

## Dairy production in the Republic of Armenia: food culture as well as Social-economic and gender aspects

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### Abstract

*Armenia is located at the junction of the bio-geographic zones of the Minor Caucasus and the Iranian and Mediterranean zones and exhibits both a great range of altitudinal variation (from 375 m to the 4,095 m peak of Mt. Aragats) and a diversity of climatic zones, within it 7 of the world's 9 climate zones [8]. Together this has resulted in a diversity of landscapes (it is home to 40% of all landscape types), distinct flora and fauna, including many regionally endemic, relict, and rare species. Armenia is of particular importance as a center of endemism for wild relatives of economically important crop and livestock species [7]. Agriculture and horticulture have been conducted in Armenia for many thousands of years, and some of the earliest farming developed in this region. The rich agro biodiversity of the country includes wild relatives of crop plants, wild-growing edible plants, and a wide range of plant varieties and animal breeds [9]. Armenia is an ancient centre for the breeding of livestock, and also supports wild relatives of domestic breeds. But this long cultivation history, including intensive agricultural and livestock development on marginal lands, urban and industrial development and associated pollution of soil and water causes habitat loss and degradation. Agro biodiversity diverse from region to region in short distances. This causes the different types of dairy production: Golden goat, LLC - Yeghegnadzor buried cheese, goat cheese; Vordi Armen, LLC - smoked cheese; Dustr Melania, LLC - Sulguni and Chanakh cheeses; Astharak-Kat, CJSC numerous dairy products, etc. [14]. In many cases even neighbouring villages have very different food culture and food processing particularities. The current development is so that food production is centralising in small and middle-sized enterprises, which makes disappearing local food preparation traditions. This research aims to study this local food culture diversity and traditions having in mind social-economic development history and gender particularities. The question of how to convert farms to a sustainable agriculture system will be studied as well.*

### Introduction

The Republic of Armenia (RA) is a relatively small, mountainous country with a total area of 29,740 km<sup>2</sup>, located in the South-Central Caucasus, and bordering with Georgia, Azerbaijan, Iran and Turkey. The population of Armenia is 3.22 million (as of April 1, 2005), with another 5 million Diaspora [10, 11]. An estimated 64% live in urban areas, of which over half is based in Yerevan. For the one-third of the population that lives in rural areas, agriculture is the main source of livelihood [15]. Agriculture is greatly influenced by the topography of the country, most of the cultivated land lying within an altitude range of 600-2 500 m. The agricultural area is estimated at 49% of the total land area of the country [3].

The market-oriented reforms introduced in 1991-92 comprised the privatization of many productive resources and organizations. There are today more than 334000 individual farms with an average land size of 1.37ha. The small farm size is not conducive to the application and use of new innovative technology which itself hinders the development of the sector. In 2003, agriculture contributed 24% of Armenia's GDP. Those working in the agricultural sector made up 44% of the employed population, but 40% of them were employed only 7 to 9 months in the year. Productivity in agriculture was lower than in industry. 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 [13] were apparent in Armenia during the transition.

Unemployment, gender inequality, overgrazing by livestock, soil erosion, uncontrolled deforestation, plant species diversity decreasing (mostly valuable fodder species), breakdown of the relationships of farms with input suppliers and output markets due to Soviet collapse, absence deep farmers network in the rural communities and between them, fragmented character of agricultural land use negatively impact on the development of each house-holding economy as well as the whole community. Several reasons are pinpointed by the rural community members, which hinder the development of the agricultural sector: the realization of milk is complicated with the lack of milk collection centre, refrigeration facilities and proper roads; lack of veterinary clinics and artificial insemination services; deficient of training; lack of capital; poor availability of forage and milk marketing; difficulties to introduce new technologies. During the last 15 years milk production in Armenia increased approximately by 34%. The overall increase in milk production is a result of increase in the number of cattle, as well as the growing demand of the market in Armenia. Despite the increase in milk production and the number of cows in Armenia, the country is still heavily dependent on the imported milk powder, milk cream, yogurt, sour cream, etc. Based on the milk demand in Armenia milk is a product that has the potential market and can be developed in Armenia. Today the overall milk production in the villages is decreasing as there is no access to major milk markets. In the process of exchange the milk loses its market value.

