

Moldova's security in the context of the Russian-Ukrainian war and Transnistrian Separatism

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President of Moldavian Academy of Sciences, 2004-2018

President of the Moldovan Chemical Society

Erice, 9 August 2024

Who are am?

Academician, Professor Gheorghe DUCA



I am Chemist, Physical and Ecological Chemist.
Author of over 400 scientific papers, 165 patents.
Head of laborrtory of Physical and Quantum chemistry.
Institute of Chemistry, USM.
President of the Society of Chemists of the Republic of
Moldova.

President of the Academy of Sciences of Moldova, 2004-2018

Between 1988 and 1992 I was head of the Department of
Physical Chemistry

Between 1989 and 1992 he was an associate professor at the
University of Rome "La Sapienza"

Between 1992 and 1998 I was head of the Department of
Industrial and Ecological Chemistry

Moldova is located between Romania and Ukraine and is divided by War, forming the Transnistrian region, not recognized by anyone, not even by Russia.

Area: Moldova – 30, 000 km²; Transnistria – 3,000 km².

Population: Moldova – 2,5 mln; Transnistria – 200 thousand.

GDP: Moldova – 16,5 billion \$; Transnistria – 1,0 billion \$



Moldova and Transnistria General Data

	Republic of Moldova	Transnistria
Status	Worldwide recognized State, independent from 1991, after collapse of USSR	Unrecognized state
Area	Including Transnistria - 33,843 ^[7] km ² (13,067 sq mi) Excluding Transnistria - 30,334 km ² (11,712 sq mi)	3,163 km ² (1,607 sq mi)
Population	(2024, estimate) – 2,512,758	(2024, estimate) - 207,776
GDP Total	\$16.5 billion	\$1.0 billion
Government	Parliamentary Republic	Presidential non recognize Republic

**What are the reasons behind
Transnistrian separatism?**

**Are they ethnic, economic, geopolitical,
influenced by Russia,
or something else?**

The main causes of Transnistria separation from the Republic of Moldova

- 1.Cultural-linguistic:** the dissatisfaction of the Russian speakers with the introduction of the Romanian language as the state language;
- 2.Territorial-statutory:** the conflict with the Moldovan constitutional authorities occurred due to the occupation of a part of the territory of the Republic of Moldova;
- 3.Geopolitics:** creating the political pressure platform to keep Moldova in Russia's sphere of influence, to prevent potential union with Romania;
- 4.Socio-economic:** the threat of the loss of resources and industrial capital allocated to the region to the left of the Dniester, as a result of leaving the Soviet economic space;
- 5.Socio-ideological:** mobilization by nomenclature of the masses, characterized by socialist and pro-Soviet sentiments;
- 6.Ethno-demographic:** the re-emergence of inter-ethnic tensions, creation an identity barrier between speakers of Slavic languages and Romanian-speaking ones.

Ethnic Structure

Ethnic Groups (2015 census)	Moldova Population 2.998.235	% from total
declared Moldoveni	2.068.058	75,1 %
declared Români	192.800	7,0%
Ukrainians	181.035	6,6%
Gagauzians	126.010	4,6%
Russians	111.726	4,1%
Bulgarians	51.867	1,9%
Poles	1.404	0,05%
Jews	1.601	0,05%
Gypsies	9.325	0,3%
Others	10.900	0,5%

Transnistria Population 475.373	% dfrom total
156.600	33,0%
253	0,05%
126.600	26,7%
5.700	1,2%
161.300	33,0%
13.300	2,8%
1.000	0,2%
659	0,11%
507	0,09%
5.700	1,2%

Transnistria Economy

Transnistria territory had a relatively developed economy, having numerous factories and industries - 80% in URSS.

The local elite and economic leaders in the region had a major interest in maintaining separate control over economic resources and industrial infrastructure.

Transnistria presents a unique case in terms of economic development.

Several factors contribute to this development:

1. Industrial Base.

Key industries include heavy machinery, steel production, textiles, and electrical equipment.

