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POLITICAL ECONOMY OF FOOD SYSTEMS: AFRICA AND THE RUSSIA-UKRAINE WAR

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Abstract. This article examines the connection between political developments, economic structures, and food systems in Africa, focusing on the Russia-Ukraine war. The article explores how the prevailing political economy influences food production, distribution, and consumption, identifies the conduits through which the war impacted the food system value chain, and proposes how national and local governments can build resilient food systems capable of meeting the population's food needs amidst crises. The findings show that the war affected Africa's food system mainly by disrupting the supply chain of commodities that Africa used to develop and sustain its food system. The war disrupted inputs, energy, and food products from Russia and Ukraine to African countries that depend on these countries for these commodities. The article also proposes response mechanisms to the impacts of the war and how African countries can navigate future disruptions and build resilient food systems capable of meeting the population's food needs. The article could be exciting for politicians and policymakers working on food security, food sovereignty, and diplomatic issues.

Keywords: *Africa, agriculture, food systems, Russia and Ukraine war.*

Rezumat. Articolul examinează legătura dintre evoluțiile politice, structurile economice și sistemele alimentare din Africa, concentrându-se pe războiul Rusia-Ucraina. Articolul explorează modul în care economia politică dominantă influențează producția, distribuția și consumul de alimente, identifică canalele prin care războiul a afectat lanțul valoric al sistemului alimentar și propune modul în care guvernele naționale și locale pot construi sisteme alimentare rezistente, capabile să satisfacă nevoile alimentare ale populației în timpul crizelor. Descoperirile arată că războiul a afectat sistemul alimentar al Africii în principal prin perturbarea lanțului de aprovizionare cu mărfuri pe care Africa le-a folosit pentru a-și dezvolta și susține sistemul alimentar. Războiul a perturbat inputurile, energia și produsele alimentare din Rusia și Ucraina către țările africane care depind de aceste țări pentru aceste mărfuri. Articolul propune, de asemenea, mecanisme de răspuns la impactul războiului și modul în care țările africane pot naviga în viitoarele perturbări și pot construi sisteme alimentare rezistente, capabile să satisfacă nevoile alimentare ale populației. Articolul ar putea fi captivant pentru politicienii și factorii de decizie care lucrează la securitatea alimentară, suveranitatea alimentară și problemele diplomatice.

Cuvinte cheie: *Africa, agricultură, sisteme alimentare, război dintre Rusia și Ucraina.*

1. Introduction

In August 2022, the *Razoni* cargo ship, which carried about 26,000 tonnes of grain, slowly sailed out from the port of Odesa under the United Nations-brokered Black Sea Grain Initiative. The ship became the first to leave Ukraine since the Russia-Ukraine conflict outbreak in February 2022. The war had blocked food transportation from a region that constitutes 30% of the world's grains and the source of 12% of globally traded calories [1]. Before the war, Ukraine supplied 42% of sunflower oil, 18% maize, 14% wheat, and 10% barley to the global food market. Russia also contributed 21% sunflower oil, 16% maize, 9% wheat, and 10% barley [2]. The two warring countries were major exporters of fertilisers, minerals, agricultural products, and energy to other global regions, including Africa [3]. The war demonstrated how food systems are by-products of numerous factors, including agriculture policy, politics, and the broader economy. It highlighted the supremacy of political economy (the interplay between politics and economics) to food systems (intricate networks related to agricultural and food production and consumption) at the international level. This demonstrates the centrality of the political economy in food access and utilisation, yet comprehensive exploratory investigations on the political economy of food systems amidst crises remain scant.

