COUNTRY REPORT: REPUBLIC OF MOLDOVA

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Content

1. MACROECONOMIC ENVIRONMENT AND POLICIES

1.1 Background data

The area of the country is 33846 km². Chisinau is the capital city with an estimated number of population 663,400 persons.

Moldova is a country with rather uniform topography, with the Central and North regions having slightly higher hills and receiving more precipitation. In the South the landscape is going more to a rolling steppe that gradually slopes south to the Black Sea.

Moldova's proximity to the Black Sea gives it a mild and sunny climate. Moldova's climate is moderately continental: the summers are warm and long, with temperatures averaging about 20°C, and the winters are relatively mild and dry, with January temperatures averaging −4°C. Moldova is characterized by a lack of humidity. Annual rainfall, which ranges from around 600 millimetres in the north to 400 millimetres in the south, can vary greatly. The largest water resources are the cross-border Rivers - Nistru (about 57% of the total water resources) and Prut (9.7%). The average water resources of the interior rivers constitute 18.2%, and the underground resources - 15.2%. Due to limited irrigation infrastructure, the bulk of agriculture is rain fed.

Figure 1. ***Country map***
Source: http://itravel.md/ru/hartile-moldovei/harta-administrativa-a-republicii-moldova.html

Forests occupy 374.5 thousand hectares or 11.1% of the country's surface. All forests of the country are part of the 1st functional group, having exclusively environment protection function, which is currently partially accomplished. Biologic resources of the Republic of Moldova are limited to be used as a source for economic, environmental and social benefit. Natural ecosystems and protected areas cover only about 15% of the territory. Level of vulnerability of the biodiversity caused by natural and anthropogenic factors remains high.

Moldova has a population of 3.6 mil. (2013) consisting of the following ethnic groups: Moldovans (75.8 %), Ukrainians (8.4%), Russians (5.9%), Gagauz (4.4%), Bulgarians (1.9%) and others. The population is fairly divided between urban and rural areas – 41.4% and 58.6% respectively.

Moldova's labour force is bilingual – Romanian and Russian speaking – and knowledge of the first language has been conducive to the learning of other Romance languages, such as Spanish and Italian, equipping the labour force with skills relevant to the EU market and export services (e.g. call centres). The demographic tendencies show a decrease in the number of population and it's ageing as a consequence of the decrease of the birth rates and massive migration abroad.

The country is divided into 32 districts and 5 municipalities, UTA Gagauzia and administrative-territorial units from the left of the Nistru River.

Table 1. Main country view 2013

Republic of Moldova – Year 2013	
Population (1st January) (000 inhabitants)	3,557.6
Area (sq. km)	33,846
Real GDP growth rate (% change on previous year)	8.9
Unemployment rate (%)	5.1
Agricultural Utilized Area (ha)	2497.8
Agriculture, hunting and fishing (% of total GVA)	14.8

Sources: Statistical yearbook of the Republic of Moldova, 2014

1.2 Macroeconomic developments

Over the past ten years, Moldova's economy has gone through significant structural changes. The service sector has been the largest contributor to the economic growth, and tradable sectors, namely agriculture and manufacturing, have stagnated.

The main drivers of the growth have been retail and wholesale trade and other services, including financial sector. Transport and communications sector has also been strong. Agriculture and industry as a share of GDP have been on a steady decline, falling from 56 percent in 1995 to a mere 26 percent in 2013 (WB/ECSPF, 2013).

Table 2. Main macroeconomic indicators in 2004–2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Population (1000 persons)	3,607.4	3,600.4	3,589.9	3,581.1	3,572.7	3,567.5	3,563.7	3,560.4	3,559.5	3,559.5
Real GDP growth rate (% change on previous year)	7.4	7.5	4.8	3.0	7.8	-6.0	7.1	6.8	-0.7	8.9
GDP at current prices (mill. NC)	32,032	37,652	44,754	53,430	62,922	60,430	71,885	82,349	88,228	100,312
GDP per capita at current prices (NC)	8,890	10,473	12,483	14,937	17,625	16,948	20,181	23,131	24,680	28,197
GDP per capita at purchasing power (PPS; USD)	na	2,362	2,563	2,723	3,007	2,856	3,101	4,179	4,220	4,687
GVA at current prices (mill. NC)	27,518	31,616	37,339	44,413	51,774	50,809	59,921	68,390	73,686	83,719
GDP deflator (%)	na	109.3	113.4	115.9	109.2	102.2	111.1	107.2	107.9	104.1
Inflation (annual average, % change on previous year)	12.4	11.9	12.7	12.3	12.7	0.0	7.4	7.6	4.6	4.6
Total employment (1000 persons)	1,356	1,319	1,257	1,247	1,251	1,184	1,143	1,173	1,147	1,173
Unemployment rate (%)	8.1	7.3	7.4	5.1	4.0	6.4	7.4	6.7	5.6	5.1
Current account balance (% of GDP)	-1.8	-7.6	-11.3	-15.2	-16.1	-8.2	-7.8	-11.2	-6.8	-4.8
General government balance (% of GDP)	0.47	1.54	-0.33	-0.23	-1.00	-6.35	-2.48	-2.38	-2.09	-1.8
General government gross debt (% of GDP)	42.52	34.38	30.35	25.16	18.83	26.73	26.51	23.13	23.92	23.47
Exchange rate, annual average (NC/EUR)	15.33	15.70	16.49	16.60	15.29	15.52	16.40	16.34	15.56	16.72
Exchange rate, annual average (NC/USD)	12.33	12.60	13.13	12.14	10.39	11.11	12.37	11.74	12.11	12.59
Total government budget (mill. NC)	6,561.7	9,062.1	11,110.0	14,058.6	15,977.5	13,833.0	17,167.7	18,639.0	20,090.6	22,436.7

Sources: National Bureau of Statistics, National Bank of Moldova, 2014

1.3 Macro-economic and other general policies

Moldova's recent macroeconomic performance has been volatile, reflecting exposure to global economic and climatic conditions. After 6-percent contraction of the economy in 2009 due to sharp decreases in remittances and export earnings during the global crisis, the growth increased to 7.1 percent in 2010 and 6.4 percent in 2011. The recovery was fuelled by favourable external conditions, including a resumption of remittance flows and external demand, which drove strong growth in private consumption and exports. Moldova's economy recovered more quickly than its neighbours Romania, Russia, and Ukraine, and the GDP returned to above its pre-crisis level by the end of 2011. However, in 2012, real GDP dropped by 0.7 percent as the economy suffered two shocks: first, the Euro zone crisis crippled demand for exports and lowered remittances from Europe; and second, the agriculture sector was hit by a drought that halved the grain harvest, and decreased value added by 23 percent. In 2013, the real GDP growth of the Moldovan economy was of 8.9 percent.

There has been little job creation in Moldova, and the economic growth has relied strongly on remittances. As the labour force steadily declined, Moldova's GDP expansion in the last decade has to be attributed to "jobless" growth. Overall, labour productivity increased due to labour outflows from low-productivity sectors, especially from agriculture. Comparatively low salaries triggered massive outflows of migrants to the two main regional markets, the EU and the Russian Federation. In 2004-2013, Moldova's total employment had decreased by 11 percent, while unemployment rate fell from 8.1 percent to 5.1 percent. Therefore, it can be concluded that migration must have led to the apparent lack of correlation between unemployment and general economic conditions in Moldova. In the meantime, Moldova became one of the countries in the world with the highest proportion of remittances relative to GDP. (WB/ECSPF, 2013).

In response to the vulnerabilities inherent in the remittance-driven model, the Government of Moldova has made a welcome, committed decision to pursue a strategy of export-oriented economic growth. The national development strategy "Moldova 2020" is cantered around the need to transition to a dynamic economic model based on investment and the development of goods- and services-exporting industries. Putting this model in place requires substantial increases in domestic investment and FDI, and enhancing knowledge and innovation, in order to increase efficiency and competitiveness. The "Moldova 2020" strategy is built around seven priorities: the business environment, access to finance, education, and infrastructure, which are defined as critical areas; the judicial sector as an issue area that underpins all others; and energy consumption and the pension system.

Moldova still ranks relatively low in global and regional comparisons of competitiveness and the quality of the business environment. In the World Economic Forum's 2012-13 Global Competitiveness Index, Moldova ranks 87th out of 144 economies. Moldova's ranking at the 40th percentile suggests that there is a notable room for improvement. Moldova performs especially poorly on innovation, business sophistication, institutions, financial market development, and the efficiency of markets (including competition); it ranks lower than 100th in the world on these indicators. Moldova ranks best on technological readiness (65th in the world). The Global Competitiveness Report (GCR) also places Moldova among Stage 1 factor-driven economies, alongside two other countries in the CIS region - Tajikistan and the Kyrgyz Republic. Meantime, other Moldova's peers are at Stage 2, classified as efficiency-driven economies.

According to the 2012 Cost of Doing Business (CODB) survey, one of the top two problems faced by Moldovan companies, both small and large, is tax administration. On the 2013 Doing Business "Paying Taxes" indicator, Moldova ranks 109th out of 185 countries worldwide, and 15th out of 24 countries in the ECA region. Moldova performs much worse than the ECA average on the number of payments per year (48 compared to 28), and although the amount of time spent on dealing with tax administration is lower than the ECA average, it is still substantial at 220 hours per year. This equals to 5½ workweeks, or

more than 10 percent of workweeks in a year for one employee. In addition, the CODB survey reveals that in 2012 businesses reported a considerable increase in the time needed to submit tax reports.

The most common tax administration problems cited by companies, as documented in CODB 2012, are severe sanctions for errors and unclear procedures. The severity of the problems identified was confirmed in interviews with businesses, representatives of private sector associations, think tanks, and government officials conducted by the World Bank team in September 2012 and January-February 2013 (World Bank, 2013).

The evidence indicates that competition in markets for goods and services in Moldova is hampered by a concentrated market structure, lack of law enforcement, and the presence of strong state-owned companies. Evidence points to a low level of competition in domestic markets, a high concentration of firms, the existence of monopolistic profits, cases of collusion, and other horizontal/cartel agreements. Moldova ranks 108th out of 144 economies on intensity of local competition and 130th on the extent of market dominance (economies dominated by few business groups receive lower score), according to the 2012-13 Global Competitiveness Report (GCR). While the presence of dominant players is not a problem in the case of isolated economy, low competition alongside strong market dominance indicates that Moldova's competitive environment is weak. Moldova also ranks 120th (16 th percentile) on the extent of foreign ownership, which is another indicator that exposure of domestic markets to competition and innovative practices from abroad is limited (Schwab, 2012).

Though registering a business in Moldova is fairly simple, data on business market entry indicate that the rate of new business creation remains low. Moldova has a business entry density rate of 1.3, lagging behind regional peers Georgia, Romania and Macedonia with rates of 4.0-4.5. The top performer in Europe, Cyprus, has a rate of 24.7, and it is followed by Latvia (11.2), Montenegro (10.4), and Bulgaria (7.2). Moldova ranks 12th out of 24 countries (WB/ECSPF, 2013).

Exiting a market is fairly difficult in Moldova. The most burdensome aspects of voluntary liquidation are: i) proving that a company does not owe debts to creditors or the state, and ii) waiting for 12 months, after publicizing the notice of the intention to liquidate, to distribute company assets to shareholders. Difficulty of closing a business increases entrepreneurs' perception of the risk of entering a market, ties up investors' capital in non-productive firms for a substantial amount of time, and therefore may deter entry.

Although political economy issues are by their nature difficult to capture through data, the 2012-13 Global Competitiveness Report offers some valuable insight. The top three constraints to doing business cited by Moldovan firms in this report are corruption (17.9 percent), policy instability (12.6 percent), and inefficient government bureaucracy (10.3 percent). These responses indicate that the government is unable to maintain a consistent playing field for companies.

Number of business incubators are active in the Republic of Moldova: BI "House of Entrepreneurship" (Ungheni), BI "ELIRI -INC" (Chisinau), BI ASEM (Chisinau), BI "Impuls" (Balti) and BI "Soroca". In addition to business incubators, three scientific and technological parks (STP) and one innovation incubator operate in Moldova: STP "Academica", STP "Inagro", STP "Micronanoteh" and the Innovation Incubator "Innovative". All of them are located in the capital city Chisinau.

A review of foreign direct investment inflows into Moldova over the past decade shows a volatile picture. Foreign direct investment activity can be roughly divided into two phases. In the period of 2004-2008, Moldavian economy started to attract and increased inflows of money from foreign investors, with inflows peaking at 2,407 mil. MDL in 2008, at the height of the global economic cycle. Most of Moldova's stock of foreign investment is stemming from this period. The global financial crisis put an abrupt end to this period of rapid foreign direct investment growth with inflows collapsing to a mere 1080 mil. MDL in 2009. Furthermore, 2009 was a year of political turmoil and a transition of political

power adding a large degree of uncertainty for investors. Recovery has been only moderate and inflows in 2013 are well below their pre-recession levels.

Table 3. FDI flows in the Republic of Moldova, (Mil. MDL, %) 2004–2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total FDI	497.2	686.4	1 399.8	1 957.3	2 406.8	1 080.4	1 552.3	1 533.7	1 274.7	1 365.7
FDI in agricultural sector	0	5.0	2.0	5.2	4.0	14.0	28.1	78.9	67.9	77.5
Share of FDI in agricultural sector, %	9.7	8.8	12.7	12.8	13.2	9.7	11.2	9.3	7.4	7.3

Sources: NBS, 2014

Russia accounted for almost 9 percent of the foreign direct investment stock – making it the country with the largest investment share. Lukoil has been one of the main investors from Russia. In total, investment from the European Union easily exceeds Russian investment.

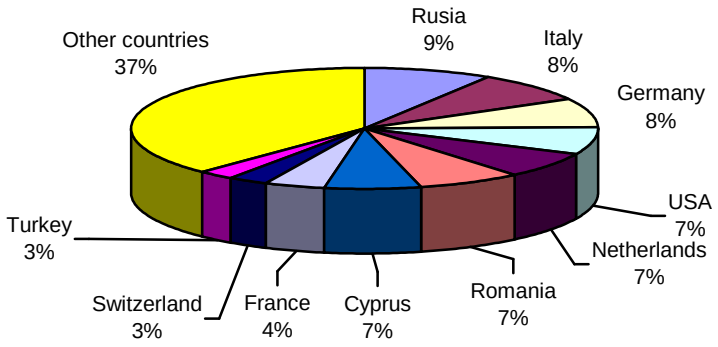

Figure 2. FDI in the Republic of Moldova by country of origin, 2012, %
Source: National Bank of Moldova, 2014.

The sizable share of investors from Cyprus reflects the island's status as a tax haven, with its residents not liable for capital gains tax, what used to re-route cash to Moldova.

The data on Moldova's FDI inflows and stock suggest that the country has only been partly successful in attracting foreign investors. The level of foreign capital invested per capita lags behind other peer economies and the structure of FDI is biased towards services. Manufacturing industries – which are usually more capital intensive and therefore require a higher commitment from investors – are underrepresented and agriculture almost completely failed to attract FDI (Giucci & Radeke, 2012).

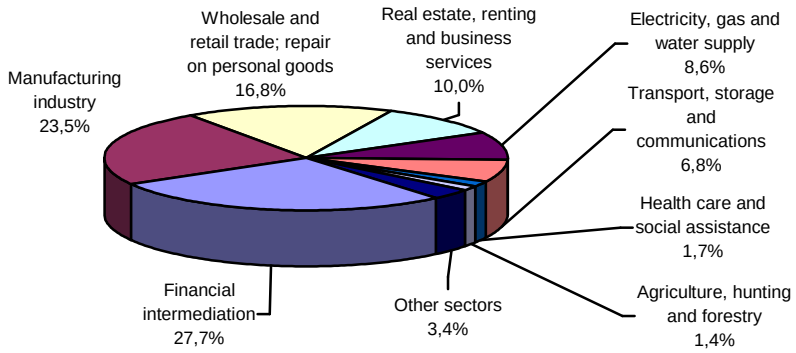

Figure 3. FDI in the Republic of Moldova by sectors, 2012, %
Source: National Bank of Moldova, 2014. .

Among the most important recipients of FDI in agri-food sector of Moldova such companies as Efes Vitanta Moldova Brewery, Südzucker Moldova and Tutun–CTC can be mentioned.

While any kind of foreign direct investment is valuable, this raises some question marks why manufacturing seems to be underrepresented. Indeed, while being more capital intensive, processing industries are typically also better sources of export growth compared to services which tend to be consumed domestically. Agriculture has been widely shunned by foreign investors. Given the sector's contribution to the economy and potential of the industry as a driver of future economic growth and exports, identifying what inhibits foreign investments in manufacturing is important.

The international comparison suggests that Moldova has attracted less foreign investment per capita than its peer economies. Having had a similar starting point as other former communist countries the stock of investments in Moldova is even lower than in Belarus and Ukraine – two economies that have been avoided by investors due to an unreliable political climate.

Output and employment tend to be concentrated in larger enterprises in Moldova. In 2011, 1,204 large firms representing 2.5 percent of the total number of enterprises accounted for 42 percent of the total employment and 65 percent of formal sector revenue. At the same time, 36,641 micro-enterprises employed 17 percent of the total labour force, and generated only 5 percent of formal sector revenue (WB/ECSPF, 2013).

Moldova is likely to deter two important groups of investors – small and medium sized companies and those that have not yet any business links with the country. The structure of FDI in Moldova, with a significant bias towards big companies and towards investments by already established companies seems to confirm this thesis.

1.4 Institutional environment of the agro-food sector

Despite the recent increase of agricultural lending, the agri-food sector in the Republic of Moldova still remains poorly financed. About a third of the Moldovan food sector demand for external financing is covered by bank loans, a quarter – by credit provider, and 3 percent - by the state subsidies.

Interviews with stakeholders have highlighted several systemic deficiencies in the agri-food sector lending. These drawbacks included insufficient supply of long-term loans (investment loans are usually for a period of three years, with some exceptions for five years, being insufficient for funding of perennial plantations or post-harvest equipment such as cold storages), high interest rates (15 percent - 20 percent per year), insufficient collateral policies (excess of collateral requirements, undervaluation of the collateral by banks) combined with underdeveloped market instruments to facilitate access to credits (loan guarantee funds, interest subsidies). The instability of the agricultural business has also been mentioned as one of the major impediments for financing the agricultural sector.

The Agency for Payments and Interventions in Agriculture, under the Ministry of Agriculture and Food Industry, is responsible for managing financial resources to support agricultural producers, and for the authorization of payments and control of all financial resources and also for the assessment of impact measures.

Agricultural Information Centre (AIC) created under the Ministry of Agriculture and Food Industry is responsible for the management of a complex of automated information systems that have to integrate and consolidate agricultural information resources like farmers register, vineyard register, the agricultural machinery register, etc.

In the last decade, considerable efforts have been made to create a professional and effective extension service system in the Republic of Moldova. The network of agricultural extension services was established in 2002 with the World Bank support, and so far has been funded by the budget, the World Bank and SIDA. In 2013, the financial support of donors ended, and the government took over the full funding of the extension network. Extension network is managed from the head office located in

Chisinau and consists of 35 regional offices and regional advisers involving 75 regional and 350 local consultants working in the rural areas. Network services are currently provided for free to farmers, while the institution itself is totally dependent on the state and other funding.

The extension network covers about 44 percent of the country and 49 percent of farms. Services are provided for all types of agricultural enterprises, including large corporate enterprises, medium-sized commercial farms and small subsistence farms. However, most of interviewed stakeholders mentioned the lack of information about prices.

In the Republic of Moldova, land market functioning started at the end of 90th, however, the most intensive development of the land market began about five years ago. According to the National Bureau of statistics, the share of agricultural land under private ownership constituted 84% in 2013, while remaining 16 percent was in public ownership.

