

## MODERNIZATION OF WINE SECTOR IN THE CONTEXT OF INNOVATIVE ECONOMY

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### Abstract

*The sustainable agriculture contributes to resolve some social problems of rural areas: employment, infrastructure development, conservation and enhancement of cultural heritage, development of roads and communications. Scientists and politicians vigorously discuss modern agriculture as characterized by developing technologies that rely on external inputs created, which is the best way for agricultural development. The global situation of the wine sector and its prospects in the context of Moldovan orientation towards innovative economy is analyzed in the article.*

**Key words:** knowledge economy, innovation, modernization, paradigm, research, sustainable agriculture, wine sector

### INTRODUCTION

The sustainable agriculture contributes to resolve social problems of rural areas: employment, infrastructure development, conservation and enhancement of cultural heritage, development of roads and communications. Scientists and politicians vigorously discuss modern agriculture as characterized by developing technologies that rely on external inputs created, which is the best way for agricultural development. International institutions such as the World Bank, FAO and the Consultative Group on International Agricultural Research have suggested that the way to feed the population is agriculture modernization.

*The new paradigm of modernization* is moved by agricultural technologies and people. Its novelty is that the combination of policies for agriculture, financial policy, economic and technological, to introduce a new component, social policies, to improve human capital in agriculture. The theory of modernization is justification for global development policy of civilization, the transition from traditional to modern societies as an inevitable trend of development in modern politics. The modernization of agriculture is based on the features that are

part of the industry: concentration, intensification and specialization. At the same time, the agricultural sector has become substantially dependent on modern inputs, externalities and industrial values. Modernizing agriculture aimed at improving the conditions of production and marketing, focusing on main areas: training of farmers, farm technical support to improve production methods, improving plant varieties planted (introduction hybrids) using doses significant (and rational) of fertilizers and chemicals for treatment, development planning works and farm equipment (irrigation, drainage, sanitation, amendment, etc.). This modernization program as it deems Professor P. Roux, *'requires a considerable investment effort'* [8].

Agriculture is an important sector for any country, a balancing factor in harmonized economic development. The importance of the agricultural sector in Moldova is quite high despite the fact that this sector contributed only about 12.3% of GDP in 2011. Agriculture is the main occupation for Moldovan population. The transition to a market economy in agriculture implies the implementation of mechanisms characteristic of free market economy. Since then, *"Why and for whom is it produced?"* is dictated by

market forces. In a market economy, agricultural production is not easy, it requires multiple support mechanisms. It plays an important role in our economy, and the state should focus its efforts to the development of agriculture.

The total area of agricultural land in 2011, made up 2.4983 million ha or 73.8% of the total land area, including ± 1.8127 million ha of arable land and perennial plantings ± 298 800 ha (of which 133 orchards, 3000 ha, vineyards 149 600 ha, 350 400 ha pastures, meadows 2200 ha and fallow 34 200 ha) [1]. Agriculture remains a defining sector of the economy in the Republic of Moldova, because about 27.5% of the employed population is engaged in agriculture. Overall volume of agricultural production in comparable prices in 2011 increased by 4.8% over the previous year, and exports of food products increased by approximately 33.3%. However, agro-industrial policies have allowed a 14.5 percent increase in agricultural productivity per ha in 2011 compared to the results obtained in 2009 [9]. Share of agriculture in GDP in 2011 was 11.9%, 0.4 p.p. more than in 2010 (12.3%).

According to the data from the National Bureau of Statistics, global agricultural production in all categories in 2011 marked an increase of 4.6 percent from 2010. Increase of global agricultural production in 2011 was driven by increased crop production by 6.7 percent, while livestock production recorded a moderate growth of 0.4 percent.