There is a long history of animal breeding in Armenia, with archeological studies showing the keeping of livestock since Neolithic times (including horses, cows, sheep, goat and pigs). As a result of long-run breeding were derived Caucasian brown cow, buffalo, native varieties of domestic sheep and goat. Animal breeding became the source of different dairy products-mainly salted cheese in pitcher and wine-bag, as well as sour-milk products, which are derivatives from matsun. These products of milk processing play very important role in Armenian kitchen and are used not only directly, but also as main product or components to the several foods [12]. Cheeses take a special place in Armenian diet and daily food. Developed domestic cheese making differs not only with rich cheese assortment, but also original using whey, buttermilk and its processing. From buttermilk and matsun whey are prepared curd zhazhik, as well dry buttermilk chor tan for long keeping. All these products belongs to the food products, which are permanent used, very important and occulted among Armenian like bread. There are a lot of varieties of cheese - with different herbs, garlic and a number of fillings. The developed household cheese making differs not only by rich assortment of cheeses but also original use of whey and buttermilk and their further processing. So, matsun whey or buttermilk are used for making cottage cheese **zhazhik**". The most known Armenian cheese is twisted "**chechil**". The most popular dairy product is **matsun** – thick sour milk drunk by Armenians from time immemorial. The name of this wonderful beverage originated from Armenian verb "matsusel" – "to thicken". It is used as the base for making **spas** – sour-milk soup with wheat cereal. In the summer time matsun is dilute with water and it turns into tan - a refreshing milk beverage a must in summer heat for thirst quenching.

For Armenia, where 32.5% of the population lives in the villages, where patriarchal character of the areas of influence between men and women is presented in the following way: men's world is the whole world, a woman's world is the home. Female-headed households are particularly vulnerable to falling into extreme poverty since women are left alone to shoulder the burdens of household and childcare responsibilities [16, 5, 6].

Armenia grants women equal rights under the law, including equal entitlement to education, health care, employment and certain anti-discrimination measures. Women inequity in rural community is existed. Mostly in administrative activities of rural community women are absent. Women are busy with agricultural products processing, gardening, milking, dairy products (milk, cheese, matsun, bread, sour-cream, etc.) preparation, selling and other activities. Men mostly are responsible for cattle feeding, hay making, green feed collection and barn construction, heat detection, etc.

## **Methodology**

The principal understanding from methodological point of view is the interdisciplinary character of this study. This means that field visits, interviews and different qualitative and quantitative, sequential mixed techniques together with some special computer software (e.g. Statistical

Programme for Social Sciences (SPSS), ArcGIS for mapping) will be used through the whole study [2]. The primarily data collection will use PRA (participatory rural appraisal) comprise qualitative and quantitative data collections. PRA is an approach for holistic analysis of local conditions and formulation of problem based strategies through active participation of local stakeholder [1]. Each of field data collection consists of direct observation and questionnaire. To strengthening the validity and reliability of data collections in this study will use methodological triangulation [4]. This means, this study uses more than one method to check the results, testing one source of information against another to strip away alternative explanations and prove the hypothesis. This is called cross examinations, and makes the confidents of the result chosen. In this study a qualitative data collection including the ethnographic and life history approaches. will be applied. The quantitative part of study will be conducted on the base of a survey including statistics. Besides that, demography, land status, nutritional status, human development indices and milk and dairy products data will be used. In the quantitative analysis data from questionnaires and survey will be collected and processed.

### Expected Output

This research project is a comprehensive study on local food culture diversity and traditions social-economic, ecological, gender and other factors that hinder sustainable land-use and dairy products production. The result of this study will support decision-making in favour for local people and knowledge on food culture, which will promote poverty reduction and gender equity. It may promote the implementation of new projects, supported by government and international organisations for the development of local milk and dairy products, too. The study will also support the development of dairy food safety standards for the South Caucasus.

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