There are manifold constraints to the development of the land market both purchase-sale market and lease of the land in Moldova. Most of these problems are common to countries in transition. Among the largest obstacles are the following:

- Difficult identification of the transaction partners for the sale or purchase of agricultural land;
- Very high price of agricultural land and insufficient funds to purchase land;
- Excessive fragmentation of land parcels;
- Reduced offer for agricultural land;
- The complexity of legal procedures related to sale-purchase and inheritance of agricultural land.

These obstacles contribute to increased transaction costs that inhibit the development of the land market. According to the national legislation, the sale of agricultural land to foreigners is prohibited (Law no. 1308 of 25.07.1997 on normative price and sale-purchase of land).

National Food Safety Agency (NFSA) is responsible for implementing policies of food safety, veterinary, animal husbandry, plant protection and plant quarantine, seed control, quality of primary products and animal feed.

In the Republic of Moldova, the agricultural education system is represented by of the State Agricultural University of Moldova, 8 agricultural colleges and about 20 vocational schools. Limited public funding for education is not enough for the development and consolidation of infrastructure, repair of buildings, modernization of equipment, and professional training.

Image of vocational, college and university agricultural education in the Republic of Moldova is negative – it is reflected by the decreasing number of students. The mismatch between skills supplied by professional education system and requirements of the labour market is now seen as a fundamental problem. Many of the study profiles offered by agricultural professional institutions are no longer part of the market demand, while those institutes who are oriented towards market demand do not have adequate capacity to give graduates the skills and knowledge they need. These shortcomings of the training system and the lack of guidance to the needs of the labour market are mentioned by a number of interviewed stakeholders.

Being quite similar to the education sector, agricultural research and innovation system did not manage successfully transition and to turn into the private sector; this system still operates in a relative isolation and is quite weak. Sector of agricultural research is represented by 8 state institutions, including the State Agricultural University of Moldova. Research institutes are subordinated to the Ministry of Agriculture and Food Industry as well as to the Academy of Sciences of Moldova, and are mainly financed from the state budget. Having insufficient funds and low performing personnel, research institutes cannot offer viable solutions for the agricultural sector development.

2. SITUATION AND DEVELOPMENT OF THE AGRICULTURAL SECTOR

2.1 Role of agricultural sector in the economy

Agriculture has been one of the key driving forces in shaping Moldovan landscape, nature and culture over centuries. Favourable climate and high quality soils historically have determined Moldova's agricultural specialization, particularly in the production of high value crops like fruits and vegetables. Agriculture contributed 12.5% to the country's GDP in 2013. The total GDP was 100,312 million MDL in 2013. The GDP per capita at purchasing power was USD 4.7 thousand per capita in the same year. About 26% of the active population of the country was engaged in agriculture in 2013.

The status of the agricultural sector has changed dramatically over the last two decades along with the disruption of production and distribution networks. Land areas used for high value crops have been reduced by half. The shift in production has also been accompanied by significant decrease in land productivity.

This situation is directly related to the lack of investment, capital and credit availability to the agricultural sector. These factors have resulted in applying low yield technologies by farmers and drastically reducing the use of agricultural inputs, especially such as fertilizers and other agricultural chemicals. The agricultural sector benefits only 9.7% of capital investments, and the foreign investments in the Moldovan agriculture are even more modest, with only 4.3% of the total investments in agriculture in 2013 (Statistical Yearbook of the Republic of Moldova, 2014).

Agriculture and food industry play the main role in the food security assurance. However, the competitiveness of the agri-food sector of the Republic of Moldova is insufficient and depends considerably on institutional and market risks.

2.2 Land use

The most important natural resource for the country's economy is the soil. The chernozem types account for about 2/3 of the approximate 10 soil types found in the country. These soil types are some of the most fertile soils, but they are also among the most receptive, and thus vulnerable to certain risk phenomena (rain showers, droughts, etc.), as well as to the technogenic impact. The forecasts on the evolution of the soil quality in climate change conditions imply that the reduction and limitation of achieving their productive potential, including the acceleration of erosion, degradation and desertification processes.

Table 4. Agricultural land use in the Republic of Moldova, 1990–2013, thou. ha

	1990	2004	2007	2010	2013
Land area, total	3,376.0	3,384.6	3,384.6	3,384.6	3,384.6
Agricultural land, total	2,566.7	2,528.3	2,511.8	2,501.1	2,497.8
Arable land	1739.4	1854.4	1820.1	1816.7	1814.1
Kitchen gardens					
Land under permanent crops	470.6	298.0	301.8	301.0	295.3
Orchards	234.0	134.8	131.5	132.5	135.1
Vineyards	201.0	153.0	158.6	153.5	142.6
Other permanent crops	35.6	10.2	11.7	15.0	17.6
Permanent grassland					
Meadows	4.7	2.8	2.3	2.2	2.1
Pastures	351.3	374.1	361.9	352.1	348.9
Other permanent grassland					
Other agricultural land					
Fallow lands	0.0	8.0	25.7	29.1	37.4

Sources: Statistical Yearbooks of the Republic of Moldova, 2004-2013, Statistical Yearbook "Agricultura Republicii Moldova", 2003.

The main anthropogenic causes for the degradation and thus reduction of the soil's fertility, which amplify the consequences of the natural risks, are the following: excessively high share of cultivated lands (65% of total country area) and insufficient activities to combat the natural and technogenic erosion of the soils. At the same time, the way the soil is used and managed influences to a great extent the vulnerability of the hydrographical network of the micro-ecosystems, which are part of the agro-ecosystems, as well as the risk level towards different pests of the agricultural crops.

2.3 Farm structures

Moldovan agricultural sector is composed of two major sub-sectors: corporate sector comprising large companies and the individual sector that includes peasant farms and household land in private property. Small farms, especially subsistence and semi-subsistence farms generate a limited surplus of high value-added crops (fruits, nuts, grapes, vegetables, potatoes) that are mostly sold in open air agricultural markets.

Table 5. Agricultural holdings by size classes, according to General Agricultural Census, 2011

	2011	
	Area (ha)	No of agricultural holdings
TOTAL	2,243,540.02	902,214
0 ha		
> 0-< 2 ha	445,216.26	779,600
2-<5 ha	306,984.9	104,996
5-<10 ha	74,138.42	11,509
10-<20 ha	24,980.03	1,868
20-<30 ha	13,885.52	574
30-<50 ha	24,568.49	638
50-<100 ha	44,425.41	617
100-<200 ha	89,859.58	621
200-<500 ha	314,416.18	963
500-<1000 ha	378,418.83	550
1000-<2500 ha	338,692.99	229
≥2500 ha	187,953.41	49

Source: General Agricultural Census, 2011

At the same time, large scale agricultural companies are specialized in the production of low value-added crops (such as cereals, oilseeds, sugar beet), and employ limited labour force due to the high level of mechanized agricultural operations. This specialization has been driven by a number of factors such as the relatively low production cost of these crops, the availability of agricultural machinery allowing the rapid cultivation on large areas, relatively simple and cheap post-harvest facilities, as well as assured markets for these commodities.

2.4 Production and output

Currently, about two thirds of agricultural lands are cultivated by agricultural farms that cultivate more than 50 ha of land. They combine the agricultural lands of the individual owners on the basis of lease agreements of various types. These companies form the export potential of the agri-food sector. Approximately one third of the area is owned by individual small farmers that provide food products, mainly on the domestic market.

Most of the farmers work within the small and medium agricultural enterprises.

Crop production

Plant growing has the dominant position in the structure of agricultural production; its share in the total agricultural production is about two-thirds. The share of animal production has declined in the 90s as a reaction to the appreciation of energy resources and liberalization of the market.

A poorly diversified structure of sown areas has been formed in Moldova in recent years. Cereals and industrial crops occupy about 90% of the area. The dominance of maize and sunflower in the structure of sown area is present almost throughout the country, despite the fact that the soil and climatic conditions in many locations are unsuitable for cultivation of these crops. Production of fodder crops on arable lands has decreased, which leads to the disruption of crop rotation patterns, deterioration of livestock forage, increasing the pressure on the lands to a level that leads to their degradation.

Table 6. Agricultural output (mil. NC, at current prices)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CROP OUTPUT	7900	8449	9079	7941	10600	7861	13616	15751	11968	15480
ANIMAL OUTPUT	3524	3851	4278	4509	5519	4987	5786	6347	7529	7930
SERVICES	395	388	377	375	384	452	471	521	425	404
AGRICULTURAL GOODS OUTPUT	11819	12688	13734	12825	16503	13300	19873	22619	19922	23814

Sources: Statistical Yearbooks of the Republic of Moldova, 2004-2013

Animal production

Livestock sector suffered the greatest losses during the economic crisis of 90s. The vast majority of livestock has been moved during the privatisation process from large farms in the household plots and peasant farms, where the practiced extensive cultivation technology of livestock and poultry has led to a sharp decline in the production volumes. The recovery of livestock sector takes place with slower pace as compared to plant growing.

Table 7. Share of individual products in agricultural output (%)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CROP OUTPUT	71.0	68.9	67.3	58.1	74.3	68.1	66.2	67.7	59.3	66.1
Cereals	33.0	22.9	18.4	9.5	24.6	18.4	18.8	18.4	11.6	na
Sugar beet (industrial)	2.0	2.6	3.2	2.1	2.5	1.0	2.3	1.5	2.0	na
Tobacco	1.0	0.5	0.4	0.4	0.3	0.4	0.6	0.4	0.3	na
Sunflower	5.0	6.3	7.2	3.8	6.9	5.9	7.3	7.7	6.9	na
Potatoes	6.0	6.5	6.5	4.5	4.6	4.9	4.9	5.8	3.9	na
Vegetables and melons and gourds	4.0	7.3	9.3	5.8	7.3	7.6	7.4	7.8	6.3	na
Fruits, nuts and berries	5.0	4.4	3.9	4.0	4.2	4.0	3.9	4.8	5.5	na
Grapes	10.0	12.8	11.6	19.4	15.6	18.7	12.1	14.4	15.8	na
Forage crops and other	5.0	5.6	6.8	8.6	8.3	7.2	8.9	6.9	7.0	na
ANIMAL OUTPUT	29.0	31.1	32.7	41.9	25.7	31.9	33.8	32.3	40.7	33.9
Production of livestock and poultry	12.0	14.8	16.7	22.1	12.9	16.7	18.9	18.8	24.7	na
of them:										
Cattle	2.0	2.9	2.8	3.2	2.0	2.4	2.2	2.1	2.7	na
Pigs	5.9	6.8	8.4	11.5	5.7	7.8	9.7	10.2	13.8	na
Sheep and goats	0.2	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.5	na
Poultry	3.9	4.4	4.8	6.4	4.5	5.7	6.2	5.9	7.3	na
Other livestock products	0.0	0.3	0.3	0.5	0.3	0.4	0.4	0.2	0.4	na
Milk	12.0	10.9	10.6	13.3	9.1	10.7	10.2	9.2	11.2	na
Eggs	4.0	4.4	4.4	5.4	3.0	3.8	4.0	3.6	4.1	na
Wool	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	na
Other animal products	0.9	0.9	0.9	1.0	0.6	0.6	0.6	0.6	0.6	na
AGRICULTURAL GOODS OUTPUT	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Statistical Yearbooks of the Republic of Moldova, 2004-2013

The main of changes in recent years in the structure of production of corporate farms is the abandonment of milk and meat production. Simultaneously, feed crops and some technical crops, including tobacco and partly sugar beet, also vegetables, potatoes, oil crops, and herbal plants have been excluded from the rotations of these farms.

As a result, the production of vegetables, potatoes, tobacco, forage crops, livestock and other products with high added value has decreased during the transition period from 90s to present.

Table 8. Gross Agricultural Output volume changes (% change from previous year)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CROP OUTPUT	129	98	97	66	169	83	105	107	68	164
ANIMAL OUTPUT	104	108	104	99	81	112	114	100	98	100
AGRICULTURAL GOODS OUTPUT	121	101	99	77	132	90	108	105	78	139

Sources: Statistical Yearbooks of the Republic of Moldova, 2004-2014

2.4.1 Crop production and yields

Agriculture is the sector of the national economy with the highest exposure and vulnerability to natural risks and climate change. The main factor that determines the amount, the quality and stability of the agricultural production in the Republic of Moldova are the agricultural and climate conditions of the territory, particularly the lack or surplus of humidity, largely conditioned by the current climate changes. Short-term droughts have transformed into a dangerous phenomenon and become almost chronic in some places.

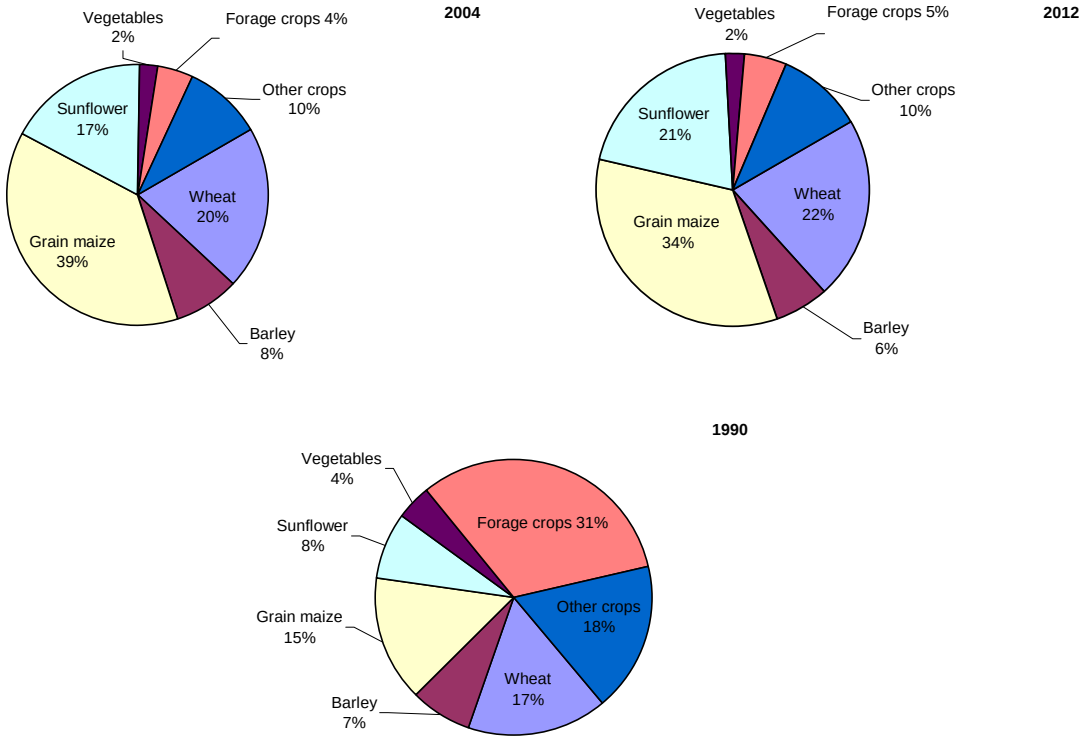

Figure 4. Crop production structure in the Republic of Moldova according to the sown areas, 1990, 2004, 2012, %
Sources: Statistical Yearbooks of the Republic of Moldova, 2004-2013,
Statistical Yearbook "Agricultura Republicii Moldova", 2003.

Every 2-3 years agriculture suffers severe droughts, which cover almost the entire territory of the Republic of Moldova. The damage of the drought of 2007 that affected agriculture can be estimated, according to some sources, between 600 mil. USD to 1 billion USD. The negative effect of the drought of 2012 has been recorded during the whole vegetation period (Ministry of Agriculture and Food Industry of the Republic of Moldova, 2012).

Recent trends of the gross agricultural production in Republic of Moldova are characterized by high fluctuations, depending first of all to changing climate and weather conditions (see Figure 5).

Quite unfavourable climatic conditions in recent years caused considerable losses to many farmers all over the country (see Table 9). The largest problem in this regard is the shortage of rainfalls which are very uneven distributed during the agricultural year**.**

Another problem for Moldovan agriculture as well as in other countries is the high temperatures during the agricultural year, which in recent years exceeded the annual average by 3-4 CO (Jigau, 2011).
Increasing prices for fuel and other agricultural inputs is another challenge faced by agricultural producers. From this point of view, farming systems are faced with a double challenge to be successful: socio-economic performance has to be maximized, while environment and natural resources need to be protected in order to assure the sustainable growth of the agricultural production.

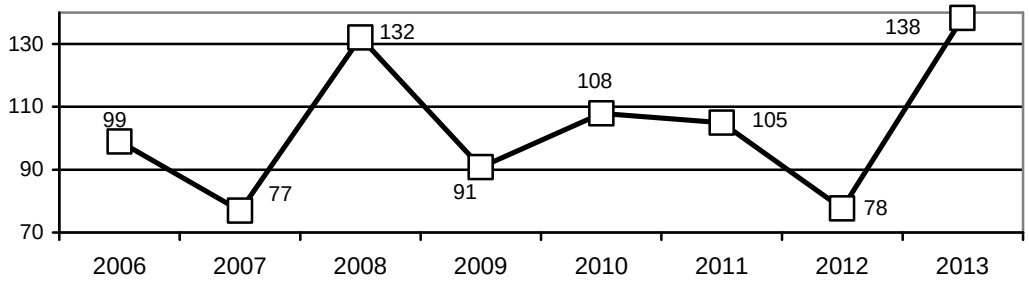

Figure 5. Index of the Gross Agricultural Product (previous year=100)
Source: based on data of National Bureau of Statistics, 2014

The legal framework for the practice of conservation agriculture in the Republic of Moldova is provided by the Government Decision no. 1157 from 03.10.2008 regarding the approval of the Technical Regulation "Measures of soil protection in agricultural practices", published in the Official Monitor Nr. 193-194, Article No. 1195 of 28.10.2008.

Table 9. The average yield per hectare and variation coefficient for selected agricultural crops, 1981-2011, 100 kg

	1981-1990		1991-2000		2001-2011	
	AVG (q)	Var. coef.	AVG (q)	Var. coef.	AVG (q)	Var. coef.
Wheat	35.9	12.8	28.5	24.7	22.5	32.8
Maize	37.7	16.7	31.3	27.0	28.0	26.4
Sun flower	19.0	10.5	11.7	15.1	12.7	20.2
Grapes	63.6	22.6	40.3	30.9	41.7	15.4
Vegetables	157.1	5.8	85.7	23.4	86.4	18.3

Sources: own calculation on the basis of data from National Bureau of Statistics, 2014

This regulation foresees the use of such measures to prevent the degradation and restore the soil structure as:

- priority practicing of the minimal soil tillage system, which envisages ploughing once in 4-5 years and reduction of the mechanical pressure on the soil during the growing season;
- practicing of the varied crop rotation, with the long-term crop rotation (5-7 years), which include improvement crops such as perennial grasses and legumes;
- applying annual crop rotation and incorporation of the fresh organic matter in order to ensure a positive balance of humus and enhance the activities of living organisms in the soil;
- using low pressure tyres and tyres with large width, which increases the area of contact with the ground;
- covering irrigated area with crop residues, manure, sawdust and other organic material of natural origin harmless to the soil and the environment;

All these stipulations present the important elements of the conservation agriculture. Agriculture results during the last years, when droughts and other climate risks seriously affected the agri-food production clearly demonstrated the need to shift from the conventional system of land cultivation to the conservation techniques.

Cereals

The sector producing cereals and cereal-based products in the Republic of Moldova has quite a diverse composition and includes both small and large operators, state owned companies and private enterprises. The task of the agricultural sector in the development of the cereals and cereal-based production is to ensure both, the food security of the country and sustain the employment level. Currently, the cereals and cereal-based production is not operating at its full capacity due to a series of problems existing in this field. In comparison with the EU countries, yields obtained in the Republic of Moldova from one hectare are lower, but are close to those obtained in neighbouring countries. The structural and technical aspects of the sector correspond to the nature of agriculture in the Republic of Moldova and the extensive character of subsistence farming. In the Republic of Moldova cereal crops account for 35% of the total area of agricultural land and even more of the total sown area – about 60-65%. The most important role in the value chain of cereals and cereal-based products is held by traders and to a less extent by operators of the bakery industry.