While many studies on food prices and subsidies and how these factors relate to hunger, undernourishment, and food production and consumption exist [4-7], studies that explore the political economy within the context of a crisis are limited. Most previous studies identify household aspects as major determining factors of food security, while community and regional aspects have not received satisfactory attention. This is despite the fact that food access and utilisation are sometimes used as a war weapon, an instrument to punish political opponents and a tool to accrue political capital politicians [8]. This article, therefore, seeks to close this knowledge gap in literature. The concept of political economy is used in this article to generally denote the combined and networking effects of economic and political structures or processes. Karl Marx, one of the leading philosophers on political economy, described it as a combination of political and financial circumstances of a particular location (community, country, region, continent, or even the world), taking into account the location, population, various classes, production patterns, export and import, consumption, and commodity prices, and so forth [9]. In the context of food systems, viewed this way, political economy gives insight into how a particular food system is impacted by the various processes unfolding elsewhere. For Marx [9 p. 41], the approach provides an understanding of the "rich totality of many determinations and relations" and the 'concrete' understanding, which emerges through "iterations between conceptual abstractions and detailed empirical observation…" In a globalised world, food systems are now highly dependent, feeding into and drawing from each other [10]. Smooth functioning depends on the overall harmony of all the systems interacting with each other. Many factors can change a food system. These factors can be through external or internal forces or both and the feedback mechanisms between these interactions.

The article (i) explores the effect of the Russia-Ukraine war on African food systems, (ii) identifies the conduits through which the war impacted the food system value chain, from pre-production and production to storage, processing, and distribution to food consumption within households and other food outlets, and (iii) proposes how national and local governments can build resilient food systems capable of meeting the population's food needs amidst crises. The article provides critical insights to policymakers on understanding food

system opportunities and challenges during a crisis. It draws attention to how a crisis can further slay human lives and complicate possibilities for quick recovery following a crisis. The article also exposes how politicians often manipulate food systems to increase political capital, thus frustrating the realisation of Sustainable Development Goals (SDGs). It also flags the necessary investments that national governments can make to make their food systems independent and more resilient.

This article is organised as follows: after the introduction, the research method for the article is presented. The article then presents food systems as a conceptual framework and reviews the related literature. This is followed by the presentation of findings and their discussion. Lastly, conclusions are drawn from the findings and the discussion.

2. Materials and Methods

This article deployed a conceptual research design to explore the effects of the Russo-Ukrainian war on African food systems. This approach was vital because it did not involve conducting practical experiments or gathering new empirical data [11]. The approach is based on observing and analysing existing information on the topic. The key advantages of the approach are that it involves few resources compared to other types of research where practical experimentation is required and saves time and assets. It only utilises the assessment of existing writing [12]. Its disadvantages, however, are that conclusions and recommendations are drawn based on literature instead of empirical investigation [11,13].

The article relied on grey literature (institutional reports, newspaper articles, and blogs) and academic literature (journals, chapters, and books). The articles for analysis were identified in Google Scholar and Scopus databases. These databases were preferred because they did not require any institutional login details. The search words used were 'Russia and Ukraine war', 'Russo-Ukrainian war', 'food security', and 'food system'. In addition to having at least two of the keywords in the title, abstract, or keywords, the articles needed to have the term 'Africa' in the title. It also needed to have been published between March 01, 2022, and September 30, 2024, written in English and downloadable, focusing on food security or food systems and Africa. The initial search yielded 654 articles, of which 379 were immediately excluded because they were published before the conflict began in February 2022. In addition, 72 articles were excluded because they were not in the two databases. Another 27 articles were excluded because they were not in English, and their translation was unavailable.

Furthermore, 37 articles were excluded because they were not downloadable, while another 84 were excluded because they were not in Africa. Lastly, 31 articles were excluded because, although they explored the Russo-Ukrainian war, they did not explore its impact on food security or food systems. Eventually, 24 articles were selected for analysis. These articles are summarised in Table 1.

Table 1

An overview of literature on the Russia-Ukraine war

Articles	Pre-production	Production	Processing/ Packaging/ Storage/ Distribution	Consumption
Antwi-Boateng & Al Nuaimi [14]		√		
Duho et al. [15]	√	√	√	√
Chihwai [16]				

Continuation Table 1

Mhlanga & Ndhlovu [17]	√			√
Mhlanga & Ndhlovu [18]		√		
Ndhlovu & Dube [19]	√			
WFP [20]		√		
Aidi [21]		√	√	
Mhlanga & Ndhlovu [22]	√	√	√	√
Berahab [23]	√		√	√
Tinarwo et al. [24]	√	√	√	
Hatab [2]	√			√
Zindi [25]	√			√
Wudil et al. [26]	√	√		√
One Africa [27]		√		√
Papadavid [28]	√	√		√
Mlaba [29]	√	√		√
FEWSNET [30]	√	√		
Raga et al. [31]	√			
Lopes [32]	√			
Ngepah [33]	√			
Ndhlovu & Mhlanga [34]	√			
Hackenesch & Lacher [35]	√			√
Wang et al. [36]	√			√
Total – 24 articles				

Note: √ denotes that a particular article (in the row) covers a particular food system component (in the column).

