>3. Status of dairy processing sector surveyed and analysed, and way forward validated. Investor roadmaps for the processing sector developed on the basis of consumer trends.</li> <li>4. Consumer preferences for various dairy products surveyed and analysed based on descriptive and modelling approach.</li> </ol>
	Baseline	<ol style="list-style-type: none"> <li>1. Insufficient data to estimate feed production, and no estimates on correlation between feed and milk production. Such a model does not currently exist for Armenia, so completion is at 0%.</li> <li>2. Stakeholders are identified and included in workshop. Gaps and investment needed discussed.</li> <li>3. Detailed production numbers for each type of dairy product for sale both domestically and for export. Consumer preferences for key dairy products surveyed and analysed.</li> </ol>
	End Target	<ol style="list-style-type: none"> <li>1. Economic model developed, predicating maximum possible production output of the dairy sector based on available feed resources. Completion at 100%.</li> <li>2. Results summarized in final reports, to be disseminated among relevant actors of dairy value chain in Armenia. Completion is at 100%.</li> <li>3. Investor roadmaps developed and adopted by interested parties at validation workshop. Completion is at 100%.</li> </ol>
Comments and follow-up action to be taken	<p>The results of the studies and the recommendations of the investor roadmaps were prepared and shared with the donor community, including the World Bank, the Embassy of the Kingdom of the Netherlands based in Tbilisi, Georgia and the Swiss Development Cooperation.</p> <p>Potential follow-up activities will be planned on completion of the project; a follow-up project will be discussed with donors.</p>	

<b>Output 1</b>	Output 1 will produce a study revealing current sources and supplies of feed for the dairy industry, estimates of available land resources for additional feed production, and pasturage and impact of improved feed and pasturage (quality and quantity) estimated to determine maximum milk production from domestic feed sources. Validation workshop conducted after completion of analysis to determine way forward		
	Indicators	Target	Achieved
	1. Current situation of feed, forage, and pasturage resources estimated, and an economic model developed to determine impact of various improvements in the feed sector on milk production, plus a national estimate of potential milk production. 2. Validation workshop for feed model held with stakeholders to determine best way to increase productivity of feed, forage and pasture.	100%	Yes
<b>Baseline</b>	1. Insufficient data to estimate feed production, and no estimates on correlation between feed and milk production. Such a model does not currently exist for Armenia. However, the baseline situation was fully analysed. Completion is at 100%. 2. Stakeholders are identified and included in workshop. The recommendations by stakeholders included in the report. Completion is at 90%.		
<b>Comments</b>			
<b>Activity 1.1</b>	National feed study and model development for productivity improvement scenarios		
	Achieved	Yes	
	Comments	Survey conducted, model analysis completed and findings integrated in the final report.	
<b>Activity 1.2</b>	Validation workshop to determine ways forward		
	Achieved	Yes	
	Comments	Workshop conducted and findings integrated in the final report.	
<b>Output 2</b>	Output 2 will result in an investor roadmap for the dairy processing sector. Both large-scale and artisanal scale processing will be evaluated, as will a consumer preference study to determine which dairy products will have changes in demand based on current trends		
	Indicators	Target	Achieved
	Status of dairy processing sector analysed, consumer preferences for various dairy products surveyed and investor road maps for the processing sector developed based on consumer trends.	100%	Yes
<b>Baseline</b>	Detailed production numbers for each type of dairy product for sale domestically and for export. Consumer preferences have not been measured. Currently, there are no plans available to invest in the processing sector.		
<b>Comments</b>			
<b>Activity 2.1</b>	Study on dairy processing sector resulting in investor roadmap		
	Achieved	Yes	
	Comments	Survey conducted and study on dairy processing and investor roadmaps integrated in the final report.	

Outreach, Marketing and Reporting Unit (PSRR)  
Business Development and Resource Mobilization Division (PSR)

For more information please contact: [Reporting@fao.org](mailto:Reporting@fao.org)