2. Strategic Location

3. Foreign (Russian) Investment

4. Energy Resources

5. Economic Policies

Challenges and limitations

1. Lack of international recognition
2. Political instability
3. Dependence on Russia

Transnistria's economic development is the result of its Soviet industrial heritage

Transnistria Export

- **Export is limited to 3 dominant industrial sectors:**
 - **Metals and metal products,**
 - **Energy production**
 - **Light industry products (about 80% of total exports)**

About 87% of the region's exports to the EU, non Russia, are specifically oriented towards the three markets:

The main partner is **Romania, 60%**, which absorbs about half of the region's exports to the EU.

Other important EU trading partners are **Italy and Germany.**



Geopolitic and Russia's influence

- **Transnistria serves as a geopolitical lever for Russia to exert its influence on Moldova.**
- **Russia saw Transnistria as an outpost to maintain its influence in Eastern Europe and to counter the enlargement of NATO and the European Union to Russia borders.**

Moldova's attitude towards Transnistria

Moldova has tried over the years to resolve the conflict through negotiations and diplomatic dialogue.



The Moldovan Parliament adopted in 2005 the "**Law on the legal status of the localities on the left side of the Nistru**".

The law stipulates that Transnistria will be constituted in a special autonomous territorial unit, within the Republic of Moldova.

The law on the basic provisions of the legal status of the localities on the left side of the Dniester

- The law stipulates that Transnistria has its own symbols, which apply alongside the symbols of the Republic of Moldova.
- Transnistria also has the right to establish foreign relations in the economic, technical-scientific and humanitarian fields.
- The law provided for the fulfillment of the official languages in Transnistria are "Moldovan", Ukrainian and Russian.



Transnistria War

- The Transnistrian war is an armed conflict, in our opinion, imposed by Russia in 1992.
- In that period there were 28 thousand soldiers in Transnistria, and 25 thousand in the Republic of Moldova.
- 800 people died in the war from Transnistria and 300 people from Moldova.

Transnistria	Republic of Moldova
Participated	
14,000 regular troops 9,000 militia over 5,000 volunteers	Around 25.000 in total
Total Losses 1,859-1,904	
364-813 killed	279-324 killed
624 wounded	1,180 wounded



Moldova versus Transnistria: Military Status is Different

- **Now Moldova counts about 6,000 soldiers in its small army, while Transnistrian military forces number is 15,000 soldiers.**
- **Moreover, while the Moldovan army has no warplanes or tanks, the Transnistrian army has both.**



Russian military presence in Transnistria

- The Government of Moldova currently views the presence of Russian troops in Moldova as illegitimate.
- In 2022, the Parliamentary Assembly of the Council of Europe recognized Transnistria as Moldovan territory occupied by Russia.



Russian forces in Transnistria



- Besides of soldiers, Russian forces have equipped with:
- 18 heavy tanks,
 - 73 field guns
 - 173 tank destroyer units.
 - 107 armoured personnel carriers,
 - 46 anti-aircraft installations, and
 - 5 helicopter.
 - 6 aircraft

The largest illegal arms depot in Eastern Europe – Cobasna Ammunition Depot

- The military depot at Cobasna was created in the 1940s after the second World War.
- The complex occupies about 100 hectares, where up to 50,000 tons of weapons and ammunition were stored initially.
- The most of the ammunition was stored here after the withdrawal of Soviet troops from the former GDR, Czechoslovakia and other countries of the socialist camp.
- Currently, about 20,000 tons of weapons and ammunition are still left and stored at this depot.



The largest illegal arms depot in Eastern Europe



There are some photos from Cobasna Depot.

In 2002, when i was minister of environment, I was the chairman of the commission for examining the situation at the Security Council of Moldova. The situation was very serious and we brought arguments in favor of liquidating the deposit.