The selected articles were read through to ensure that they focused on food security or food systems in Africa. Latent content analysis, a method whereby meaning is deduced from what is contained in a text(s) – was used to establish how the war has impacted Africa's food system. Latent content analysis provided in-depth insights into how the war is perceived as having impacted Africa's food system. Thematic data analysis was used. The key components of a food system were used: production, processing, transportation, and consumption. The pre-production component was also added due to its prevalence in the article. Most of the selected articles covered more than one component of the food systems and were, therefore, recorded as such in Table 1.

The research method utilised offered key benefits: it is easily replicable, and researchers can utilise the same texts used in the study to verify the conclusions reached. The method was also affordable and did not require any use of special software. In this way, regardless of experience, researchers can easily follow up on the results reported here by going through the methodology deployed.

The use of secondary literature, however, has particular limitations. The inclusion of articles only published in Scopus and Google Scholar and grey literature mainly by international policy organisations could have excluded other relevant publications from other sources. In addition, the choice of search words could have influenced the selection of articles. Furthermore, the Russia-Ukraine war is still unfolding, and new studies currently underway may uncover new facts. The author acknowledges these limitations.

3. Food Systems: A Conceptual Framework

The war between Russia and Ukraine has had enormous impacts on food systems, thus significantly touching the nerves of the food security conditions of countries. By definition, food systems include the entire array of actors and their interwoven value-adding actions

engaging in the production, processing, distribution, and consumption of food products produced from agriculture, forestry or fisheries, and food industries, and the broader economic, societal, and natural environments in which they are [37,38]. The first point of production in the value chains is traditionally viewed as farming communities. However, other actors are in the pre-production category, such as input industries that produce fertilisers, pray chemicals, and seeds (even though seeds come from farming itself). The range of actors also involves science, technology, and innovation actors that may seem detached and yet integral to the food system. Food and non-food inputs result from interwoven value chains within food processing industries. Other pertinent food system actors, such as public and private quality and safety control bodies, are connected to these value chains. Every food system is a set of activities contributing to food availability, access, and utilisation (see Figure 1).

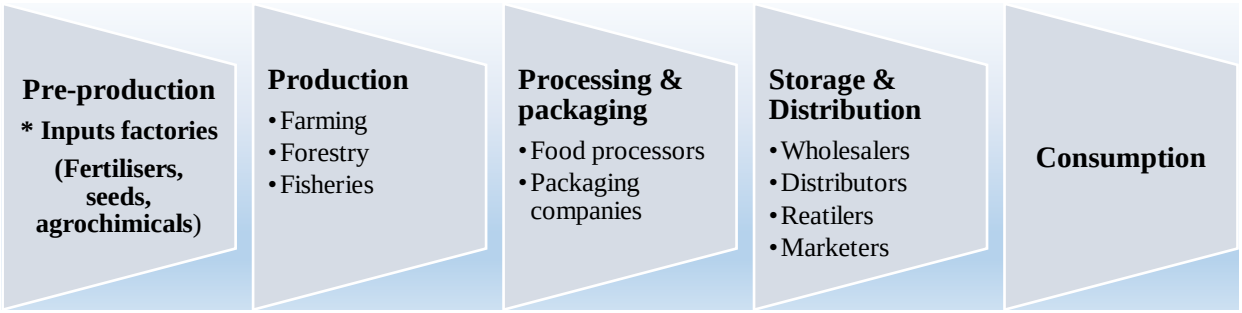

Figure 1. Food system value chain.
Source: Author.

In addition to the food systems direct actors listed in Figure 1, other actors, which include national and local governments, civil society, non-governmental stakeholders, lawmakers, policymakers, land activists, and/or lobbyists, also influence the food environment through their actions and decisions [39].