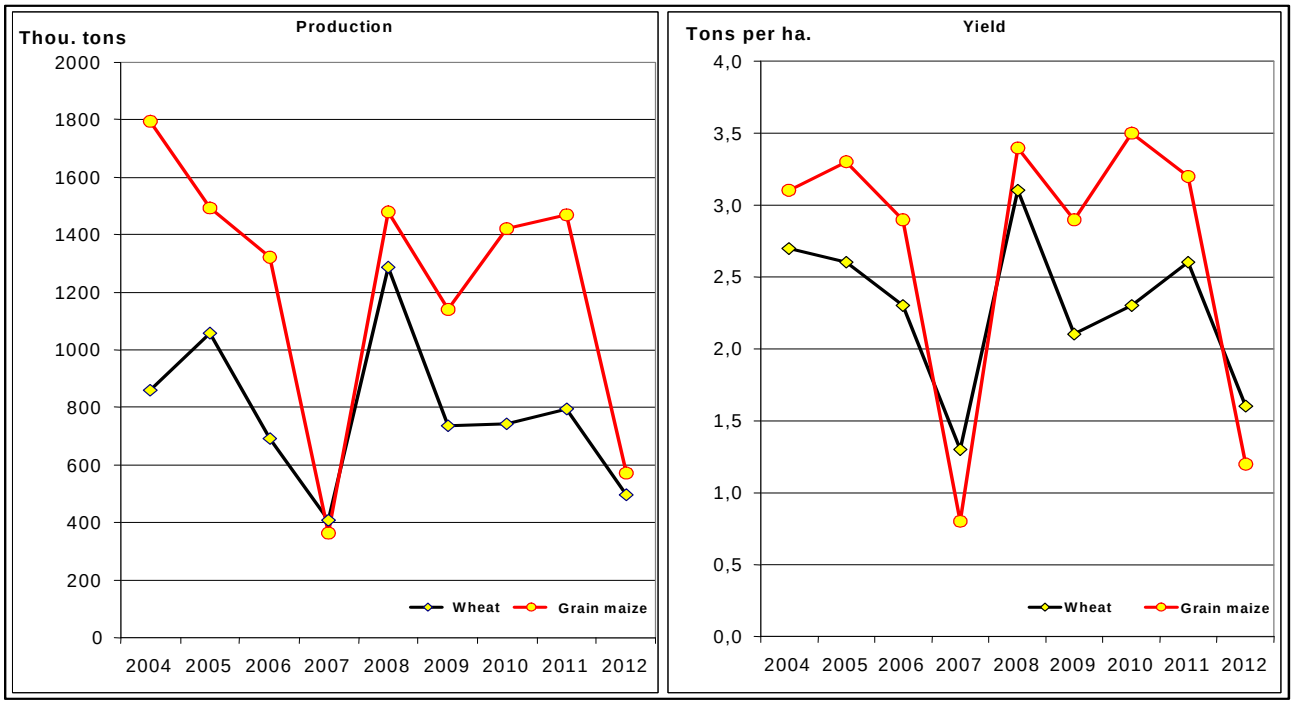

Figure 6. Production and yield of selected cereal crops, 2004-2012

Source: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

The necessity of cereals for the Republic of Moldova is determined from the following positions of the cereals balance:

- Utilization of cereals in food industry (flours, grouts and preparations of them);
- Bread, pasta and pastry products, confectionery products, breakfast cereals, etc.;
- Production of feed for animal breeding;
- Internal and foreign trade

As wheat represents the basic cereal for the production of flour and bakery products, it has a share of about 30-35% in the structure of cereal crops in the country. Maize represents the most prevalent spring crop for the Republic of Moldova with about 35-40% in the structure of cereals.

Oilseeds

Sunflower seed remains the most important oilseed crop in the Republic of Moldova. Sunflower is primarily processed to make vegetable cooking oil, as well as its by-product sunflower meal. Production

has been rising over the past decade and has averaged at around 350,000 tons annually since 2001/02, although the crop was negatively affected by the 2007 drought with production falling to 244,000 tons. Excluding 2007, much of the increased production has been driven by area expansion and due to the reductions of the recommended rotation intervals from 7 years to in some cases as little as every three years.

The sunflower yields varied between 0.7 and 1.6 tons per hectare with an average yield of 1.3 tons per hectare during the past decade. These relatively stable results are in part due to the crop tolerance to drought and its low input requirements. In terms of regional performance, Moldovan yields have been very similar to Ukrainian sunflower seed yields and only slightly below Romanian yields. However, considering limited application of fertilizer (the crop heavy demands soil nutrients) and a reduction in rotation over the past 5 years due to the crops relative profitability, it is likely that yields will increasingly face downward pressure.

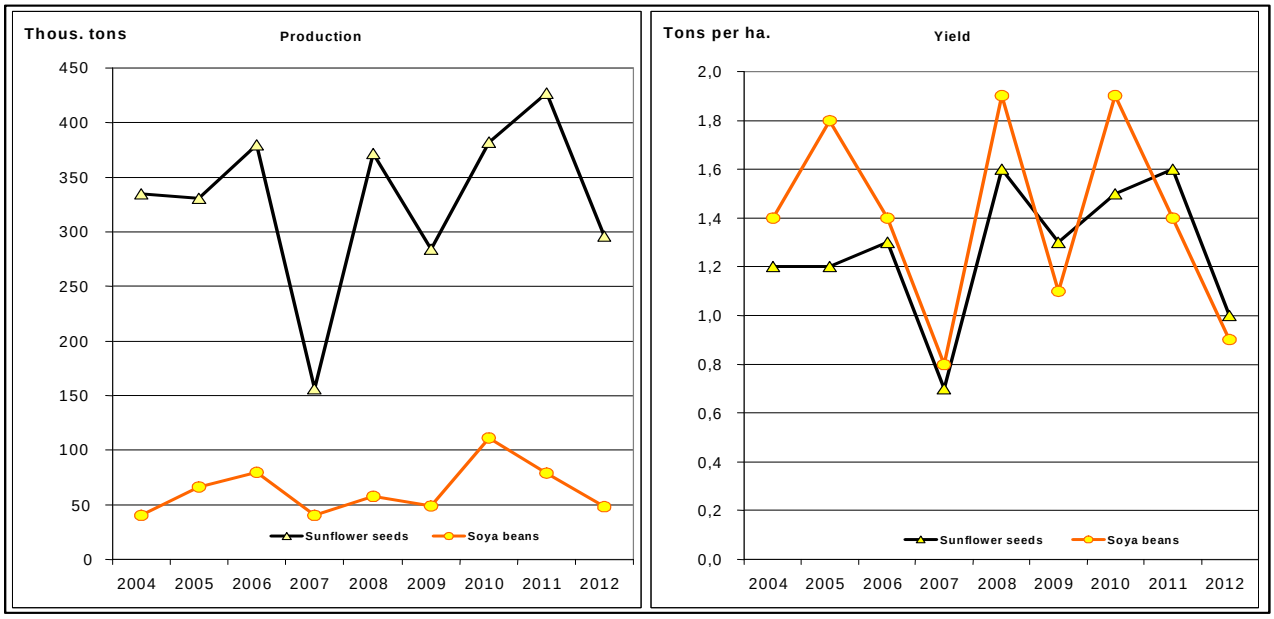

Figure 7. Production and yield of selected oil seed crops, 2004-2012
Source: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

Fruits and vegetables

Moldova has all the natural conditions necessary for intensive development of horticulture. From old times this branch has been and is likely to remain one of the main pillars of the national agriculture, because it is a source of wealth, leading to efficiency of the entire agricultural sector of the country.

Currently there are about 65 000 ha of orchards with high potential of production, but this potential is not fully exploited due to the lack of funding and post-harvest facilities.

Figure 8. Production and yield of selected fruits, 2004-2012

Source: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

Vegetable production remains one of the main branches of the horticultural sector of the Republic of Moldova, aimed to ensure the population with fresh vegetables and the canning industry with raw material. Relatively favourable climatic conditions of the country, traditions and experience allows the cultivation of over 60 species of vegetable crops, obtaining relatively high yields and good profit of most vegetable crops. This is confirmed by vegetable development indices registered in the period of 80-90s of the last century, when the annual gross harvest of vegetables constituted 1200-1300 thousand tons, including 700 thousand tons were processed by canneries and more than 250 thousand tons exported fresh. However, over the years the vegetable production has dropped considerably. According to statistical data, it declined to 292 thousand tons in 2012.

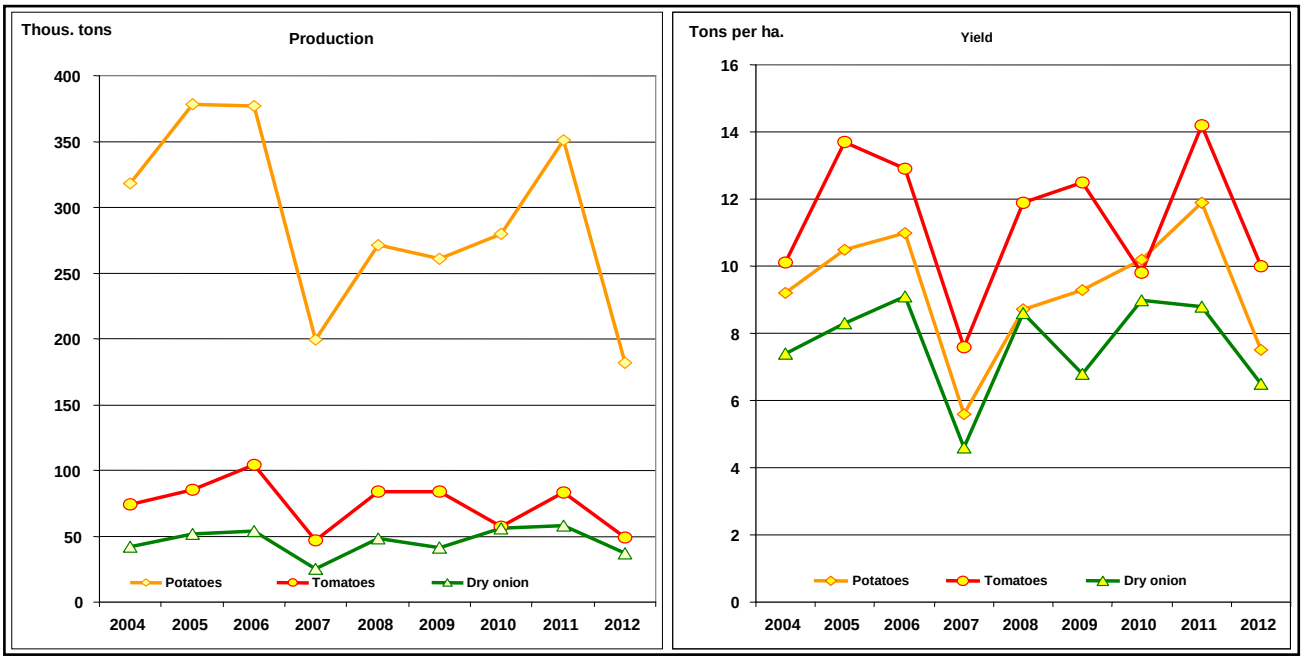

Figure 9. Production and yield of selected vegetables, 2004-2012

Source: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

Grapes

The total area of vineyards in the Republic of Moldova was of 137 thousand hectares in 2012 of which 129 thousand ha are in a bearing fruit age. This includes the area of table grape of 20 thousand hectares, of which 17 thousand hectares are bearing fruits.

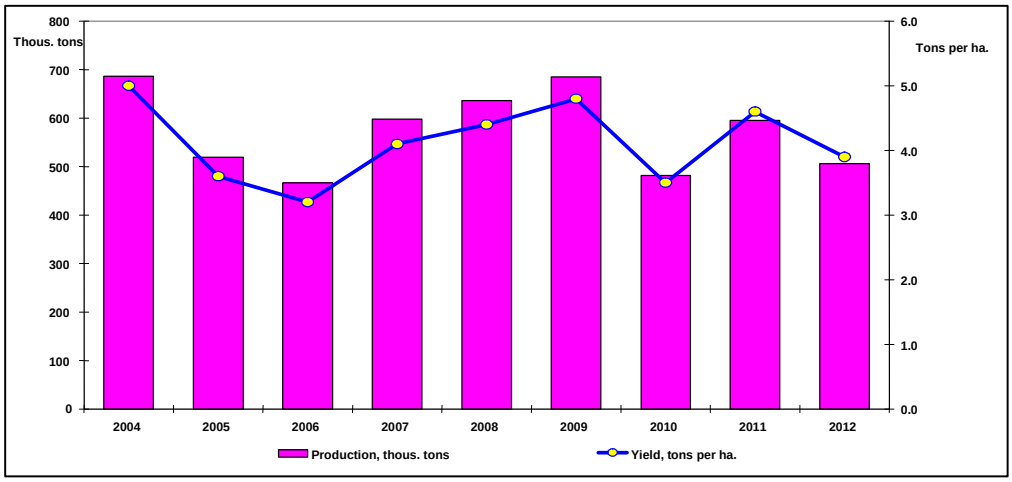

Figure 10. Production and yield of grapes, 2004-2012

Source: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

Only about one quarter of Moldovan vineyards has a productivity higher than 8 tons per ha. Most part of these high-productivity plantations has been established in recent years by approximately 60 wineries. Another part of about 35% of vineyards produce on average 3-5 tons per ha, while about 40% are producing on average less than 3 tons of grapes per ha.

2.4.2 Animal production

Status of livestock sector continues to be determined by the situation in households and small scale peasant farms, which account for the bulk of livestock number (94 % of cattle, 97% of dairy cows, 73% of pigs, 97% of sheep, almost 100% of goats, and more than 97% of horses, rabbits and bee families).

Consequently, the largest part of animal production is also originating from households and small scale peasant farms. Thus almost 65% of the total meat production is produced by these agricultural holdings, including 86% of beef production, 70% of pork production, 93% of sheep and goat meat production, and about 51% of poultry meat production. Households and small scale agricultural holdings produced also about 97% of the total milk and 61% of eggs in 2013.

Table 10. Livestock number in the Republic of Moldova, 2004–2013

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of animals (1000)										
Cattle (total)	373.0	331.0	311.0	299.0	231.7	217.7	221.6	216.0	203.9	191.2
of which cows	256.0	231.0	217.0	207.0	168.8	160.3	161.2	154.4	144.3	134.4
Pigs (total)	446.0	398.0	461.0	532.0	298.7	283.5	377.1	478.5	438.6	410.4
Sheep	817.0	823.0	818.0	835.0	753.9	761.9	803.7	787.9	709.9	695.1
Goats	121.0	119.0	119.0	112.0	99.3	103.9	111.2	117.6	122.5	128.9
Horses	78.0	73.0	69.0	67.0	58.4	55.5	54.4	52.2	49.6	46.4
Donkeys	4.0	4.0	4.0	4.0	3.1	3.2	2.9	2.8	2.5	2.4
Rabbits	205.0	239.0	279.0	326.0	263.4	248.5	274.5	277.0	277.4	267.0
Bee hives	80.0	87.0	96.0	102.0	98.3	98.0	101.5	105.2	111.7	110.6

Source: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

Pork

Keeping pigs is a traditional occupation practiced by most householders in the rural areas of the country. Households produce the largest quantities of meat (about 53% of total meat produced in the country in 2012). In 2013, about 77.8 thousand tons of pork were produced in Moldova. The total number of pigs as of January 1, 2013 was 410.3 thousand heads.

Poultry

Poultry sector produces about 57.3 thousand tons of meat and 623.7 million eggs annually. This sector is intensive and includes more than 40 industrial enterprises, with a growing stock of 1.2 million hens and eight million chickens.

Beef and Veal

The number of cattle is decreasing continuously since 1997-1998 due to the collapse of the large scale collective and state farms. Further decreasing of the number of cattle after 2000 is mostly due to the migration of the rural population and low competitiveness of the local animal production. Thus, at the beginning of 2013, there were a total number of 191.2 thousand heads of cattle in the country, compared with 373 thousand heads in 2004. In 2013, production of beef and veal in live weight was 13.8 thousand tons, it amounted to about 10 % of the total meat production in this year.

Milk production

Milk production is the most important sector of the livestock production in Moldova. Disruption of trade relations amongst CIS countries affected seriously this sector. Since 1991, the number of cows has decreased more than by half. Currently about 97% of the herd of cows are kept by households, the average number of animals being 1-2 heads. Domestic milk production is not sufficient to cover domestic consumption of Moldovan population. However, integration processes between milk producers and processors allow a gradual solution to several problems such as: ensuring efficient storage and transportation of milk collected, new opportunities for advanced milk processing and marketing of final products, providing quantitative and qualitative parameters of contents and traceability of raw milk production.

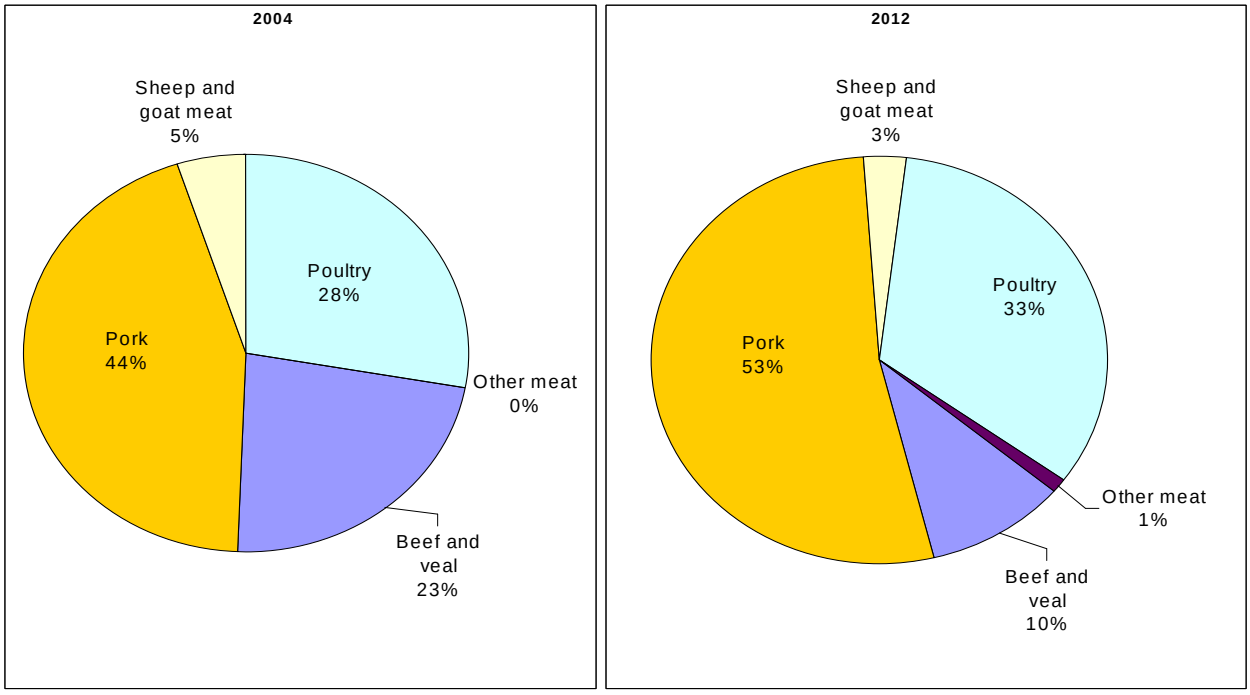

Figure 11. Meat production structure in the Republic of Moldova according to production volumes, 2004, 2012, %
Sources: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

2.4.3 Organic production

The national legal framework in the field of organic agriculture has its roots in 2005, when the Law No. 115 of 09/06/2005 regarding organic food products was adopted. The law was enabled in February 2006 by the adoption of Government decision No. 149 of 10/02/2006.