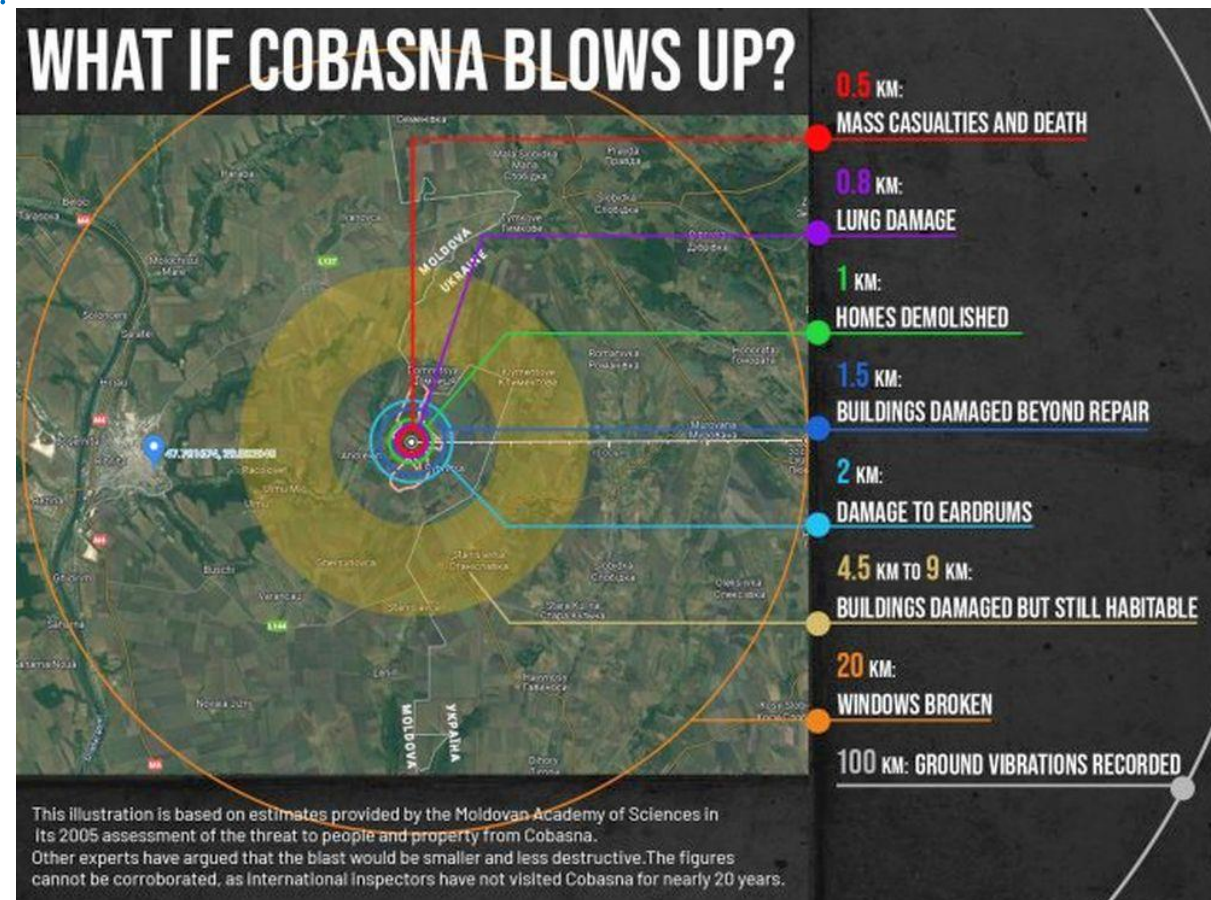
Impact of possible explosion of Transnistrian deposits

Several experts estimated the possible effects of the explosion of the military warehouse in Cobasna:

- it can be compared to the detonation of a 10-kiloton nuclear bomb, which was dropped on the city of Hiroshima in 1945.

- As a result, a crater with a radius of 1.5 kilometers and a depth of 75 meters appeared. The range of the explosion can reach 40-50 kilometers. Therefore, the effects of the explosion can be compared to the damage caused by an earthquake of 7-7.5 degrees.