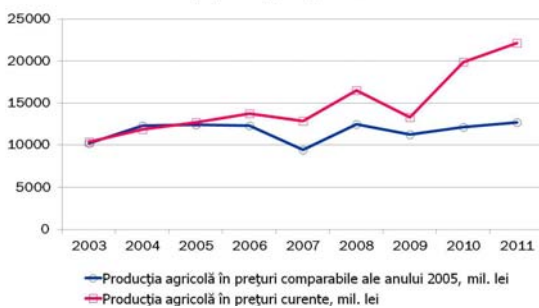


Fig.1. Agricultural production and the share of agricultural products in total exports  
 Source: [http://www.mf.gov.md/common/middlecost/ctm2013/Anexe/Anexa\\_20\\_Agricultura.pdf](http://www.mf.gov.md/common/middlecost/ctm2013/Anexe/Anexa_20_Agricultura.pdf)

In 2011, the share of crop production in total agricultural production was 68% compared to 66% in 2010, including cereals and grain,

technical cultures, potatoes, vegetables, legumes, fruits, nuts and berries, grapes.

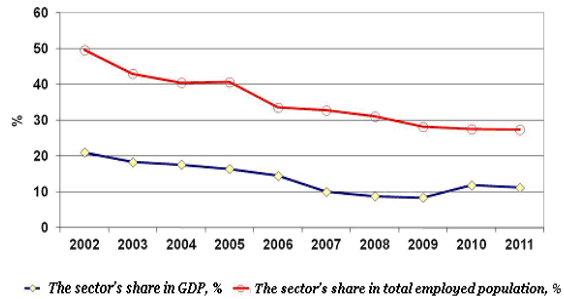


Fig.2. The sector's share in GDP and in total employed population, %  
 Source: [http://www.mf.gov.md/common/middlecost/ctm2013/Anexe/Anexa\\_20\\_Agricultura.pdf](http://www.mf.gov.md/common/middlecost/ctm2013/Anexe/Anexa_20_Agricultura.pdf)

## MATERIALS AND METHODS

In this paper, time series have been used with regard to the evolution of agricultural production and economic development data from the National Bureau of Statistics and Ministry of Agriculture and Food Industry MAFI online database

## RESULTS AND DISCUSSIONS

Ministry of Agriculture and Food Industry estimated production volume food industry, beverages and tobacco increased by 4.6 percent more than in 2011, up from 12.4 billion lei, compared to 2010. Agricultural production is quite volatile, which is due to increased vulnerability to natural hazards sector and to market influence.

Viticulture is one of the most important and profitable branches of agriculture in the world. Over the years the wine has become more wide spread, conquering entire continents. To better understand the impact of the draft technical regulation shall require characterization and recognition of global wine situation than the national one. In recent years, viticulture and wine making in Moldova were said economic and strategic sectors of major importance, bringing a more significant contribution to the development of national economy. Moldova's growing real insight into our country. Moldova ranks as 19th in the world in annual production volume

of grapes, as of (2007) UN Found for Agriculture.

Several years Moldovan wine sector faces to problems that are felt at all levels. To solve these problems, the wine sector needs reform. Reform is required for entry into new markets other than the traditional ones. For the wine industry must first review the internal rules of operation to ensure a favorable business environment, normal conditions, fair, modern European all participants. In the same vein, we must ensure competitive products in line with market requirements which aims to conquer.

**Modernization of the wine production** is made according to the Wine Sector Restructuring Program (Program) that was designed by the Government and the European Investment Bank (EIB) to address structural vulnerabilities Moldovan wine industry. European Investment Bank granted a loan of Moldova 75 million Euros for a period of 12 years, to achieve the program [6]. Responsible for implementing the Ministry of Agriculture and Food Industry (MAFI) via "Consolidated Unit for the Implementation and Monitoring Program Restructuring wine" (PCU - RSVV). The program is one of the strategic priorities of the 2012-2015 MAFI. The overall objective is to modernize and correcting structural deficiencies of the Moldovan wine industry and to contribute to improving the enabling environment for producing quality wine and protected geographical indications and protected designations of origin (PDO and PGI) to improve competitiveness on the national and export.

The specific objectives of this program are:

-Improving and creating a system for collecting, storing and processing in the wine sector and consequently political system in wine.

-Improving access to funds in order to improve the financial position of operators in the wine sector (including growers, winemakers and associated industries) to facilitate the investment needed to produce high quality wine, including "Protected Designation of Origin" or "Tip Protected Geographic".

-Improve productivity vineyards and wines of high quality.

-Restructuring of the wine industry (eg. Rationalization, cooperation and consolidation) to optimize the economic balance between scale and quality.