As of today, the national legal framework is very well adjusted to European framework. At least nine EC Regulations and quality standards have been transposed into the national legislation and regulatory framework. This timing is very advantageous for national manufacturers and for the sector in general.
In-force legal framework:

- Law No. 115 of 09/06/2005 on organic food production
- GD No. 149 of 10/02/2006 on the implementation of law on organic food production
- GD No. 1078 of 22.09.2008 on adoption of technical regulation on —Organic food production and organic food labelling
- MAFI Regulation No. 179 of 10.09.2008 on rules of bookkeeping of Land history records
- MAFI Regulation No. 9 of 19/01/2010 on establishment of the commission authorizing Inspection and Certification Bodies
- MAFI Regulation No. 16 of 05/02/2010 on rules of registration of companies manufacturing organic food

There are 5 accredited companies to perform the certification of organic product manufacturers which are licensed by the Ministry of Agriculture and Food Industry, namely: CERTIFICAR-ECO SRL, CRPA Inspect, ÎCS „ICEA Group" SRL, ÎCS „ECOGRUPPO ITALIA-M" SRL and SGS Moldova SA.

In December 2011, the Government has registered and adopted the logo of the national brand "Organic Agriculture – Republic of Moldova". This is applied only on products, labels and packing of organic food products which have been inspected and certified along their production cycle by certification bodies.

There are contradictory data on the expansion of the organic agriculture in the Republic of Moldova. According to the General Agricultural Census 2011, the total area of organic agriculture is about 5.3 thousand hectares, while FinAsist Consulting SRL reports about 21.2 thousand hectares under organic crops in the same year.

Exports of organic crops have grown steady, except 2011, when a contraction of nearly 30% was observed. The main export markets are Germany, Austria, Netherlands, Italy, Switzerland, Denmark and France. There is no publicly available statistics regarding the structure of these exports.

In 2007, subsidies to organic farming were introduced by assigning 2 mil. MDL. During 2007-2008, the support was provided to compensate expenses during land conversion, and starting from 2009 support was also provided for stimulating trade with organic products.

In 2012, subsidizing of organic farming ended; the sector has been removed from the list of special target measures.

The local market is underdeveloped and promotion of national organic production on export markets is insufficient. Marketing of organic products can hardly be observed even on the local market. Farmers are on their own, there is also an insufficient association of farmers aiming at addressing sector problems and organic production promotion on local and foreign markets.

Farmers report difficulties during conversion process. Some of the challenges in conversion to organic production are: (i) pest complications; (ii) decline in livestock production, and (iii) improper manure management.

The majority of experts interviewed consider that the most probable scenario is steady and slow growth of areas under the organic crops. More optimistic view is presented by the FinAsist Consulting SRL, which expects the growing of the total organic area in Moldova to 100,000 ha, meaning 4% of the total utilized agriculture area.

2.5 Prices, costs and income

2.5.1 Prices

Prices of agricultural products and inputs increased substantially in the last decade (Table 11). Since most of the tradable agricultural inputs are imported, Moldovan farmers face world prices for their inputs, but are not able to receive world prices for their produce. Moreover, agricultural product and input prices show a high volatility, mainly around 2007.

Table 11. Agricultural output price indices; nominal (previous year=100)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
CROP PRODUCTS	90.9	105.5	105.1	147.7	79.0	80.6	157.8	112.5	119.1	74.2
Cereals and leguminous crops	76.4	96.3	112.7	192.1	71.1	69.6	169.2	119.8	121.4	71.6
Wheat	97.0	85.0	112.0	194.0	70.0	66.0	172.0	119.0	124.0	76.0
Grain maize	83.0	100.0	127.0	182.0	66.0	92.0	140.0	115.0	121.0	65.0
Sunflower seeds	104.8	108.5	99.4	175.6	64.8	94.2	189.4	100.4	138.6	61.0
Sugar beet (industrial)	93.0	122.5	98.7	94.7	113.0	109.9	123.3	120.5	108.9	83.7
Tobacco	106.3	102.5	106.3	120.6	123.9	122.1	105.8	102.0	103.8	92.6
Potatoes	71.1	94.5	180.5	87.6	99.4	95.1	119.0	107.6	52.8	166.0
Vegetables	91.7	117.9	90.8	144.2	87.9	88.8	127.2	104.1	104.7	91.6
Tomatoes	101.0	150.0	103.0	204.0	82.0	78.0	164.0	88.0	125.0	107.0
Fruits and berries	140.2	101.1	135.0	141.5	72.3	86.3	157.3	118.5	86.7	79.4
Grapes	90.3	129.7	86.6	98.9	91.3	71.6	182.9	100.1	132.1	71.7
ANIMAL PRODUCTS	122.6	105.0	92.9	110.8	135.3	84.4	104.7	100.0	113.1	95.9
Cattle and poultry	121.3	119.2	85.8	115.2	133.4	87.7	103.9	96.6	113.3	96.0
Cattle	127.0	141.0	102.0	92.0	163.0	103.0	86.0	131.0	108.0	121.0
Pigs	145.0	148.0	84.0	96.0	182.0	93.0	99.0	88.0	120.0	95.0
Poultry	129.0	115.0	84.0	126.0	122.0	85.0	108.0	101.0	109.0	94.0
Milk	118.0	108.9	107.8	113.0	121.0	86.0	112.5	116.0	104.8	103.1
Eggs	124.7	91.7	101.6	100.2	151.7	70.8	106.5	115.2	115.2	93.7
Wool, tones	128.4	94.0	110.9	122.0	58.4	128.2	113.3	82.3	128.1	109.4
AGRICULTURAL GOODS	94.0	106.0	102.9	139.2	85.8	81.5	142.9	110.0	117.7	77.8

Source: Statistical Yearbook of the Republic of Moldova, 2012-2014

In the regional perspective, Moldovan farmers get the lowest prices for their products comparing with neighbouring countries. A comparison of the major crops (apples, grapes, tomatoes, wheat) indicates that Moldova's producer prices are one of the lowest for all products analyzed comparing with Romania and Ukraine. This low farm-gate price does not necessarily demonstrate efficiency and in many cases is not reflected in the retail price and therefore is not an indicator of competitiveness. Therefore there are other factors alongside producer and consumer prices impacting on competitiveness, which need to be addressed in order to raise producer incomes.

Table 12. Average producer (selling) prices for certain agricultural products (NC/tone)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Wheat	1,142	961	1,077	2,155	1,464	961	1,600	1,987	2,463	1,845
Grain maize	1,060	1,163	1,284	2,654	1,555	1,480	2,257	2,330	2,906	1,777
Sunflower seeds	2,160	2,348	2,241	3,963	2,574	2,402	4,552	4,572	6,362	3,875
Raw tobacco	9,514	9,748	10,365	12,496	15,479	18,894	19,994	20,399	21,182	19,608
Sugar beet	291	357	352	333	376	414	510	615	669	560
Potatoes	1,445	1,365	2,464	2,158	2,145	2,040	2,426	2,610	1,377	2,286
Tomatoes	983	1,476	1,183	2,413	1,971	1,528	2,503	2,205	2,752	2,944
Grapes	2,453	3,181	2,754	2,724	2,487	1,782	3,258	3,260	4,308	3091
Cattle	7,468	10,504	10,696	9,841	16,013	16,469	14,082	18,380	19,770	23,921
Pigs	13,069	19,303	16,121	15,427	27,999	26,067	25,771	22,602	27,160	25,868
Poultry	14,686	16,854	14,231	17,944	21,903	18,535	20,088	20,359	22,207	20,895
Cow milk	2,453	2,672	2,881	3,255	3,939	3,387	3,809	4,419	4,629	4,774
Eggs (in a shell) thous. piece	683	630	626	628	952	673	717	827	952	891
Sheep wool	5,747	5,399	5,989	7,308	4,267	5,468	6,195	5,096	6,526	7,140

Sources: Statistical Yearbook of the Republic of Moldova, 2012-2014

Input price indices showed a very rapid growth in 2007-2008 and 2010, which cannot be explained only by input price increase on the international market and might be also due to anti-competitive practices in the input market in Moldova (Table 13).

Table 13. Price indices for goods and services purchased by agricultural enterprises (previous year=100)

Indicator	2006	2007	2008	2009	2010	2011	2012
Goods and services – total, of which:	121.9	112.2	114.1	90.2	115.7	111.8	107.3
Industrial goods of which:	114.3	109.1	115.2	87.0	118.1	111.0	106.1
Agricultural machinery and equipment for cultivation	107.6	111.1	107.3	103.9	105.2	102.2	108.2
Machinery for livestock	100.0	108.5	108.3	107.8	102.0	100.0	104.4
Machinery and equipment for the collection and preparation of feed	105.0	108.5	102.3	101.0	106.5	100.0	106.7
Tractors	113.3	105.5	115.3	104.6	107.6	106.5	104
Mineral fertilizers	112.1	117.5	130.7	86.7	117.5	119.5	109.2
Chemicals for plant protection	115.7	103.4	100.5	110.6	112.7	105.3	105.2
Lubricants, fuel and electric energy	114.7	107.3	122.9	74.7	125.6	120.2	104.3
Construction materials	110.1	147.2	102.6	102.2	104.4	111.5	108.5
Seeds and seedlings	181	125.6	107.8	101.9	110.9	114.7	109.8
Services provided for agricultural enterprises, of which:	139.6	117.4	112.3	98.4	104.9	116.1	114.3
Agrochemical services rendered to agricultural enterprises	147.0	115.6	116.2	95.4	102.5	114.5	100.3
Repair and maintenance of agricultural machinery and cars	137.2	120.5	107.6	90.3	108.7	127.5	127.8

Sources: Database of the National Bureau of Statistics of the Republic of Moldova, 2014

Along being subjected to input price variability, small holders are also subject to output price volatility. In an environment where smallholder farmers are unable to mitigate this exposure, it frequently leaves them vulnerable to income shocks. The high volatility of agricultural output reflects underdeveloped weather-related risk mitigation instruments, including limited access to irrigation, and a low rate of adoption of modern agronomic practices and technologies. At the same time, innovative insurance schemes for agriculture are lacking.

2.5.2 Costs

Production costs in agricultural enterprises show a 2-3 time increase during the period of 2004-2012 (see Table 14).

Table 14. Production costs in agricultural enterprises (NC/ton), 2004-2012

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Plant production									
Cereals (without maize)	837	856	977	1,837	1,038	1,174	1,358	1,533	2,492
Grain maize	825	997	1,196	2,834	1,298	1,616	1,259	1,496	2,489
Sugar beet (industrial)	231	281	305	379	274	472	355	482	704
Sunflower	1,570	1,877	1,733	3,366	1,853	2,162	2,292	2,674	4,434
Tobacco	8,857	10,366	9,981	12,126	12,782	12,655	14,346	15,973	20,881
Potatoes	1,457	1,548	1,623	1,694	1,912	1,782	1,914	1,731	2,308
Field vegetables	1,245	1,390	1,397	2,354	1,814	1,976	2,048	2,039	2,784
Fruits, nuts and berries	899	1,066	1,501	1,754	1,527	1,470	1,878	2,105	2,376
Grapes	1,675	2,410	2,384	2,346	2,361	1,809	3,361	2,514	2,839
Animal production									
Meat in live weight									
cattle	20,148	21,017	17,407	28212	31380	25775	28204	30296	40134
pigs	22,709	19,593	16,148	21028	25243	19193	18692	19431	25110
sheep	18,765	19,672	17,185	28052	31833	27850	25947	28280	40553
poultry	13,950	12,109	10,836	13197	16612	15190	17105	16166	16438
Milk	2,418	2,457	2,587	3270	3981	3325	3492	3620	4370
Hen eggs, thou. pieces	508	426	452	592	794	541	616	711	885
Wool (in natural weight)	21,114	20,152	18,435	24079	25205	18345	15040	13108	18894

Source: Statistical Yearbooks of the Republic of Moldova, 2004-2013

The National Bureau of Statistics does not provide information on cost structure for agricultural production. In order to get a practical tool for planning the National Institute for Economic Researches has elaborated an estimation of the average level of production costs of the most important agricultural crops, based on the technological norms and input prices. This information is used by state bodies, research institutions, consulting companies and agricultural holdings as practical toolkit. Some of these estimations are presented in the Table 15.

Table 15. Structure of costs for selected crops, 2014, %

	Wheat	Maize	Sunflower	Apples	Grapes
Fixed farm costs	18.3	18.5	22.0	32.4	34.9
Depreciation	0.7	0.8	0.6	19.4	22.0
Taxes	1.6	1.8	1.9	0.3	0.6
Rent payments	13.6	13.5	17.3	10.8	10.4
Other fixed farm costs	2.4	2.4	2.3	1.9	1.9
Variable costs of crops	78.8	78.6	75.0	64.7	62.2
Seeds	8.6	4.8	3.2	0.0	0.0
Fertilizers	10.1	11.1	9.0	4.8	8.3
Crop protection	8.0	6.4	4.0	7.9	6.2
Other materials	0.0	0.0	0.0	2.9	2.3
Labour costs	49.8	54.0	56.7	47.2	43.5
Other variable costs	2.3	2.3	2.2	1.9	1.8
Total direct costs	97.1	97.1	97.1	97.1	97.1
Indirect costs	2.9	2.9	2.9	2.9	2.9
Total costs	100.0	100.0	100.0	100.0	100.0

Source: INCE, 2014

The most profitable agricultural crops in agricultural enterprises are cereals, sunflower, grapes, and fruits. From animal production pigs, poultry, milk and egg production are the most profitable based on the data provided by agricultural enterprises (see Table 16).

Table 16. Level of profitableness (unprofitableness) of production sold by agricultural enterprises (%), 2004-2012

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Crop production	24.8	17.1	17.1	23.1	27.9	5.2	43.2	45.3	16.5
Cereals (including maize)	20.2	10.9	13.9	26.2	27.7	-3.5	29.2	39.9	10.0
Sugar beet industrial	11.3	16.3	8.1	-18.6	23.3	-24.5	27.9	10.8	-7.0
Sunflower	36.0	24.7	27.7	28.7	30.2	16.6	89.8	71.9	42.4
Tobacco	11.2	0.7	12.3	4.2	18.2	43.1	37.4	32.3	7.6
Potatoes	9.3	6.6	45.2	25.7	9.5	10.0	39.9	43.0	-36.5
Field vegetables	-10.3	6.7	0.0	-1.5	5.2	-3.5	15.8	15.9	2.2
Grapes	44.9	31.0	15.9	22.0	9.6	6.0	8.6	36.5	37.0
Fruits, nuts and berries	18.3	1.6	8.5	24.7	8.8	-1.3	25.9	32.3	1.3
Animal production	7.4	25.0	20.1	-3.0	18.4	21.4	20.7	14.6	16.7
Livestock and poultry	-19.2	1.8	4.0	-14.8	15.3	17.4	19.9	11.4	20.4
Cattle	-43.8	-23.8	-26.8	-41.2	-20.9	-19.6	-39.9	-24.6	-25.0
Pigs	-30.0	-7.7	-4.5	-12.8	25.2	25.4	34.4	16.7	39.0
Sheep and goats	-20.8	-32.2	-22.0	-44.1	-44.1	-36.8	-34.5	-7.5	-8.8
Poultry	12.8	20.3	15.7	0.2	17.1	16.2	16.1	8.5	10.6
Milk	0.4	9.9	10.4	0.5	-1.4	8.4	13.7	26.3	13.5
Eggs	31.8	50.8	50.7	10.6	36.9	34.3	27.9	24.1	13.7
Wool	-71.0	-70.8	-65.9	-64.0	-88.5	-83.2	-64.3	-62.2	-61.7

Source: Statistical Yearbooks of the Republic of Moldova, 2004-2013

2.5.3 Farm income

The National Bureau of Statistics does not provide official data on farm income level in small households. A few indicators of large agricultural enterprise activity are presented in the Table 17. From one side, a sharp decrease of the number of employees in these enterprises can be observed and, from another side, the increase of the average monthly earning is recorded. Another visible feature relates to the increase of the value of basic production assets.

Table 17. Main indicators of agricultural enterprise activity, 2004-2012

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of agricultural enterprises	1,459	1,524	1,522	1,528	1,573	1,620	1,580	1,536	1,489
Average number of employees, thou. persons	125.0	115.0	95.7	82.1	74.2	66.9	59.8	52.3	46.9
Basic production assets, mil. MDL	4,030	4,262	4,639	4,708	5,355	6,084	6,462	7,180	11,716
Number of unprofitable enterprises:	658	739	759	634	552	884	431	426	794
Share in total number of agricultural enterprises, %	45	48	50	41	35	55	27	28	53
Remuneration fund, mil. MDL	721	737	759	722	920	841	812	875	930
Average monthly earnings of employees, MDL	480	534	607	732	1,034	1,048	1,132	1,394	1,652

Source: Statistical Yearbooks of the Republic of Moldova, 2004-2013

3. SITUATION AND DEVELOPMENT OF UPSTREAM AND DOWNSTREAM SECTORS

3.1 Input production and use

3.1.1 Input production

At the national scale just a few companies provide supply services for agricultural farms. The most important is the Moldagrotehnica SA that offers a large range of ploughs, seeders, cultivators and heavy disc harrows. In recent years, the company established close cooperation with foreign companies such as Dutch AP MACHINEBOUW, Slovenia - SIP, Germany - WIRGEN and Kijner Import-Export and Italian-MAURA.

Another supplier of agricultural equipment is the Institute of Agricultural Technique (ITA) "Mecagro". The Institute elaborates technical documents and policies for the development of mechanized agricultural sector and efficient use of technical means, performs scientific research and technological designs, and develops technologies and technical means for the agricultural sector, for the production and use of the renewable energy.

Financial services in agriculture are provided mainly through commercial banks. In 2011, more than 4,300 credits with a total value of 4025 mil. MDL were offered by 14 commercial banks acting in the Republic of Moldova. The share of agricultural credits in the total credit portfolio was about 13.5% in 2011. The most important banks offering credits in agriculture are BC "Moldova-Agroindbank" S. A., "Moldindconbank" S. A., BC "Victoriabank" S. A. and BC „MOBIASBANCĂ - Groupe Societe Generale" S.A. An important share of agricultural credits is offered by microfinance institutions.

3.1.2 Input use

Moldovan agricultural production is entirely dependent on imported agrochemical products, seeds and fuel and this has a strong impact on the competitiveness of food products. This dependence makes Moldovan agriculture subject to international price volatility.

Insufficient access to high quality inputs remains a constraint for competitiveness in a number of sub-sectors. Manufacturers of high value crops such as fruits and vegetables, which rely mainly on imported seeds and seedlings, appear to be most affected by lengthy and costly procedures for registration of plant varieties. The test requirements and registration of imported seeds and seedlings are probably the most important constraints for the sector, currently named also by stakeholders as an obstacle for production of more competitive crop varieties due to the costs involved and delayed access to inputs. This is also an obstacle hindering access to inputs necessary for the agri-food processors.

After a strong decline of mineral fertilizers use during 90s the situation was slightly improved. Thus comparing with the year 2005 the quantity of mineral fertilizers use increased more than twice in 2013 (see table 18).

Table 18. Fertilization in the Republic of Moldova, 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Pure nutrients use, total (thousand tons)	16.5	15.4	20.1	22.7	17.0	20.1	23.6	34.7	44.8
N, total	14.8	12.8	17.1	19.9	14.6	16.4	19.2	26.9	34.0
P_2O_5, total	1.3	1.9	2.0	1.7	1.6	2.4	2.9	5.6	8.3
K_2O, total	0.4	0.7	1.0	1.1	0.8	1.3	1.5	2.2	2.5

Sources: Statistical Yearbook of the Republic of Moldova, 2014

However level of agricultural land fertilization is much lower comparing with EU and other neighbouring countries. Utilization of organic fertilizers demonstrates the same tendencies.

3.2 Food industry

The share of food industry accounted for about 43% of the total industrial production in the Republic of Moldova in 2013, although this share was 52% in 2004. The large scale food industry is characterised by underutilization of its capacities and insufficient investments. High levels of moral and physical depreciation of the industrial capacities and infrastructure is typical for local food processing companies. A large part of processing equipment and technologies is not energy efficient and do not meet modern standards. Many enterprises lack modern management practices and necessary investment capital. The lack of financial resources leads to inadequate compensation and to the exodus of the skilled labour force.