- it will lead to a humanitarian and ecological catastrophe in the region of Moldova and Ukraine on an area of 500 to 3000 square kilometers.



Withdrawal of Russian troops and ammunition

At the 1999 OSCE summit in Istanbul, Russia decided to completely withdraw its armed forces from the territory of Transnistria by the end of 2002 and to eliminate ammunition and destroy non-transportable weapons, goals that have not been achieved since.



Negotiations

In November 2003, the Russian authorities proposed a memorandum on the creation of an asymmetrical Moldovan federal state, with Moldova holding the majority and Transnistria being a minority part of the federation.

Known as the "Kozak Memorandum", but it was proposed to give Transnistria veto powers over future constitutional changes, but Moldova was against it.

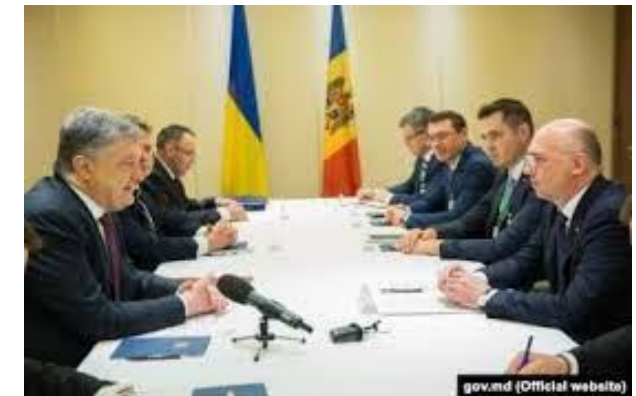
Influence of the Russian Invasion to Ukraine

- After the annexation of Crimea in March 2014, the head of the Transnistrian parliament asked to joint with Russia.
- After the start of the Russian invasion of Ukraine in 2022, Ukraine close the border with Transnistria.



Reintegration of Moldova with Transnistria

- The existence of Transnistria limits the European future of Moldova.
- The Ukrainians' proposal is that the Transnistrian problem should be solved by military means.
- A short and victorious war will eliminate the Operational Group of the Russian Forces from the left side of the Nistru.
- Moldova does not agree with this.





**This journal ask:
Outside the Transnistrian Dilemma,
what is the Geopolitical Enigma of Moldova?**

<https://www.e-ir.info/2024/03/26/opinion-geopolitics-of-transnistria-a-momentum/>

- The war in Ukraine has undoubtedly affected Moldova's geopolitics and put Moldova in the EU accession process.
- Indeed, 59% of Moldovans were in favor of EU integration.
- Therefore, Moldovan politicians should play the geopolitical game very seriously in order to avoid unexpected results

Reintegrate

Moldova and Transnistria are two parts of the same people –"Moldovan" and we must find a peaceful and lasting solution for reunification

I would like to express my gratitude Prof. Zichichi for the WFS Scholarship. Here are presented the 10 winners of the Scholarship Programme in 2023 year.

Mariana ULINICI
"Nicolae Testemitanu" State University of Medicine and Pharmacy of the Republic of Moldova
Domain: Medicine and Biotechnology
"Neutralizind Antibody Activity in Recovered COVID-19 Patients and in SARS-COV-2 vaccinated individuals from the R. M."

Aighiuni BAHSIEV
Institute of Genetics, Physiology and Plant Protection, MSU
Domain: Food
"Monitoring of 'Candidatus Phytoplasma solani' spread in tomato, apples and main plant host"

Catalina NEGOITA
Technical University of Moldova
Domain: Food
"Valorization of bioactive compounds in local plant agri-food waste materials for functional food products"

Tatiana BUNDUC
Institute of Ecology and Geography, MSU
Domain: Soil
"Effects of land use changes on soil degradation. Case study: Tigheci catchment"