-Improve the quality and consistency of all aspects of wine production in Moldova, the vineyards and to the final packaging and commercialization.

-Develop legal environment, institutional and infrastructure for the production of bottled wines with "Protected Designation of Origin" or "protected geographical indication".

-Support of fair balance of the wine market relations with wineries.

-Increase capacity and facilitate investment in technical capacity, as well as education and training, inspection and verification organs.

-Improve marketing effectiveness and quality Moldovan wine as its recognition on the main existing and new markets.

-Stimulate national demand for quality wine.

-Develop organic wine production and wine tourism.

In the implementation of the restructuring program, Moldovan wine sector will apply zero VAT by local suppliers (subject to the imposition of VAT) for delivery within the country of goods and services and import them [4]. At the national level body of state administration is the Department of Agriculture wine "Moldova-Vin" of the Government of the Republic of Moldova. The Department develops the necessary legal framework for the efficient activity of economic agents, coordinates and directs the sustainable development of the wine macroeconomic provide scientific and technical assistance, support manufacturers (including financial), manages the state extra-budgetary fund to revitalize viticulture and wine making.

For better functioning within the industry and overcome the difficult situation of the wine sector, according to the Ministry of Agriculture and Food Industry Report for 2010 and 2011, legislative and regulatory basis has been enhanced. In this context, draft laws have been developed and promoted:

-Amendment of art. 31 of Law No. vine and wine. 57-XVI of 10 March 2006 that the cancellation fee and switching to another viticulture revitalization grant mechanism in viticulture (Law no. 109 of June 4, 2010 "On amending art. 31 of Vine and Wine Law no. 57 - XVI of 10 March 2006 "On amending some legislative acts");

-Amending of some legislative acts, which expected improvement of Vine and Wine Law no. 57-XVI of 10 March 2006, Law no. 1100-XIV of 30 June 2000 on the production and circulation of ethyl alcohol and alcohol products tax code no. 1163 - XIII of 24 April 1997 Contravention Code no. 218-XVI of 24 October 2008 and the Penal Code no. 985 of 18 February 2002 (submitted to the Government for review). [10].

Under the plan approved in 2002 for restoration and development of viticulture and wine making in 2011-2020 was provided to 80,000 ha of plantations replacing old, with 70,000 hectares of new vineyards. Root stocks and cuttings concerned must be imported or manufactured locally. The objective of the program is that all vines grown today to be renewed and equipped with modern drip irrigation and hail, as well as management and harvesting equipment. In 2004-2008, according to the program of revitalization were planted between 4500 and 5600 ha annually, with a sharp decrease in 2009 due to financial difficulties. In 2010, about 1,500 ha of vineyards were established with modern varieties, including about 1200 ha of table varieties. Also, in 2011 about 13.0 million vine cuttings were produced compared with 8 million grafted cuttings in 2010 [7].

Currently there are over 100 companies that produce wine in the four wine regions, Balti (Northern Region), Cahul (Southern Region), High forest (Central Region) and Transnistria (Southeast Region). Some wineries require full or partial modernization are wineries that have already started investment programs and some farmers are considering the creation of the first centers for the collection and processing of grapes. Alcoholic and soft drinks industry in 2011 felt an increase compared to 2010 namely distilled alcoholic beverages - 23.3%, wine - by 2.3%, mineral

water and soft drinks - 51% [1]. Only 25% of Moldovan vineyards produce more than 8 tons/ha/year and are considered good, most of these areas have been planted in recent years were about 60 wineries operated embedded (about 25 000 ha in total). About 35% of the vineyards producing on average 3-5 t/ha/year, while 40% are classified as unsatisfactory.