Lack of horizontal and vertical coordination of supply chains is another important reason underlying the low competitiveness of the agri-food sector.

The reasons causing low prices of agricultural products include poor development of wholesale markets, low bargaining power, changing product quality, lack of distribution channels, poor infrastructure and limited access to foreign markets. Value chain deficiencies lead to large discrepancies between the farm gate price and the consumer price, resulting in low-income, low investment and persistently low quality at the farm level.

3.2.1 Food production

Despite the de-industrialization process that lasted almost a decade in Moldova, the industry has maintained its position as an important sector of the national economy and as a foundation for the continuous development of the country. The leading positions in the structure of industrial production belong to the branches specialized in the processing of local raw material, mainly of agricultural origin.

Table 19. General data on manufacture of food products, 2005-2013

	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of companies	1,604	1,599	1,526	1,427	1,478	1,487	1,342	1,308	1,259
Number of employees (thous. pers.)	43.8	40.4	36.5	35.0	31.7	32.5	26.7	na	na
Production value (mil. MDL)	12,120.4	11,374.7	12,015.6	14,288.5	12,538.1	15,099.1	17,977.9	19,290.5	20,624.5
Intermediate consumption (mil. MDL)	9,700.1	9,084.5	9,634.1	11,519.6	10,022.1	12,013.1	14,295.0	15,316.2	16,309.2
Value added at factor costs (mil. MDL)	2,420.3	2,290.2	2,381.5	2,768.8	2,516.0	3,086.0	3,682.9	3,974.3	4,315.2
Gross wages and salaries (mil. MDL)	1,557.8	1,537.3	1,603.9	1,938.1	1,811.2	1,607.9	1,789.9	1,924.5	2,318.8
Value added per employee (thous. MDL)	55.3	56.7	65.2	79.1	79.4	95.0	137.9	na	na
Average monthly salary per employee (MDL)	2967	3175	3658	4617	4758	4125	5583	na	na

Sources: National Bureau of Statistics of the Republic of Moldova, 2014

3.2.2 Structure of the food sector

The food processing sector involves about 1,300 companies. The most important products of the processing sector include wine, meat, fruit and vegetable products, dairy products and bakery products.

Wine and brandy production

Wine and distilled spirits represent the largest portion of Moldova's food processing and a significant part of all industrial output. Moldova had 98 enterprises dealing with wine production and bottling in 2013. In addition, there were 18 factories producing, maturing and bottling distillates. Grapes are grown by about 70,000 individuals, mostly smallholder farmers.

Mills and bakeries

There were 241 mills and 278 bakeries operating in the country in 2013. A concentration of producers grouping around the large bread-baking plants that have a market share of about 65% can be observed in the sector; the group of small and medium scale bakeries has a market share of circa 35%. As main leaders in this sector can be mentioned "Franzeluta" SA located in the capital city, the bread baking factory from Balti in the North region and the bread baking factory "Cahul Pan" SA in the South.

Fruit and vegetable processing

Fruit and vegetable processors can be divided into two main groups: the first comprises a small number of large firms, focused on export markets and producing about 80% of the total output of the sector; and about 80 small and medium canneries mainly serving the domestic market. Together these firms process from 150,000 to 200,000 tons of raw material, mainly apples, plums and vegetables. The main products are concentrated apple juice, fruit and tomato paste, canned fruits and vegetables. However, the potential of the fruit and vegetable processing industry is utilized at only one third of its capacity.

Table 20. Structure of the food sector, 2005-2012, %

	2005	2006	2007	2008	2009	2010	2011	2012
Manufacture of food products and beverages	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Production, processing and preserving of meat and meat products	6.4	8.1	11.3	12.5	14.0	12.6	13.6	15.6
Manufacture of vegetable and animal oils and fats	6.6	7.8	9.3	10.1	8.8	8.5	9.2	10.4
Processing and preserving of fruits and vegetables	6.7	9.6	12.8	9.7	8.7	8.9	12.8	10.3
Manufacture of dairy products	7.0	8.8	10.3	10.1	11.3	10.6	9.8	9.8
Manufacture of products of flour-milling industry, of starches and starch products	0.8	1.8	1.9	1.9	1.5	1.3	1.6	1.4
Manufacture of prepared animal feeds	0.2	0.4	0.4	0.7	1.1	1.4	1.2	1.3
Manufacture of bread and pastry products	6.7	8.2	9.5	9.6	11.0	9.5	9.2	8.8
Manufacture of sugar	6.4	9.8	4.4	7.4	3.7	9.0	7.7	6.0
Manufacture of cocoa, chocolate and sugar confectionery	2.8	3.6	4.1	4.0	4.5	4.1	3.8	3.5
Manufacture of distilled alcoholic drinks	7.9	5.8	5.1	4.5	5.0	4.4	4.3	5.9
Manufacture of wine	39.4	24.1	17.8	18.8	18.1	17.2	14.6	14.9
Production of mineral water and soft drinks	1.7	3.1	3.2	2.8	2.8	2.8	2.8	2.6
Manufacture of tobacco products	4.2	3.8	3.7	3.0	5.4	5.8	5.6	3.8
Other food products	3.2	5.2	6.2	5.0	4.1	4.0	3.9	5.6

Sources: National Bureau of Statistics of the Republic of Moldova, 2014

Meat processing

Moldova's meat-processing industry is highly consolidated, while official statistical data indicate there were 159 meat processing enterprises and production units in 2013. "Carmez" in Chisinau and

"Basarabia Nord" in Balti dominate the domestic market, together controlling about 2/3 of the local market. Along with "Carmez International" (Belgian joint venture now separated from "Carmez"), these companies dominate the export market and have strong brands. All these three companies import about 85-95% of their meat and offal raw material and nearly all of their ingredients used for manufacture of sausages and ham. A handful of other manufacturers supply sausages and smoked meats to the supermarket and small shop outlets in cities and towns.

Meat companies operate their abattoirs on an intermittent basis, because domestic stock is more expensive than imported frozen meat. The production of the processing industry is exported mainly to the CIS states. Moldova has not qualified for the status needed to export meat products to the EU.

Dairy production

The dairy industry is based primarily on the supply of raw milk from small producers, company-owned collection centres and dairy cooperatives with collection centres financed by the dairy companies or through donor programs. While overall milk supply is adequate and animal productivity has been increasing slowly, dairy processors have seen only marginal improvements in the quality of milk. A number of 32 dairy companies operated in the Republic of Moldova in 2013.

3.2.3 Prices, costs and performance indicators

Prices and production costs for the most important processed food products are not presented by the official statistics of the Republic of Moldova. The available aggregated data from the national accounts confirm that agri-food sector produces mostly raw materials and semi-processed products.

Table 21. Value added in agriculture and selected food industries, 2007-2013, mil. MDL

		2007	2008	2009	2010	2011	2012	2013
A,B	Agriculture, hunting, forestry and pisciculture	5,333.9	5,544.0	5,134.5	8,657.4	10,095.2	9,896.2	12,383.1
D15	Manufacture of food products and beverages	2,381.5	2,768.8	2,516.0	3,086.0	3,682.9	3,974.3	4,315.3
D15.1	Production, processing and preserving of meat and meat products	24.0	293.2	273.8	300.5	393.1	472.0	50.5
D15.3	Processing and preserving of fruits and vegetables	259.5	226.4	201.9	245.1	427.4	370.3	420.2
D15.5	Manufacture of dairy products	227.5	269.0	30.3	344.4	380.9	429.9	481.8

Sources: National Bureau of Statistics of the Republic of Moldova, 2014

The ratio between the value added in agriculture and agri-food industry shows that during the recent years the value added in agriculture is higher than value added created in the food processing industry - more than 2.4 times on average for the period of 2007-2013 (see Figure 11).

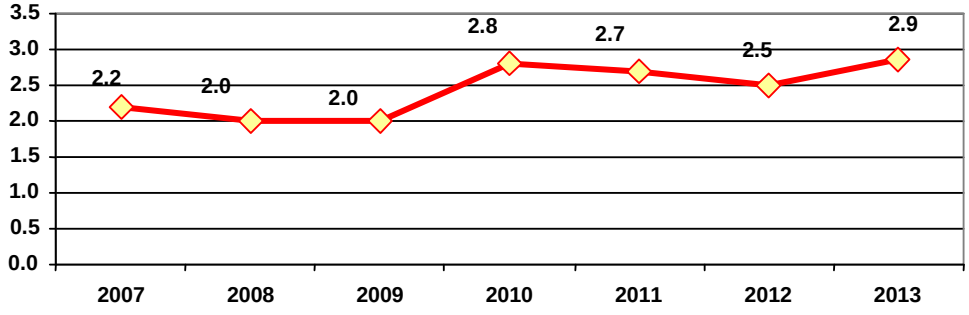

Figure 12. The ratio between value added in agriculture and agri-food industry, 2007-2013
*Sources: elaborated by authors based on d*ata from National Accounts of the National Bureau of Statistics, 2014

At the same time, food processing industry has higher productivity as compared with the agricultural production. Analysis of the productivity was based on the value added per employee in agriculture and selected food industries (see Table 22).

Table 22. Value added per employee in agriculture and selected food industries, 2007-2012, MDL

		2007	2008	2009	2010	2011	2012
A,B	Agriculture, hunting, forestry and pisciculture	13,054.1	14,266.6	15,386.6	27,510.1	31,254.4	32,628.3
D15	Manufacture of food products and beverages	65,245.3	79,109.9	79,369.7	94,953.8	13,7937.0	na
D15.1	Production, processing and preserving of meat and meat products	82,779.3	97,729.0	91,271.0	91,058.8	140,402.5	na
D15.3	Processing and preserving of fruits and vegetables	57,676.2	52,655.1	65,126.5	76,579.7	164,398.1	na
D15.5	Manufacture of dairy products	78,449.0	99,647.8	126,233.3	132,449.6	131,330.0	na

Sources: National Bureau of Statistics of the Republic of Moldova, 2014

3.2.4 Food law

The food safety system in the Republic of Moldova is currently being revised to comply with the EU regulations on food safety.

The Food Law was adopted in 2004 and reflects most of the provisions of Regulation (EC) No. 178/2002. This law creates the legal framework for the implementation of the EU legislation on foodstuffs. The scope of the food law is to protect human health and consumers' rights and facilitate trade. The law establishes general requirements for the safe production, distribution, import and export of foodstuffs, for traceability of foods, for risk assessment and for establishing a rapid alert system. It also defines the responsibilities of food business operators to produce and distribute food in good hygienic conditions, to introduce the HACCP control system, to label foodstuffs and to provide sufficient information to consumers.

Food safety is also the subject of the Law on Sanitary-Epidemiological Assurance of the Population (1993, rev. 2003), which includes mandatory hygiene training for food handlers, sanitary authorization for food establishments and sanitary certification of food.

The Law on Sanitary Veterinary Activity (2007) establishes requirements for animal health, prevention of diseases, sanitary/veterinary control and inspections in the area of food of animal origin, monitoring of veterinary residues and organization of activities in the field of veterinary medicine.

The Law on Identification and Registration of Animals (2006) is on the way of implementation. The Law on Plant Protection (1999) establishes requirements for plant health and protection from diseases and pests. The Law on Protection of Consumers (2003) establishes requirements for the protection of consumers, for accurate information and for consumers' rights.

One of the most recent laws is the Law 113 from 18.05.2012 on the establishment of principles and general requirements of the legislation regarding the food safety. The general objectives of the food safety legislation are to achieve a high level of protection of human life and health, consumer interests, fair practices in food trade, taking into account animal health and welfare, plant health and environmental protection; to facilitate trade between Moldova and other countries; manufacture and marketing of food and feed in accordance with the objectives and general principles of the law. If there are international standards whose implementation is imminent, they are considered in the development and harmonization of food safety legislation, except when such standards or relevant parts would be ineffective or inappropriate for them to achieve legitimate objectives of food safety legislation or would result in a different level of protection set according to the EU requirements.

National Strategy for Food Safety for the years 2011-2015 creates preconditions for the adoption of the principles of the EU food safety and implementation of an integrated approach "farm to fork" in order to ensure public health and increase exports. A remarkable result of this strategy was the creation of the Food Safety National Agency in 2012, which took over full control of food safety in Moldova, thus overcoming existing constraints related to the overlapping of functions and repetitive procedures in the field. However, one of the weaknesses of this strategic document, which may create problems in achieving longer-term goals, is the insufficient level of objective measuring and achievement.

3.3 Bio energy production

The main goal of the policy prepared by the Ministry of Agriculture and Food Industry on the use and exploitation of energy potential of biomass is partial and gradual substitution of fossil fuel by processing biomass into briquettes and pellets to be used for domestic and social purposes (heating social institutions: kindergartens, schools, culture houses, hospitals, clinics, medical centres etc.), ensuring durability, efficiency and competitiveness.

Demonstration projects that raise awareness of the population to use biomass and remove technical barriers for biomass use will contribute to a more sustainable development of agriculture. The strategy prepared by the Ministry includes a description of practical steps which will help to create a national scientific and technological platform for potential use of biomass.

The strategy is developed based on the provisions stipulated by the Renewable Energy Law, no. 160 of 12.07.2007.

Currently, there is lack of integrated, comprehensive approach on efficient use of biomass potential. Thus, businesses in agriculture and rural population are not aware of the value of biomass energy, and there is lack of adequate arguments about the potential of available biomass. Utilization of the biomass energy potential is very important to achieve several strategic objectives, including increased energy security, reducing imports of solid fuels and sustainable development of rural area.

3.4 Food retail and consumption patterns

3.4.1 Food retail sector

Distribution of food products in Moldova still relies on traditional markets, with recent occurrence of supermarkets in large cities. There are currently about 190 supermarkets and three Metro Cash and Carry stores dealing with trade of food products. According to the estimates made by local experts, about 10-20% of Moldova's population buys food in supermarkets. Respectively, the larger urban centres are, the greater is the share of supermarkets in food products sales. The most developed retail chains in Moldova are Fourchette, Green Hills, N1, Fidesco, Metro Cash & Carry, IMC Market, Linella, Cvin and Everest.

According to the interviewed experts, about 20-40% of food purchases are made in about 1,000 small grocery stores that are located near the place of residence. Many of these stores do not sell a full range of fruits and vegetables that occupy less than 3% of the commercial space. Moldavians usually procure foodstuffs at open-air agricultural markets, seasonal fairs and from the street vendors. However, in rural areas considerable part of the food products is produced for own consumption.

Currently, the distribution network of fresh products comprises 3 wholesale agricultural markets in Chisinau and one in Balti, 12 retail agricultural markets in Chisinau, plus other 38 regional agricultural markets and more than 100 local agri-food markets.

Overall, wholesale food markets that currently exist in Moldova are poorly equipped and under obsolete standards because they provide just a simple place for sale and have limited storage capacities. In some cases, the sales areas are not covered, only offering parking for transport from where sales are operated. As a consequence, the role of these wholesale markets is quite limited.

3.4.2 Consumption

At the national level Republic of Moldova is food secure. It produces the main food products, exports surplus food, and imports necessary food to meet its food requirements.

Food security indicators prove that in the Republic of Moldova the level of per capita food consumption has stabilized during the last years. At the same time, the level of consumption is much lower than in neighbouring countries or in other East European countries.

The food security challenges in the Republic of Moldova have two major dimensions. The first dimension seeks to maintain and increase the country's ability to meet the national food demands through assurance of the internal food production, import of the food products that cannot be produced efficiently in the country, and exports of products that have a comparative advantage.

The second dimension is related to the reduction of the increasing inequalities and expansion of the poverty among the majority of the households of the Republic of Moldova that is manifested by inadequate and unstable food supplies, low purchasing power, weak institutional support networks, weak food emergency management systems and unemployment.

Table 23. Cereals balance, in grain equivalent, 2006-2013, 1000 t

	2006	2007	2008	2009	2010	2011	2012	2013
Usable production	2,222	887	3,132	2,149	2,386	2,466	1,190	2,658
Imports	93	196	187	140	132	155	154	141
Stock variation	278	261	-890	320	-144	-208	755	-444
Total supply	2,593	1,344	2,429	2,609	2,374	2,413	2,099	2,355
Total utilization	2,500	1,148	2,242	2,469	2,242	2,413	2,099	2,355
Exports	352	87	245	562	349	280	141	587
Closing (final) stocks	na	na	na	na	na	na	na	na
Domestic uses, of which:								
Seed uses	150	156	160	142	136	121	111	116
Feed uses	1,358	499	1,211	1,164	1,180	1,312	1,292	1,100
Industrial and processing uses (alcohol, beer, oil...)	30	30	78	59	47	48	32	34
Losses	82	49	161	139	119	123	21	29
Human consumption (food use)	621	523	574	543	543	529	502	489
Human consumption per capita (kg)	173.5	146.7	160	152	152.4	148.6	141.0	137.4
Self-sufficiency rate (%)	99.2	70.6	143.4	105.0	117.8	115.6	60.8	150.3

Sources: National Bureau of Statistics of the Republic of Moldova, 2014

In addition to natural risks, commercial risks largely influence the level of food security in the Republic of Moldova. The evolution of prices in Moldova follows the trends of international food prices of agricultural products and resources necessary for agricultural production. Like other small countries with low income, Republic of Moldova faces additional challenges to restructure and modernize the sector of primary production and processing industry in order to supply the local market with basic food products.

Table 24. Human consumption per capita (kg, pieces), 2006-2013

	2006	2007	2008	2009	2010	2011	2012	2013
Cereals	173.5	146.7	160	152	152.4	148.6	141.0	137.4
Sunflower	1.6	0.7	0.7	0.7	0.8	0.8	1.0	1.5
Potatoes	87.6	58.8	58.0	59.3	56.7	59.8	52.3	52.7
Vegetables	131.9	75.8	99.1	106.3	109.6	114.6	78.2	85.9
Fruits	35.8	24.1	36.7	30.5	34.3	34.6	34.3	35.1
Grapes	3.0	3.8	4.4	4.1	6.4	8.1	6.4	6.4
Meat	38.3	36.0	32.3	29.5	35.6	37.9	39.7	46.2
Eggs, pieces	167.5	177.1	141.1	161.7	184.9	189.6	155.7	165.0
Milk and milk products	177.3	175.4	155.0	168.9	175.3	170.2	170.8	166.0

Sources: National Bureau of Statistics of the Republic of Moldova, 2014

The level of food self-sufficiency of the country is rather high, however in several years it decreased to a critical level due to severe droughts (see Table 25).

Table 25. Self-sufficiency rate (%), 2006-2013

	2006	2007	2008	2009	2010	2011	2012	2013
Cereals	99.2	70.6	143.4	105.0	117.8	115.6	60.8	150.3
Sunflower	145.0	65.5	178.0	121.4	156.6	195.9	143.8	326.3
Potatoes	91.7	67.0	93.4	89.4	100.4	116.2	66.6	89.8
Vegetables	103.5	84.8	110.1	98.6	104.2	100.5	93.3	102.4
Fruits	195.8	227.0	222.2	213.9	207.7	237.7	245.2	264.2
Grapes	102.4	106.8	102.6	104.3	104.6	102.8	103.9	103.7
Meat	67.8	84.5	67.8	86.7	86.0	86.1	81.5	69.8
Eggs	112.7	101.6	100.0	100.3	98.8	95.4	102.2	98.0
Milk and milk products	97.5	95.0	97.1	95.0	94.1	92.0	84.7	86.8

Sources: National Bureau of Statistics of the Republic of Moldova, 2014

4. AGRI-FOOD TRADE AND TRADE RELATIONS

4.1 Agri-food trade

The Republic of Moldova has a range of foreign trade agreements that create opportunities for commercial relations with 93 countries. The main trade partners for export of agri-food products are Russia, Ukraine, Belarus, Romania, Italy, France and Spain. During the last years, agri-food exports have had a stable increasing trend. However, the recent sanctions imposed by the Russian authorities could negatively affect country's agri-food exports, economic stability and food security.