Elena NEGUTA
Institute of Chemistry, MSU
Domain: Medicine and Biotechnology
"Synthesis and study of coordination compounds of Cu(II) and Bi(III) with aminopolycarboxylate ions and thiosemicarbazones of 2-formylpyridine and its derivatives"

Ana MUTU
Moldova State University
Domain: Climatic Changes
"Impact of climate changes on the productivity indices of sunflower crop in different agricultural regions of the Republic of Moldova"



Dumitru STATI
Institute of Applied Physics, MSU
Domain: Science and Technology for Developing Countries
"Multifunctional metal-organic materials based on carboxylated homo- and heterometallic Co/Co-4f clusters"

Cristina TUGULEA
Institute of Zoology, MSU
Domain: Global Monitoring of the Planet
"Monitoring of lepidopteran species (Insecta: Lepidoptera) from the UNESCO Biosphere Reserve "Prutul de Jos" from the R. M."

Tatiana MALCOVA
"Nicolae Testemitanu" State University of Medicine and Pharmacy of the Republic of Moldova
Domain: Medicine and Biotechnology
"The Applicability of Decellularized Vascular Matrix as a Bioscaffold in Vascular Tissue Engineering"

Florentina JOMIR
Moldova State University
Domain: Limits of Development
"Development of the Environmental Economic Accounting and Reporting Framework for Land Resources in the Context of the Limit Development Theory. Case Study: Agribusiness in the Republic of Moldova"

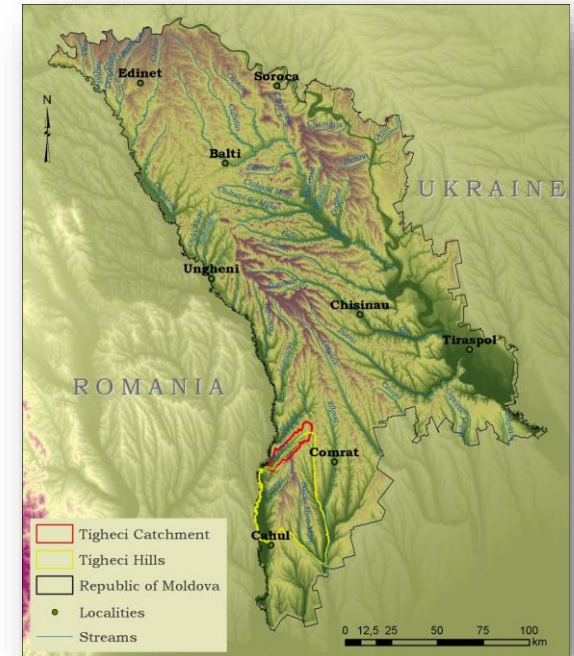
***Obtained results of the
Scholarship fellows of the WFS
Moldova for the year 2023***

The research results were disseminated in:

- **5** Articles in International Scientific Journals with IF;
- **9** Articles in National Scientific Journals of Republic of Moldova;
- **30** Articles/Thesis in International and National conference books;
- **2** Patent Application.

The importance of the studies carried out for the Republic of Moldova:

1. Was investigate the physicochemical composition of hemp seed cake flour, its nutritional quality and its impact on bread quality parameters. Hemp seed cake proved to be an important source of high-quality protein with the presence of eight essential amino acids.
2. Identification and monitoring of 'Candidatus Phytoplasma solani' in different local tomato, apple, and wild plant varieties was carried out.
3. Studying the antibody potency in protection from SARS-CoV-2 infection and creating the premises for evidence-based decisions of Moldovan authorities in population immunization against SARS-CoV-2.
4. Were studied the effects of land use change on soil degradation in a relatively small catchment with huge agricultural potential;
5. Was to investigate the impact of climate changes on sunflower production over the period 2015-2020. Several local hybrids were evaluated regarding resistance and adaptation to risk factors.
6. Was demonstrate the necessity of a framework for environmental accounting focused on the natural resource of land and create guidelines for establishing one that would be applicable for the agricultural companies in the Republic of Moldova.



Thank you for your attention!