Agriculture provides employment and sources of income for many households and businesses. The share of the total employed population is steadily declining from about 50 percent in 1999-2002 to 27% in 2011 (NBS, 2012). The wine sector provides employment for a large part of the rural population, particularly important in the current alarming increase in unemployment. Compared to other crops, vines require more labor (about 100 days labor / ha). In addition, juices sector requires significant labor also. There is little precise information on the number of employees in the wine sector. The only official information on employment in the sector relate to staff at wineries. Industry estimates also indicate that about 4500 people are employed in support services such as wine trade, marketing, manufacturing bottles and cans, transportation, wine tourism and other services in the wine value chain [3]. A large part of these jobs are due to the country's exports. Namely, export of alcoholic and soft drinks (which together form a single group in the reports of the National Bureau of Statistics) is the main export item of the national economy. Moldovan wine is exported all over the world. Main markets include CIS (especially Russian Federation, Belarus and Ukraine), the EU (Poland, Czech Republic, Germany and Romania), the United States and China. Any further significant decline in exports would therefore have a disproportionate effect not only on the economy but also on the structure of society as a whole [10].

**The financial situation** of growers and wineries was significantly weakened trade restrictions imposed in various forms in recent years at the main export market, Russia. After the ban by the Russian Federation in 2006 Moldovan winemakers received a heavy blow, but this had some positive

consequences, namely, encouraged producers to shift to other markets. However, Moldovan winemakers are still addicted to the CIS, with 75% of exports. Meanwhile we see a significant increase in exports to the U.S., and, especially, to China. In 2011, the export of Moldovan alcoholic in the European Union increased by 59 400 hectoliters, compared to 2010. It is however difficult to penetrate the European market, both under recital strong traditions that EU Member States have own wine and the fact that we fail to offer an alternative to their wines.

Examining all aspects of the wine industry value chain, comparing manufacturers Moldovan winemakers its regional competitors and producing countries leading wine offers some opportunities that the state can implement and promote in order to adapt to the realities of market and best practice.

All this led to the need to consider legislative and regulatory framework aimed at addressing a state policy options facing the effective use of market instruments and common understanding facing the wine sector. Analysis has revealed some aspects of the wine sector:

-Many parties involved in the wine sector are financially poor, with high levels of inventories and receivables assets (money owed to them) and market relations between banks and operators in the wine sector is sometimes asymmetrical.

-Priority direction in the development of quality wine is to promote and stimulate the production of quality wines (VCS), including designation of origin (psr), requested the markets.

-Rational use of land, the first of the slope, suitable for effective cultivation of the vine, which, after their fertility are less attractive to other crops as well as the current status and potential development of viticulture in country.

-Expansion of cultivated vineyards by selecting and delimiting land less productive cropping cereals, technical etc., without jeopardizing the overall crop production.

-Economically, improving assortment involves the introduction , along with the most precious varieties classical perspective

variety of new selection with resistance to low temperatures , diseases that require minimal cost of cultivation and quality which meets the requirements for table grapes or consumer winemaking , grape juice and other products.

-Planting varieties with high biological value (with a backup planting material), and selecting the most valuable clones of classic varieties grown in vineyards powerful countries who used the establishment of new plantations will enable increased productivity and their longevity.

-Establishment of irrigation land in crop rotation vines and building school workshops and forcing grafting cuttings grafted to the successful development of the sector Nurseries.

-Founding plantations graft and rootstock, the southern areas of the country where the climatic conditions are more favorable for maturing propagating material. Production base grafted vines will be concentrated in specialized households that have adequate material and technical basis.

-Better cooperation between winemakers and viticulturists.

-Organic wine and wine tourism are under-developed.

## CONCLUSIONS

In conclusion, lack of funding, technical and material production sector is outdated, especially in wine making and ensuring the maintenance of machinery and equipment for vineyards and planting material production is low.

To enable the modernization of production and processing of grapes, manufacture and marketing of finished wine with greater efficiency is needed to revitalize the entire wine sector requires investment in processing, bottling and labeling, and transport, quality control and training of the workforce the creation of various types of agro-industrial formations.

Along with financial support from the state, reviving wine-growing branch must: be based on well reasoned scenarios of consolidation and vertical integration of domestic producers of alcoholic beverages to implement

procedures bankrupt insolvent enterprises. The issue of integration must extend successful practices of firms on their respective concentration in the growth process, processing, storage (maturation) and marketing the wines of controlled origin.

Aimed at increasing the competitiveness of domestic wine and vine near their quality standards by the respective indicators in the European Union, the state must be involved in the investment aspect of branch development through the development and practical implementation of efficient economic mechanisms, including by continuing the mortgage subsidy allocated for planting new vineyards.

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