The state policy in the field of foreign trade is carried out through the customs tariff (the application of import tariffs) and non-tariff regulation (in particular, through quotas and licensing), also trough the introduction of special duties (special, antidumping and countervailing) for foreign trade activity in accordance with the legal framework and international treaties, signed by the Republic of Moldova.
The state ensures that protective measures, restrictions and prohibitions installed in the field of foreign trade correspond to the reasons behind the need for their introduction. The preference is given to those protective measures, restrictions and prohibitions that cause minimal damage and do not contravene the international standards.

The current situation in the international trade with agri-food products placed the Republic of Moldova in a difficult position. Exchange of sanctions between a number of Western countries and the Russian Federation provides multiple restrictions on the conduct of economic activities, including international trade, in fact, makes it necessary to review existing economic policies in most countries with economies in transition. Prohibitions and restrictions on the part of the Russian Federation on the import of agricultural products from the Republic of Moldova are forcing the government to urgently diversify export markets and to take measures to strengthen the economic security of the country.

4.1.1 Overall agri-food trade

The most important export groups of products for Moldovan agri-food sector are "Edible fruits and nuts", "Alcoholic and non-alcoholic beverages", "Oil seeds" and "Vegetable oil" (see Figure 14).

The main export destination countries for these groups of products are Russia, Ukraine, Belarus, Romania, Italy, France and Spain. Out of these four major groups of products only two, namely "Oil seeds" and "Vegetable oil" were not included in the restriction list imposed by Russian authorities. While external trade with other two groups of products was seriously affected by these restrictions. This leads to the question to what extent these restrictions threaten the stability of the Moldovan economy. Despite a drop in exports to Russia by almost one quarter during the first half of 2014 (compared to the same period of 2013), total Moldovan exports grew by 3% over the same period.

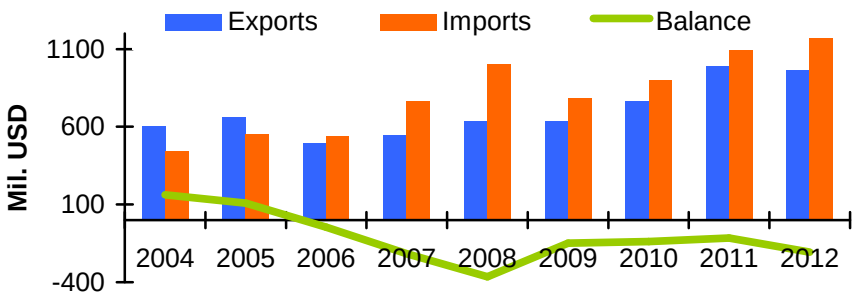

Figure 13. Total agri-food trade of the Republic of Moldova, 2004-2012, Mil. USD
Sources: National Bureau of Statistics, 2014

The most important exported products are beverages, fruits and nuts, oil seeds and vegetable oils.

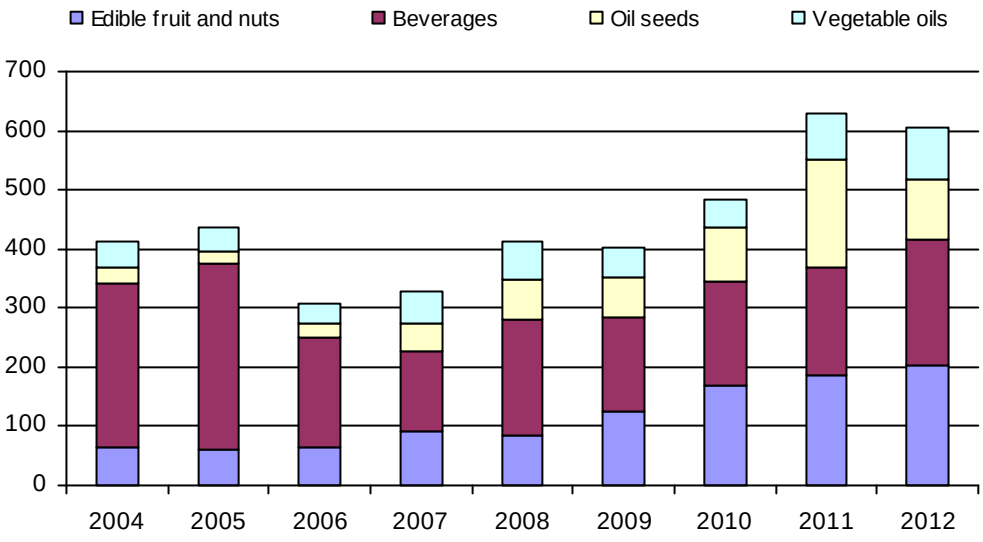

Figure 14. Most important exported agri food products of the Republic of Moldova 2004-2012, Mil. USD
Sources: National Bureau of Statistics, 2014

On the other hand, Republic of Moldova imports mainly wood and articles of wood, essential oils and resinoids; perfumery, rubber and articles thereof and tobacco. It should be mentioned that in the 80s of the last century Moldova was a net exporter of essential oils. Now, this branch almost does not exist in the country.

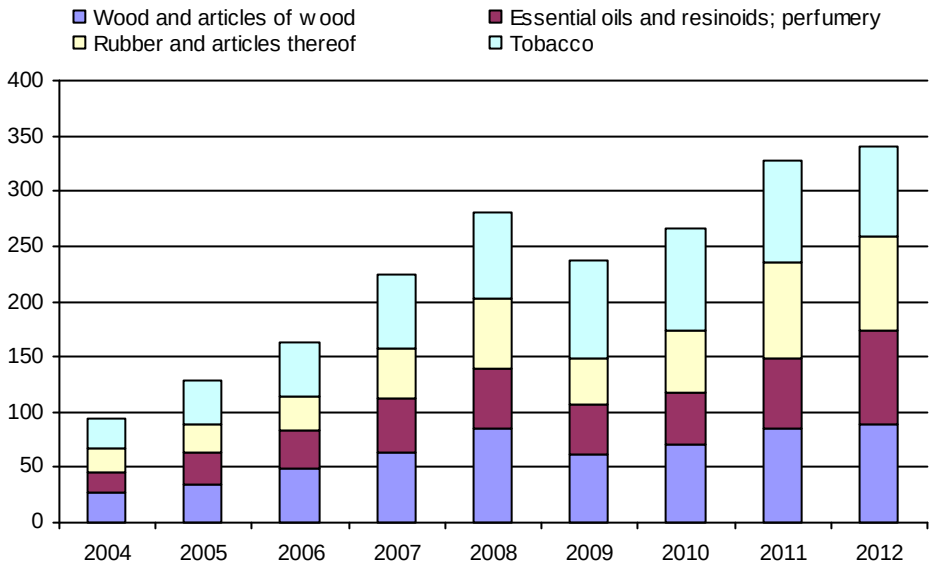

Figure 15. Most important imported agricultural products in the Republic of Moldova 2004-2012, Mil. USD
Sources: National Bureau of Statistics, 2014

4.1.2 Agri-food trade by trading partner

The main export countries are Russian Federation, Ukraine, Belarus, Romania, Italy, France and Spain.

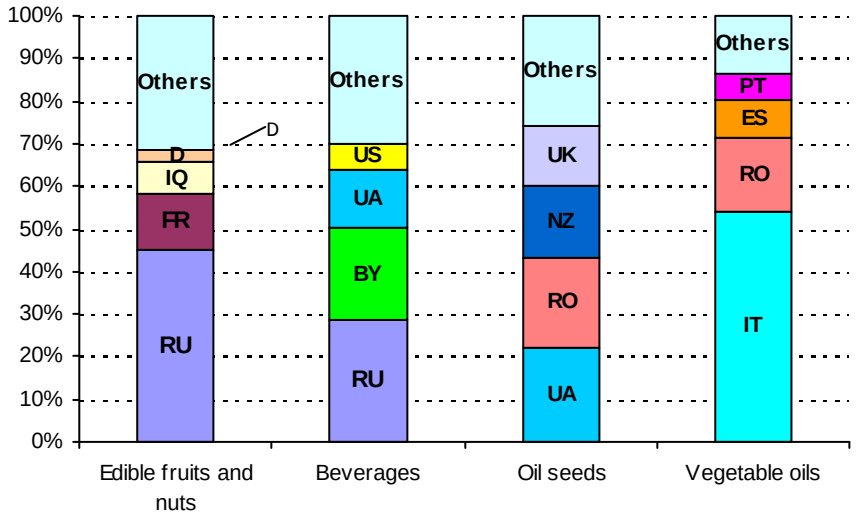

Figure 16. Structure of agri-food exports of the Republic of Moldova by major products and trading partners in 2012
Sources: National Bureau of Statistics, 2014

The main import countries from the EU are Romania, France, Germany, Poland, while Russian Federation and Ukraine are predominant import countries from the CIS. Asian countries are represented by Turkey and China.

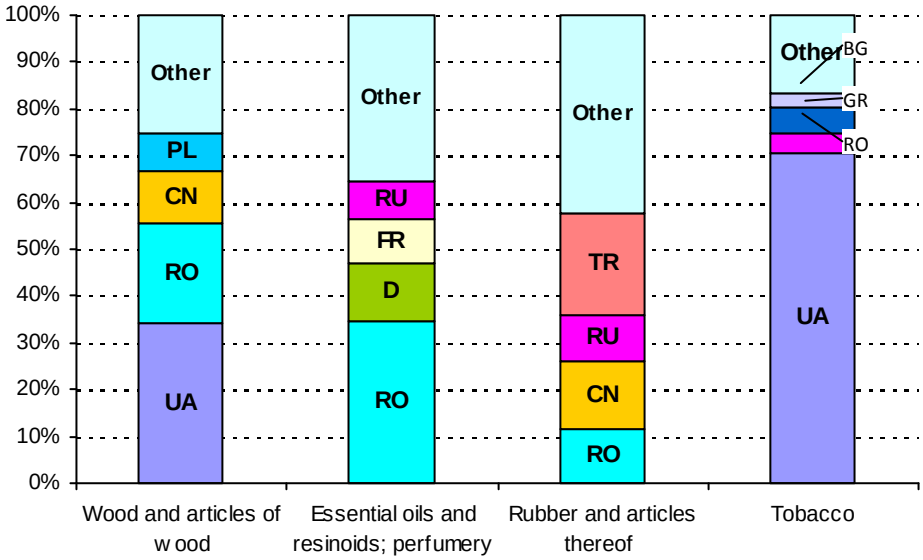

Figure 17. Structure of agricultural imports of the Republic of Moldova by major products and trading partners in 2012
Sources: National Bureau of Statistics, 2014

4.1.3 Agri-food trade by products

Agri-food sector represents one of the pillars of the national economic development of the Republic of Moldova. The export structure is dominated by a few groups of products which reflect a rather primitive structure of the agri-food exports in which prevails wine production and raw material of plant origin

such as nuts, grains and oil seeds. Agri-food exports of Republic of Moldova have been strongly marked by a significant reduction of supplies to Russia in 2001-2008 and the embargo in 2013.

In 2013, more than one quarter of Moldovan export revenues originated from Russia. Currently, Russia uses this economic leverage to exercise pressure on Moldova through a number of trade restrictions.

Comparing the level of exports for the four major groups of products in the first half of 2014 with the average level of these exports for the five previous years a strong increase for three groups, namely "Edible fruits and nuts", "Oil seeds" and "Vegetable oil" and a small decrease for the "Alcoholic and non-alcoholic beverages" can be seen (see Figure 18).

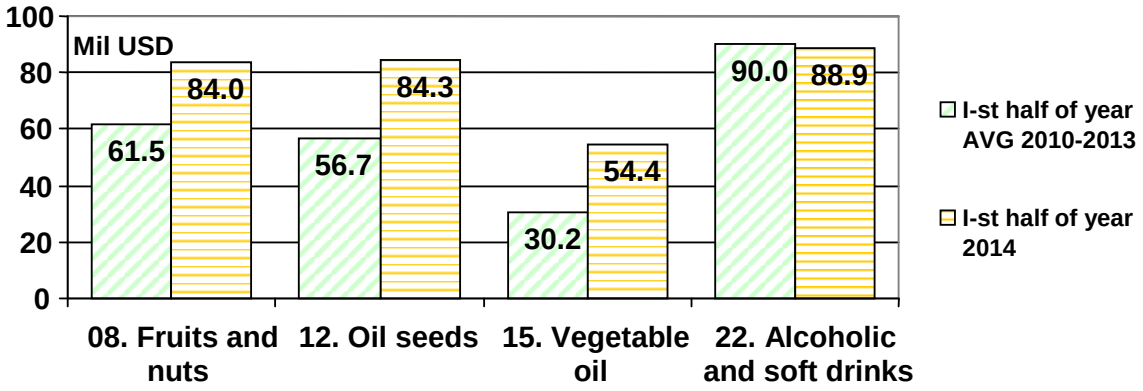

Figure 18. Comparative analysis of export for main groups of agri-food products, Ist half year average 2010-2013 and Ist half of year 2014, mil. USD
Source: National Bureau of Statistics, 2014

However, the costs are likely to rise due to the new restrictions which came into force in the mid of 2014. Estimations made by a team of independent experts show that the new and existing measures altogether could reduce export revenues by 145 mil. USD annually. This is equivalent to 25% of total exports to Russia and to about 2% of Moldovan GDP (Giucci and Radeke, 2014).

These measures have the potential to reduce economic output. However, the economic stability of the country should not be affected in mid-term, if an adequate policy response will be provided.

So far, the restriction measures affected the total Moldovan exports only moderately. However, if these restrictions remain in place for a longer period, it could have a more serious impact on the agri-food exports and on the level of economic growth.

While all previous measures are de-facto import bans, Russia has also increased import tariff rates for some Moldovan products. Based on the 2011 CIS Free trade agreement, Moldova could export almost all goods duty-free so far. In July 2014, however, Russian representatives announced a raise in the import tariffs for 19 product groups in total.

The tariff rate for the affected goods (mostly agricultural products and food) is to be increased to the higher „Most Favoured Nation (MFN) Tariff Rate" which applies to the countries without preferential trade agreements. This would suggest a decline in demand for Moldovan products. However, most products affected by the tariff increase have already been banned before. Therefore the impact of this measure will be significantly lower than the existing ban.

4.2 Overview of recent developments of the agri-food trade with Russia

The agri-food exports from the Republic of Moldova to Russian Federation in the period 2013-2014 were marked by a continuous decreasing trend, ending in the October 2014 with a total embargo for the export of such food categories as “02 Meat”, “04 Dairy products”, “07 Vegetables” and “08 Fruits”.

Among the most important groups of agri-food products exported from the Republic of Moldova to Russian Federation in 2013-2014 are “08 Fruits” and “07 Vegetables”, followed by “02 Meat” and “04 Dairy products”. A specific particularity of the Moldovan agri-food exports to Russian Federation is the irregular character of deliveries that cannot be explained only by seasonality of the agri-food production.

Table 26. *Volume of monthly exports to Russia at two-digit level (in tons), annual and monthly variation (in %)*

	02 Meat	04 Dairy	07 Vegetables	08 Fruits
July 2013	151.11	140.00	900.83	12,461.18
August 2013	259.54	112.02	22.08	31,560.20
September 2013	360.10	115.93	107.42	37,159.01
October 2013	538.95	60.00	66.61	48,787.05
July 2014	466.25	180.00	439.98	7,585.70
August 2014	88.85	0.00	245.46	2,866.87
September 2014	101.12	20.00	199.15	3,692.31
October 2014	0.00	0.00	0.00	0.00
Annual variation August 2013/14	2.92	-	0.09	11.01
Annual variation September 2013/14	3.56	5.80	0.54	10.06
Annual variation October 2013/14	-	-	-	-
Monthly variation July/Aug 2014	5.25	-	1.79	2.65
Monthly variation August/Sept 2014	0.88	0.00	1.23	0.78
Monthly variation Sept /Oct 2014	-	-	-	-

Source: own calculations based on UN Comtrade data base (http://comtrade.un.org/data/)

Meat products

The Republic of Moldova is a net importer of meat. The self-sufficiency rate for meat varied from 67.8% in 2006 to 81.5% in 2012. The deficit of meat is covered by imports from other countries. Export of the meat to Russia is irregular and covers mainly chilled and frozen beef.

The meat exports to Russian Federation were completely stopped in October 2014 as a result of the non-tariff protection measures.

The meat export is insignificant amounting to an average value of about 300 tons per month. The predominant kind of exported meat is beef chilled or frozen. Other types of meat are exported occasionally.

Considering that the Republic of Moldova is a net importer of meat and the quantity of the meat exported to Russia is insignificant it can be concluded that restrictions on meat export to Russia will not affect significantly the trade between two countries.

Dairy products

The Republic of Moldova is a net importer of dairy products. The self-sufficiency rate for meat varied from 97.5% in 2006 to 84.7% in 2012. The deficit of dairy products is covered by imports from other countries. Export of the dairy products to Russia is irregular and covers mainly butter and occasionally cheese and other dairy products.

The exports of dairy products to Russian Federation were completely stopped in October 2014 as a result of the non-tariff protection measures.

Considering that Republic of Moldova is a net importer of the dairy products and the quantity of these products exported to Russia is insignificant it can be concluded that restrictions on dairy export to Russia will not affect significantly the trade between two countries.

Vegetables products

The production of vegetables in the Republic of Moldova ensures mainly the internal needs of the country. Export potential of vegetable products is rather insignificant. The self-sufficiency rate for vegetable production varied from 103.5% in 2006 to 93.3% in 2012.

The deficit of vegetables mainly in the out of season period is covered by imports from Turkey. Export of vegetables to Russia is irregular and covers mainly potatoes and tomatoes.

The exports of vegetables to Russian Federation were completely stopped in October 2014 as a result of the non-tariff protection measures.

The volumes of vegetables exported to Russia are not important and their share in total Russian imports of vegetables is insignificant. Some efforts these exports could be shifted to other destination points.

Fruits products

The fruit production in the Republic of Moldova is very important not only for the internal needs of the country but it also offers large opportunities for fruit exports. Export potential of the fruit production is very high. The self-sufficiency rate for fruit production varied from 195.8% in 2006 to 245.2% in 2012. The surplus of fruits was exported mostly to Russian Federation.

Export of fruits to Russia are covered mainly by “0808 - Apples, pears and quinces”, “0809 - Apricots, cherries, peaches incl. nectarines, plums and sloes” and “0806 – Grapes”.

The exports of fruits to Russian Federation were completely stopped in October 2014 as a result of the non-tariff protection measures.

Russian federation was a main market for Moldovan fruit exports. Non-tariff restrictions imposed by Russian authorities affected severely this sector with negative economic and social impacts.

4.3 Trade policy and infrastructures

4.3.1 Measures directly affecting trade imports and exports

Virtually every company in Moldova is affected by the customs administration’s ability to facilitate trade; it is a key element determining the competitiveness of Moldovan enterprises. The link between efficient customs administration and exports is obvious: delays and impediments at the border have a direct impact on the cost and delivery times of goods in their destination markets. Price and timeliness are crucial for the ability of Moldovan exporters to compete in high-value markets, such as European Union. Customs administration related to import procedures also has a significant impact on companies that produce goods for export and for sale in the domestic market. In 2011, the value of imports was equal to approximately 74 percent of the GDP.

From all aspects measured by the Doing Business “Trading across Borders” indicator, Moldova performs worst when it comes to the amount of time necessary to export or import goods and services. On

average, it takes 32 days to export a 20-foot container, and 35 days to import it. The ECA averages are 26 and 29 days, respectively. Preparation of document takes the longest time, requiring 20 days for an export and 21 days for an import. Once documents are ready, the Doing Business indicators suggest that it takes on average 6 days to complete an import process, and 3 days to complete an export process. When transporting the goods, waiting time at the border can also add to processing time and uncertainty of delivery times. Although the processing itself can take as little time as the average of 20 minutes reported by the Customs Service based on their IT system, waiting time before arriving at the border point is not counted to this time.

The large number of license and authorization requirements elevates compliance costs for Moldovan companies. Businesses find it difficult to navigate the multi-layered system, as obtaining a license from one authority often requires permits and certificates issued by other government agencies. At times, the license merely confirms that these other documents have already been duly obtained.

The large number of authorizations, as well as overlaps in legal and institutional structure for their issuance and renewal, impose high compliance costs. The large number and variety of authorizations required tends to confuse business operators, and complicate entrepreneurial activity. For instance, grain exporters have to collect six authorizations: a grain inspection certificate, a phytosanitary certificate, a veterinary certificate, a certificate of origin, a certificate of conformity, and a certificate of quality for the grain elevator, which are all issued by different authorities with different geographical locations. The collection of all of these authorizations, which are required for each shipment, requires 3-4 days.

Difficulties obtaining licenses and authorizations can also be caused by government authorities that wish to use their discretion to restrict market access. Administrative decisions on permissive documents can be unpredictable and subject to outside influence. Interviews with entrepreneurs suggest that regulatory bodies can – and do, at times – withhold or remove licenses without any explanation.
Also, the increase of trade liberalization in the Republic of Moldova diminished the barriers for food imports. The country joined the WTO in 2001 and as a member does not apply prohibitions or quantitative restrictions on trade that do not correspond to the WTO provisions. Average customs duties on imports of agricultural products are 12% above the average of 5% for all imported products.
Meanwhile, exports of agri-food products in Moldova were affected by changes in the trade regime of the key partners. So far, exports of agricultural products from Moldova had two main destinations: CIS and EU. Moldova has to think about an alternative form of the post-soviet trade bloc consisting of Russian Federation, Belarus and Kazakhstan in a form of a customs union. The situation with the Russian trade is more complex, considering the significant energy dependence of the Republic of Moldova on Russian Federation and Ukraine.

4.3.2 Logistics and infrastructure

Currently, the Republic of Moldova is provided with sufficient infrastructure, in relation to the surface and population number: a main international airport, a main international sea port, and 10,544 km of roads and 1,156 km of railways. Although there is sufficient capacity for transport and logistics, the state of the existing infrastructure is the key issue. The transport infrastructure network is sufficiently developed and covers the entire territory of the country, but requires major investments for its renovation and modernization. In some areas where economic growth is projected, the road infrastructure can be extended according to traffic requirements.

The main operator of passenger and land freight transport is the road sector with 97% of passenger traffic and 87% of freight traffic, followed by railways with 3% of passenger traffic and 13% of freight traffic. Currently, about 1.1 mil. passengers use the Chisinau Airport services and about 400,000 tons of goods are transhipped through the Giurgiulesti port.

The road transport sector is relatively competitive in terms of price, despite the general state of bad roads. The sector is dominated by private companies and is considered safe and effective by its customers. Currently, in the transport market there are about 1,824 economic agents that provide transportation of goods and passengers on national and international routes of which 1,250 operators carry out freight transportation in the domestic market (about 29,000 transport units); 574 operators carry out freight transportation in the international market (6,000 transport units, of which 863 correspond to the requirements of EURO-0; 44 - EURO-1; 1361 - EURO-2; 1762 - EURO-3; 220 - EURO-4 and 2054 - EURO-5).

The railway sector

Density of railways (3,3 km of railway lines per 100 km^2) is comparable to the network of Romania and Ukraine. However, the railway network in Moldova is technically weakly developed in comparison with other countries and is currently being adjusted to the market situation in transport services. Interviewed experts evaluated rail freight in Moldova as being slow, costly and uncertain.

The naval sector

Republic of Moldova does not have direct access to the sea, although a strip of 430 m length of river Danube was developed as the Giurgiulesti port, in order to provide the country with a strategic asset. The port consists of two parts: passenger and cargo terminals from Giurgiulesti and Free International Giurgiulesti Port, being operated by the state.

Free International Giurgiulesti Port covers an area of 120 ha (leased for 99 years). The whole territory has the status of a free economic zone till 2030. Danube Logistics occupies today an area of 55 hectares which is divided into six functional areas:

- Terminal for oil products
- Vegetable oils terminal
- Terminal for cereal products
- Dry bulk products terminal
- Container and general cargo terminal
- Business Park

The maximum depth at berth is about 7 m, allowing entry into port of embarkation / debarkation vessels with a displacement of up to 12,000 tons.

Necessary infrastructure for trade facilitation

The necessary infrastructure for trade facilitation in terms of Border Crossing Points (BCPs) and inland customs has a mixed character. Border crossing points generally have sufficient capacity, implying that the existing commitments under international agreements are strictly followed. Currently, access roads to border crossing points do not facilitate the traffic separation that would be appropriate.

4.3.3 Main trade agreements

Trade policies

The trade policies promoted by the Republic of Moldova are mostly geared towards attracting investment in the national economy which can stimulate innovation, transfer of know-how and production of competitive goods for domestic and foreign markets, creation of high added value and efficient technical and economic infrastructure in order to maximize the existing economic potential.

Due to its favourable geographical position, Republic of Moldova is an attractive location for international organizations and trans-national corporations, and the country is becoming increasingly important as a place to conduct business between western and eastern markets.

Autonomous Trade Preferences (ATP)

Since 1 March 2008, the Republic of Moldova has benefited from the new scheme of trade preferences granted unilaterally by the European Union, known as the Autonomous Trade Preferences (ATP) scheme. Trade preferences have been granted as a result of Moldova's implementation of sustainable development, good governance policies and efficient customs administration.

ATP offer free access to the EU market without quantitative restrictions and customs fees, the only exception being a small number of goods which are sensitive for the EU and subject to the annual duty free tariff quotas. The main condition for entitlement to the preferential arrangements is compliance with the EU rules of origin of products. ATP have offered a basis for increasing the competitiveness of Moldovan products exported to the EU and have also stimulated the efforts of Moldovan exporters to penetrate alternative markets to those in the CIS.

Deep and Comprehensive Free Trade Area (DCFTA)

In March 2012, the European Union started negotiations to create a Deep and Comprehensive Free Trade Area (DCFTA) with Moldova. This DCFTA agreement assumes the abolition of duties and quotas in mutual trade in goods and services, as well as the elimination of non-tariff barriers (by the adoption of EU rules on public procurement, health and safety standards, and intellectual property rights, among other means). This will allow the integration of Moldova with the common EU market. The idea is to stimulate free trade between the EU and Moldova, and to improve the investment climate. Consequently, this should translate into economic growth and also open up business in the EU countries new opportunities for working with Moldova.

CIS

Moldova is part of the CIS Free Trade Area (FTA). The respective FTA Agreement entered into force on 20 September 2012 and repealed the previous bilateral free trade agreements within the CIS. The CIS FTA is currently applicable for six CIS countries.

The aim of this Agreement is to establish conditions for a free transfer of goods and services, to provide mutual trade balance, to stabilize domestic economic conditions and to promote growth of the economic potential of the member states on the basis of mutual cooperation.

Although the FTA provides for a free tax trade regime, there are still certain exceptions, usually asymmetric in nature.

In 2002, Georgia, Ukraine, Azerbaijan and Moldova signed the GUAM agreement regarding the creation of a free trade zone. Its scope is to eliminate customs fees and other taxes with equivalent effect and quantitative limitations on trade, as well as to eliminate the barriers for free movement of goods and services.

Central European Free Trade Agreement (CEFTA)

In 2006, Moldova signed the Central European Free Trade Agreement (CEFTA), which came into force on 1 May 2007. CEFTA allows duty free access to the market of countries of the South-Eastern part of Europe. The CEFTA agreement has radically evolved since Romania and Bulgaria left and joined the EU. At this stage, the present signing parties are Moldova, Albania, Bosnia and Herzegovina, Croatia,

Macedonia, Serbia, Montenegro and Kosovo. Although the exports from Moldova to CEFTA countries are fairly low, they have an important role in supporting Moldova's efforts to be included in the Western Balkans perspective of joining the EU, thus reinforcing the relevance of the CEFTA agreement in achieving the objective of Moldova's accession to the EU.

The commercial relations of Moldova with CEFTA countries are governed by the preferential trade arrangements provided by CEFTA, which require almost total liberalization of imports of industrial and agricultural products from CEFTA countries, except for imports of wine from the Republic of Macedonia, which carry a 1,000 hectolitres duty free tariff quota. CEFTA also provides an individual mechanism for trade disputes settlement or usage of the instrument provided by the WTO.

Double Tax Treaties and Mutual Protection of Investments Treaties

Moldova has signed comprehensive double taxation agreements with 48 countries, of which 45 are in force. The Double Tax Treaties may provide for more favorable tax regimes than those provided by the local legislation. As guidance on the interpretation of Double Tax Treaties and, correspondingly, for tax administration purposes, the Commentaries to the OECD Model Tax Convention on Income and on Capital are used by the tax authorities and taxpayers. Additional guarantees and support to investors are offered by 40 bilateral treaties signed between Moldova and various countries for the mutual guarantee of investments.

5. AGRICULTURAL POLICY AND INSTITUTIONAL ENVIRONMENT

5.1 Agricultural policy framework

5.1.1 Agricultural policy objectives and mechanisms

In the process of implementation of its policies the government is guided by the **National Development Strategy "Moldova 2020"**, the main objective of which is the acceleration of the economic growth and reduction of poverty in the Republic of Moldova.

At the same time, many policy documents have direct relevance for the development of the agricultural and rural sectors, these are as follows:

- **National strategy on agriculture and rural development** for the period 2014-2020, approved by the Government Decision no. 409 from June 4, 2014 that has three general objectives, namely:
  1) increase of the competitiveness of the agri-food sector through modernization and market integration,
  2) ensure sustainable management of natural resources in agriculture, and
  3) improve standards of living in rural areas.

- **National Strategy for the Sustainable Development of the Agro-industrial Complex** of the Republic of Moldova (2008-2015), approved by the Government Decision no. 282 from 11 March 2008, with the overall goal to ensure a sustainable growth of the agro-industrial sector with a consequent improvement of quality of life in rural areas by increasing the sector's competitiveness and productivity.

- **Food Safety Strategy** for the years 2011-2015, approved by the Government Decision no. 747 from 3 October 2011, with the main goal to achieve the highest standards of health protection and protection of customers on the matters of food safety.

- **Strategy for the development of rural extension services** for the period 2012-2022, approved by the Government Decision no. 486 from 5 July 2012, which foresees a rapid transition to a modern model of organization of rural extension services that generate high added value, based on knowledge and innovation and are oriented towards continuous improvement of the quality of life in rural area.

- **National Strategy for Regional Development** for the years 2013-2015, approved by the Government Decision no. 685 from 4 September 2013, is aimed at supporting the balanced development of the localities of the Republic of Moldova and enhancing the living standards of its citizens.

- **Small and Medium Enterprises' Sector Development Strategy** for the years 2012–2020, approved by the Government Decision no. 685 from 13 September 2012, sets the development of the SMEs in the regions as a priority area.

- **Strategy for Domestic Trade Development** in the Republic of Moldova for the years 2014-2020, approved by the Government Decision no. 948 from 25 November 2013, with the main goal of "providing the consumers with competitive goods and services through creation of an efficient

trade system throughout the country", and one of its strategic objectives refers to "enhancing of trade infrastructure in the regions, particularly in rural areas".

- **Energetic Strategy** of the Republic of Moldova up to the year 2030, approved by the Government Decision no.102 from 5 February 2013, has as a main objective of ensuring the energetic security of the country based on the implementation of regional programmes that refer to the development of modern platforms for generation of power from renewable sources and improvement of the energetic efficiency throughout the country.

- **Transport and Logistics Development Strategy** for the years 2013-2022, approved by the Government Decision no. 827 from 28 October 2013, with specific objectives including insuring access to national roads from local rural roads in all localities of the country, ensuring the repair and maintenance of over 6 thousand km of local roads by 2022.

- **Information society development Strategy** "Digital Moldova 2020", approved by the Government Decision no. 857 from 31 October 2013, with the aim to "develop the info-communicational infrastructure and improve the access to it for all", including development of internet access infrastructure in all localities of the country and provide services at affordable prices.

The most important mechanism for supporting agricultural production in the Republic of Moldova are subsidies provided through the National Agency for Payment and Interventions in Agriculture.

Since 2006, number of strategic documents on sustainable development of the agricultural sector has been developed in the Republic of Moldova. However, their implementation did not result in significant changes in the development of agri-food sector.

The concept of "policy" is not fully understood within government structures. Thus, participants in the policy elaboration process continue to confuse the concept of "policy" with the "legislative project development", often ignoring the need for ex-ante policy analysis. This significantly affects the development of realistic policies and consequently their implementation.

The sustainability of the country's agri-food policies is important to be supported by business community, civil society and public administration. Agri-food policies must lead from the early stages of implementation to visible results and benefits for the population.

5.1.2 Institutional arrangements

Implementation of the strategic policy documents are carried out by the central administrative authorities that develop and implement policies oriented towards agricultural and rural development, in accordance with their area of competence and their tools and mechanisms needed to carry out the respective exercise, namely:

a) **Ministry of Agriculture and Food Industry (MAFI)** is the central government authority responsible for the development and promotion of policies for sustainable development of the agri-food sector and rural areas. To achieve the synergy on coherent agriculture and rural development, MAFI is the institution coordinating the activities set in the present Strategy, and it is responsible for assessing the impact of its measures, together with the subordinated institutions:

- **Interventions and Agriculture Payments Agency (AIPA)** is responsible for managing the financial resources to support farmers, including support for rural infrastructure related to agricultural activities. Considering that AIPA can also manage funding granted by foreign donors, the agency plans to get the accreditation in order to comply with EU requirements. AIPA was founded in 2010 as an institution in the subordination of MAFI, with the main purpose of managing financial

resources (subsidies) aimed at supporting the farmers, to monitor their distribution and also the quantitative and qualitative assessment of the impact of implemented measures;

- **National Vine and Wine Office (ONVV) of the MAFI**, is responsible for implementing wine policies, it provides financial support for the development of the wine sector by establishing of mandatory contributions by wine producers, and possibly also from other funds provided by development partners. This requires development and maintenance of a wine and vineyard register;

- **Agricultural Information Centre (AIC)** created by MAFI, is responsible for managing a complex of automated information systems to integrate and strengthen agricultural information resources such as Agricultural Producers Registry, Vineyard Registry, Agricultural Machinery Registry and others;

b) *Ministry of Economy* develops and, through the subordinate institutions, implements policies and programs to support rural development, focused on enhancing the competitiveness of small and medium enterprises, rural diversification, implementation of measures to promote the use of advanced and energy-efficient technologies, diversification of exports and expanding the markets for local products, stimulation of the creation of public-private partnerships and the establishment of industrial parks to facilitate private investment in rural areas;

c) *Ministry of Environment* provides support in developing and implementing measures to protect the environment, rural areas, following the methods compatible with the need to preserve the natural resources;

d) *Ministry of Construction and Regional Development* provides, develops and implements measures to ensure cohesion and reduce disparities in the regions;

e) *Ministry of Labour, Social Protection and Family* develops and implements measures to promote employment and reduce unemployment in rural areas, and to provide incentives for young professionals living in rural areas;

f) *Ministry of Education* develops and promotes measures intended to improve and enhance human potential through training of rural specialists.

5.2 Main agricultural policy instruments and measures

In 2009-2013, the government mobilized a total value of about 2.2 billion MDL from the state budget along with the support of donors. These funds were used to subsidize farmers on the following areas:

1. Stimulation of lending to farmers;
2. Stimulation of the risk insurance mechanism in agriculture;
3. Establishment of perennial plantations;
4. Vegetable production on protected land;
5. Procurement of agricultural equipment;
6. Equipment and renovation of livestock farms;
7. Purchase of breeding animals;
8. Development of post-harvest infrastructure;
9. Land consolidation;
10. Farmland irrigation.

The main eligibility criteria for selection of farmers or producer groups to benefit from the state support are the following:

1) The farmer or producer group has made the investment in the country, except for Chisinau and Balti, according to the list of measures indicated in the Regulation of the State Agency for Payments and Interventions in Agriculture;

2) The farmer or producer group is a legal owner of the property where investment is made and owner of movable goods which are the object of investment;

3) The farmer or producer group undertakes not to alienate the subject of investment subsidies (except inheritance or succession of rights and obligations), not to grub perennial plantations, according to the time periods specified in this Regulation;

4) The farmer or producer group is not included in the list of prohibited agricultural producers;

5) The farmer or producer group has no tax arrears to the national budget, except debt rescheduling invoked under agreements concluded in a prescribed manner;

6) The farmer or producer group is operating in accordance with the legislation and environmental standards in force;

7) The farmer or producer group holds mandatory documents specified in the Regulation.

The total amount of subsidies allocated to the agricultural sector increased to 462.5 mil. MDL in 2013 as compared with 400 mil. MDL in the period of 2010-2012. However, despite this slight increase, the share of agricultural subsidies in national GDP has constantly decreased since 2009 to the level of 0.46% in 2013 (see Figure 19). It can be mentioned that this share is much lower than in neighbouring countries.

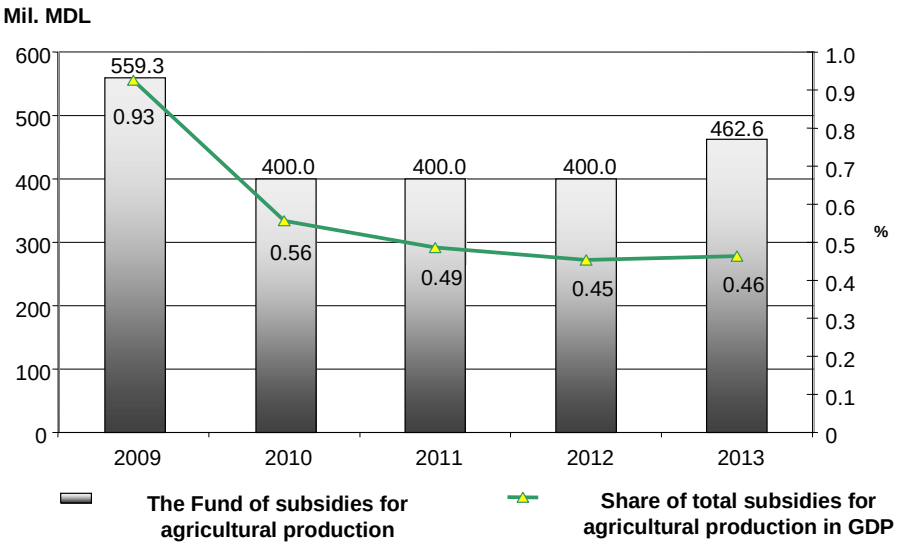

Figure 19. The total value of the Fund of subsidies for agricultural production and the share of total subsidies in GDP, 2009-2013, mil. MDL, %
Source: own calculation based on data from National Bureau of Statistics and AIPA, 2014

The World Bank supported in 2013 compensation of losses incurred by farmers affected by the drought of 2012 in order to mitigate the negative consequences of embargoes and natural disasters. The World Bank also offered support for preventing the reduction of livestock in the most affected regions - totalling about 82 million MDL.

Direct producer support measures in the Republic of Moldova are rather limited and refers to only three items, namely: a) support for purchase of pedigree livestock, b) stimulation of the risk insurance mechanism in agriculture and c) stimulation of the agricultural irrigation (see Table 27).

Table 27. Direct producer support measures (mil. MDL), 2004-2013

	2006	2007	2008	2009	2010	2011	2012	2013
Support for purchase of pedigree livestock[1]	1.0	3.5	3.2	3.4	4.8	4.7	8.1	23.4
Stimulation of the risk insurance mechanism in agriculture[2]	2.7	16.3	27.2	25.5	9.9	_	34.9	41.3
Stimulating agricultural irrigation[3]	na	na	13.0	10.0	9.3	2.0	na	2.1

Sources: National Agency for Payments and Interventions in Agriculture, 2014

On-farm restructuring support measures cover five specific areas like: a) subsidizing investment in establishment of perennial plantations, b) investment subsidies for vegetable production on protected land, c) stimulation of investments and purchase of machinery and equipment, d) stimulation of investment in equipment and technological renovation of livestock farms, and e) interest rate subsidy for long-term loans (see Table 28).

Table 28. On-farm restructuring support measures, (mil. MDL), 2004-2013

	2006	2007	2008	2009	2010	2011	2012	2013
Subsidizing investment in establishment of perennial plantations	23.6	26.1	47.1	76.1	52	41.4	37.4	88.7
Investment subsidies for vegetable production on protected land (winter greenhouses, greenhouses, tunnels)	na	na	5.6	2.5	4.0	6.2	6.1	14.5
Stimulation of investments and purchase of machinery and equipment	na	5.0	38.6	40.8	46.7	97.0	103.2	141.2
Stimulation of investment in equipment and technological renovation of livestock farms	14.0	14.8	23.0	22.5	2.8	12.0	7.8	27.3
Interest rate subsidy for long-term loans						3.3	25.3	39.3

Source: National Agency for Payments and Interventions in Agriculture, 2014

Even more insignificant are some other types of support measures like: support to the promotion and development of the organic agriculture and stimulation of investment in the development of post-harvest and processing infrastructure (see Table 29).

Table 29. Other types of support measures, (mil. MDL), 2004-2013

	2008	2009	2010	2011	2012	2013
Support for the promotion and development of the organic agriculture	2.0	4.0	2.2	0.8	na	na
Stimulation of investment in the development of post-harvest and processing infrastructure	7.0	15.0	11.3	27.9	20.0	69.8

Sources: National Agency for Payments and Interventions in Agriculture, 2014

5.2.1 Market price support measures

Up to the moment, the government of the Republic of Moldova has not provided any market price support measures for agricultural producers.

5.2.2 Budgetary and other transfers to agriculture

Adjustment of the agribusiness sector of the Republic of Moldova to the EU requirements and standards is not only legislative issue but it also requires considerable efforts and financial resources related to the actual implementation of technical standards, security, technology, management and control systems (HACCP, GAP, ISO).

In this context, the greatest challenge for MAFI is to synchronize actions and apply the tools of financial support (including national budget, sources from donors, EU support) to achieve the major objectives of the sector: increasing competitiveness, modernization and restructuring, as well as support for rural development.

[1] Compensation of costs for purchasing pedigree livestock

[2] Funds provided for this measure are used to subsidize insurance premiums to farmers, based on risk insurance contracts for agricultural production

[3] The subsidy partially (50-80%) covers costs incurred from the use of energy to pump water for agricultural irrigation

The total value of the state budget expenditures for agriculture, forestry and fishery has increased to 1,386 mil. MDL in 2013, after a decrease from 1,034 mil. MDL in 2009 to 843 mil. MDL in 2011. The most important allocation goes to the group 11.01 Agriculture and 11.05 Activities and services in the field of agriculture, forest management, fish farms and household water unassigned to other groups (see Table 30).

Table 30. State budget expenditures for agriculture, forestry and fishery, (mil. MDL), 2009-2013

	2009	2010	2011	2012	2013
11 Agriculture, forestry, fishing and water management	1,034.12	857.73	843.46	1,272.74	1,386.30
11.01 Agriculture	792.52	616.74	603.24	697.99	719.55
11.02 Forestry	28.90	9.62	10.52	7.17	11.98
11.03 Fishery	0.00	0.00	0.00	0.02	0.00
11.04 Water Management	19.46	15.97	19.70	17.10	13.20
11.05 Activities and services in the field of agriculture, forest management, fish farms and household water unassigned to other groups	170.85	193.59	184.93	519.10	6.08
11.10 Administrative Organs	22.40	21.81	25.07	31.35	33.86
General total	1,034.12	857.73	843.46	1,272.74	1,386.30

Sources: Ministry of Finances, 2014

The share of the Fund of subsidies for agricultural production in the total value of the state budget expenditures for agriculture, forestry and fishery has decreasing trend from 54.1% in 2009 to 33.4% in 2013 (see Figure 20).

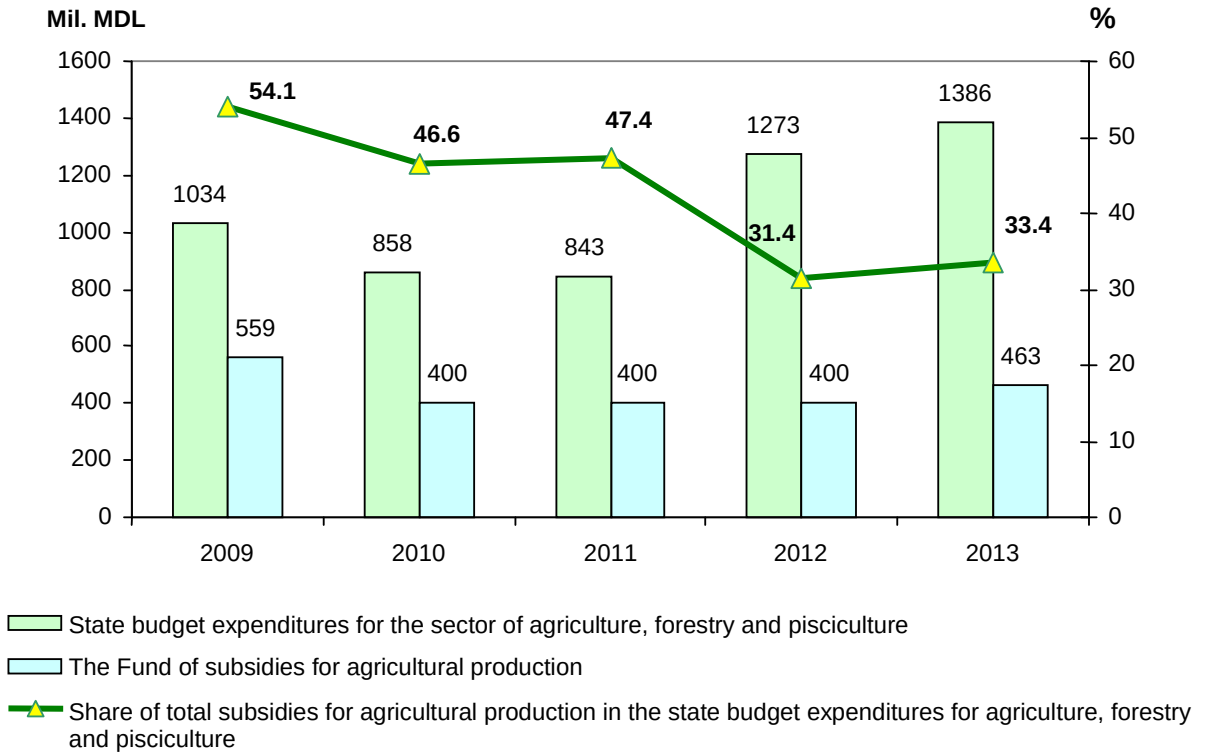

Figure 20. The total value of state budget expenditures for the sector of agriculture, forestry and fishery, the Fund of subsidies for agricultural production and the share of total subsidies for agricultural production in the state budget expenditures for agriculture, forestry and fishery, 2009-2013, mil. MDL, %
Source: own calculation based on data from National Bureau of Statistics and AIPA, 2014

The negative tendency the share of expenditures for agriculture in the countries' GDP can be clearly followed in the period 2009-2013. The share of subsidies for agricultural production decreased almost twice from 0.9% of GDP in 2009 to 0.5% in 2013. The share of state budget expenditures for agriculture, forestry and fishery in the GDP had a more moderate decrease from 1.7% in 2009 to 1.4% in 2013.

6. FUTURE PERSPECTIVES FOR THE AGRICULTURAL AND FOOD SECTOR

6.1. Strengths and weaknesses of the agricultural and food sector

Main strengths of the agri-food sector

- The main advantages of the agriculture are the large areas of fertile soils and the continental temperate climate
- The dense network of rural communities and satisfactory access to transportation and telecommunications networks, as well as gas and electricity
- Traditions and experience in wine, fruit and vegetable production
- Available capacities for the production, processing and storage of agricultural products
- Proximity to developed markets with high demand for agri-food products

Main weaknesses of the agri-food sector

- The high anthropic pressure, the excessive share of cultivated lands and small share of forests are critical for the agriculture of Moldova
- Fragmented land ownership
- Unfavourable demographic tendencies such as ageing, depopulation and mass migration that reduce the access to the skilled labour force
- The high level of moral and physical depreciation of the food processing, post-harvest and market infrastructure
- Dominance of the extensive agricultural systems and low land productivity
- High dependence on import of agricultural inputs
- Outdated agricultural education system, isolated extension services and weak agricultural research

6.2. Potential of production and yields by sectors

The overall productivity of agricultural production arising from the climate is estimated by the bio-climatic potential indicator that synthesizes the indicators of heat and moisture availability. On the basis of the bio-climatic potential (BCP) indicator, regions-analogues were identified among the countries of the world. Focusing on the performance of analogue regions of the developed countries, it is possible to determine the potential productivity of agriculture in Moldova by using the advanced technologies and improving the availability of logistical and technical resources.

Regions-analogues for Moldova among the developed countries of Europe are: Netherlands and Germany. Moldova, according to the European standards, has a sufficiently strong potential of natural resources for the agricultural development. Availability of agricultural land per capita is essentially higher than in Western developed countries, with an approximately equal bio-climatic potential. There are more similar to Moldova conditions for agriculture in Romania and Ukraine (see Table 31).

An important component of the country's natural resources is the soil. The Republic of Moldova ranks at one of the first places in the world by the relative weight of the most fertile soil, black soil (chernozem/humus). However, the soils of Moldova are highly susceptible to the degradation processes, particularly erosion; due to an excessively high proportion of cultivated land in the total area of farmland and due to the over-intensive and unsustainable use in agricultural for many decades.

Table 31. Evaluation of the bio-climatic potential for the Republic of Moldova

Regions-analogues	Bio-climatic potential (points)	Bio-climatic potential of the regions-analogues in % to the BCP of Moldova
Republic of Moldova	144	100
Czech Republic	123	85
Ukraine	130	90
Romania	133	92
Netherlands	135	94
Germany	136	94

Sources: Шашко Д.И., 1985

The average yields of the major agricultural crops grown in the Republic of Moldova are considerably lower compared with the EU and Central European countries (see Figure 21).

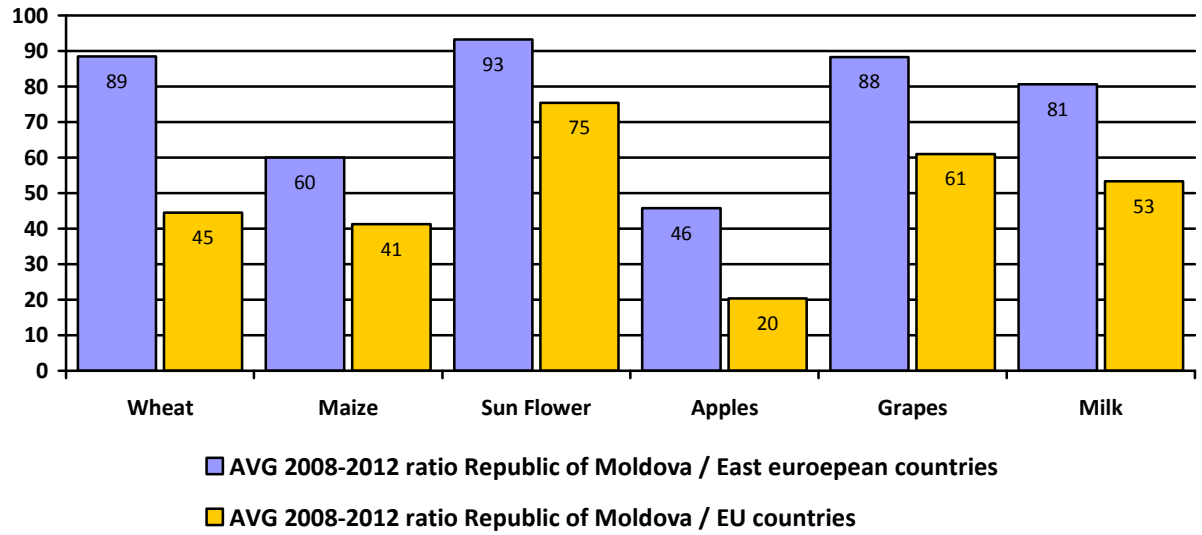

Figure 21. Production potential of the most important agricultural crops in the Republic of Moldova as compared with the EU and EE countries, 2008-2012, %
Source: own calculation based on data from FAO stat, 2014

6.3. Bottlenecks for the future development of agri-food sector

The efficiency and competitiveness of the agri-food sector is dependent on a coherent approach regarding land tenure. Land fragmentation is an important factor affecting the Republic of Moldova as many other countries and its resolution through land consolidation would give agricultural producers an incentive to invest in their farms and to remain in rural areas.

Considering the risk of land abandonment and depopulation due to the high level of migration from rural areas, there are several opportunities for intervention in order to assure a sustainable development of the agri-food sector. The demographic development can be influenced to a limited extent, while socio-economic factors and institutional frameworks can be addressed by appropriate policies.

The agri-food sector in the Republic of Moldova is based predominantly on the extensive farming and is insufficiently adapted to the conditions of market economy.

The major part of the agricultural land in Moldova is cultivated by large agricultural farms with more than 100 ha of land that specialize mainly in production of cereals and technical crops oriented towards export markets. Another important share of agricultural land is cultivated by households and small agricultural holdings with less than 10 ha of land, that supply a significant part of the production of maize, potatoes, vegetables, fruits and grapes for the local market.

Cultivation methods among small agricultural holdings and household plots remain traditional, with low levels of mechanization and low productivity. The agri-food sector is heavily dependent on rain-fed cultivation. Inefficient agricultural systems, weak market structure, small holding sizes determine insufficient potential for sustainable delivery of primary agricultural goods within the value chain.

The food industry in the Republic of Moldova is characterized by underutilization of the production capacities and lack of investments. The equipment used by food processing companies is not energy efficient, and packaging does not meet modern standards. Many enterprises lack modern management practices, investment capital, and the financial resources to compensate skilled labour adequately.

Among the most important factors that affect the agri-food sector of the Republic of Moldova could be mentioned "Competitiveness at the national and international level", "Corruption in the national institutions", "Legal frameworks and regulation", "Knowledge and information" etc. (Table 32).

Table 32. Factors affecting the agri-food sector in the Republic of Moldova (1- least important, 5 – most important**)**

	(1-5)
Domestic market	4
CIS market	4
International market (outside CIS area)	5
National grants	3
International grants	4
National agricultural development policy	3
Policies of other countries	4
Competitiveness at national level	5
Competitiveness at international level	5
Bureaucracy in the national institutions	4
Corruption in the national institutions	5
Legal frameworks and regulation	4
Knowledge and information	4
Solidarity in society with agriculture/rural areas	3
Other (please specify)	

Source: Elaborated by authors based on key stakeholder's interviews

Provision of appropriate education and training opportunities is vital to ensure a strong foundation for the agri-food sector. Insufficient knowledge transfer and dissemination of research from organizations to the agri-food sector is a large constraint that should be solved in order to meet the agri-food sector needs in technology transfer.

The agri-food of the Republic of Moldova needs specific actions in order to stimulate development of the high value agriculture through creation of product sales centres, strengthening quality control, organizing regional wholesale markets, assisting producers to sell their products, development of market infrastructure at central level, development of the post-harvest and market infrastructure.

6.4. Growth attractiveness for specific commodities

Table 33. Yields and growth attractiveness for specific commodities in the Republic of Moldova comparing with Romania and Ukraine

Commodity	Yield	Producer price	Growth attractiveness	Potential market
Sunflower	Similar to Ukraine and Romania	Lower than the average	Very attractive. Has stable and growing market	Italy, Romania, Spain, Portugal
Walnuts	Average	Close to the lowest	Has growth and export potential	EU, Middle East
Grapes	Below average	Lower than the average	Not very attractive. The market for Moldovan wine is under change	Belarus, Ukraine, USA, China, Baltic countries
Apple	Below average	Average, volatile	Not very attractive. The market is under change	Romania, Middle East, Belarus
Wheat	Nearly average	Average	Important for local market, has export potential	Middle East, Caucasus
Maize	Average (volatile)	Average	Has growth and export potential	Middle East, Belarus

There is a strong potential for the production of walnuts in Moldova that are demanded both on the local market and abroad. There is high demand for sun flower seed on the external markets. However, due to restrictions imposed by crop rotation requirements the space for the further extension of the sunflower seed production and export is limited.

7. RECOMMENDATIONS

PROBLEMS	SOLUTIONS AND RECOMMENDATIONS
Problem1. ***Low competitiveness of the agri-food sector***	***Recommendation 1.*** *Modernization of agri-food chain in order to meet EU requirements on food safety and quality.* ***Recommendation 2.*** *Facilitate access to capital, inputs and output markets for farmers.* ***Recommendation 3.*** *Reform education, scientific research and rural extension services in the agri-food sector*
Problem2 ***Growing natural risks and environmental challenges***	***Recommendation 1.*** *Support sustainable agricultural land and water management practices.* ***Recommendation 2.*** *Support environmentally friendly production technologies, organic production and products ensuring biodiversity*
Problem3 ***Low standards of living and migration***	***Recommendation 1.*** *Assessment of investment attractiveness in rural areas* ***Recommendation 2.*** *Enhance investment in physical infrastructure and rural services* ***Recommendation 3.*** *Income and non-agricultural diversification*

8. CONCLUSION

The agricultural sector of the Republic of Moldova after the process of land privatization is characterized by a clear dichotomy between large scale corporate farms and many very small and fragmented family farms.

The critical situation of the agriculture within the rural transformation and national economy context with its structural features requires substantial governmental and financial interventions oriented at the reduction of natural risks that could affect the rural communities, as well as at generating necessary savings and investments in agriculture.

Maintaining the production capacity of agricultural land is a strategic national security concern. Implementation of environmentally friendly technologies in agriculture to increase soil fertility will help to ensure food security and increase agricultural production for export.

The concept of sustainable development requires a set of measures to improve the living standards in rural areas. The essence of this concept is to enhance farm modernization and diversification of non-agricultural activities, to improve access of Moldovan farmers to the high value agro-food systems.
The food industry of the Republic of Moldova is characterized by underutilization of its production capacities and lack of investments.

The majority of food business operators from the Republic of Moldova are not in a position to export processed food products to the EU due to the incapability to meet relevant food quality requirements.
Food business operators need training in meeting general hygiene requirements for food processing and modern food safety and quality management practice such as GMP, HACCP and the ISO quality management systems.

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Annexes

Table A 1. V*ariation of exports of meat, dairy, vegetables and fruit products from the Republic of Moldova to Russia (in %)*

		Annual variation Sept 2013/Sept 2014	Monthly variation Aug 2014/Sept 2014	Annual variation Oct 2013/Oct 2014	Monthly variation Sept 2014/Oct 2014
0202	Meat of bovine animals, frozen	0.00	0.39	0.00	0.00
0405	Butter and other fats and oils derived from milk	4.00	0.00	0.00	0.00
0710	Vegetables, uncooked or cooked by steaming or boiling in water, frozen	0.45	0.15	0.00	0.00
0804	Dates, figs, pineapples, avocados, guavas, mangoes and mangosteens, fresh or dried	4.55	0.15	0.00	0.00
0806	Grapes, fresh or dried	1.02	0.77	0.00	0.00
0810	Strawberries, raspberries, blackberries, black, white or red currants, gooseberries and other edible fruit n.e.s., fresh	14.88	1.37	0.00	0.00
0813	Apricots, prunes, apples, peaches, pears, pawpaws, tamarinds and other dried fruit	4.70	0.00	0.00	0.00

Source: own calculations based on UN Comtrade data base (http://comtrade.un.org/data/)