For a food system to be regarded as sustainable, it has to deliver food security and nutrition for all in a manner that safeguards the socioeconomic, cultural, and environmental bases of food production for use by future generations [6]. The interface of the components of a particular food system is fundamental to ensuring its sustainability. Exchanges and dynamics between and among the actors in the system generate new properties that may not be located in or explained by a single component or sub-component but are characteristic of the entire system [40]. Just like social, economic, and environmental factors, the prevailing political scenarios also wield much influence on how food system activities unfold, generating multiplier effects. Political conflict is one of the significant causes of food insecurity globally because it is detrimental to food system components [18]. Using the Russia–Ukraine conflict, this article offers insights into how conflicts affect food systems.

4. Literature Review: Food and Nutrition (in)Security in Africa

The literature on the impact of the Russia-Ukraine war on humanity and its activities is increasing [7,41]. Hunger and malnutrition are among the key challenges that Africa faces. These are triggered by numerous factors ranging from war and conflict, leader deficit, climate change, and pandemics, such as COVID-19. The Russia-Ukraine war only arrived to complicate the situation.

The war also has risked the possibility of the global achievement of the fight against poverty and hunger (SDGs 1 and 2). Before the Russia-Ukraine war, hunger was already on

the rise across countries, thus threatening the SDG agenda [7]. The UN [42] also reported that the fight against hunger and food insecurity was already not on track even before COVID-19. The war exacerbated the situation. Africa was identified as among the global regions which experienced severe challenges in eradicating hunger [4,6]. This region had conflicts and insurgencies which severely affected food production, transportation, and utilisation [43]. For instance, in 2017, a war in South Sudan plunged 42% of the country's population into severe food insecurity [44]. Somalia, South Sudan, Chad, and the Democratic Republic of Congo have also recorded very high child undernourishment and under-five mortality rates due to their political instabilities [44]. In Zimbabwe, high food insecurity and stunted food systems have been linked to the historical standoff between the ruling party and leading political groupings, particularly following the short-circuited land redistributions of the early 2000s [45]. In 2021, 18 African countries experienced armed conflicts [46]. In 12 of these, significant deaths were recorded [46]. This was also felt in agriculture and across the entire food system chain. According to Shararah [47] and Kang [48], the instant effects of wars and conflicts on food systems are a drop in overall agricultural production and a destabilisation of the market systems, resulting in general price hikes, food shortages, and subsequent food insecurity and hunger.

The challenges being experienced in Africa's food system are also linked to the region's leadership crisis. According to Duho et al. [15], leadership deficit has retarded efforts against hunger and food security prospects across African countries. This crisis has resulted from weak, misplaced, and disruptive projects, including those that directly affect the agriculture sector. For instance, the adoption of Structural Adjustment Programmes in the 1980s left many African farmers without the support of governments, thus resulting in a significant collapse of agriculture. In Cameroon, the devaluation of the currency in line with SAPs reduced land access by households who traditionally contributed significantly to food production for local consumption [49]. Sahn and Arulpagasam [50] also found that following currency devaluation, land occupied by estates soared from 300000 hectares to 843000 hectares in 1980. In Malawi, land inequality also worsened the anti-poor distribution of rural grains. Before the liberalisation of the market in the 1980s, over 60% of peasant households had satisfactory access to agri-inputs, enabling them to make significant contributions to food production. After liberalisation, however, 20% of markets were reduced as companies shut down as they failed to adjust to the new reforms [51]. In Tanzania, farmers also began to experience challenges related to input access due to sudden high prices following the elimination of the 80% subsidy [52]. The fertiliser prices also increased to levels that many farmers could not afford, particularly smallholder and peasant farmers in Ghana and Kenya. This saw a sharp decline in the use of fertilisers by these farmers.

Similarly, their production levels also plunged. In Senegal, the market liberalisation and the discontinuity of input subsidies in 1980 affected fertiliser distribution, which subsequently affected groundnut production across the country [53]. Between 1980 and 1986, an 88% decline in fertiliser use was reported nationally [49].

Climate change and its associated natural hazards, such as drought, storms, floods, and cyclones, have devastated food and nutrition [54]. Climate change is implicated as having severely compromised food security and African livelihoods [55]. Chronic declines in agricultural productivity and water resources are pervasive in Africa. Numerous factors account for the region's susceptibility to natural hazards: the agriculture-dependent structure of the economy, high poverty rates, credit constraints, financial exclusion, adaptive

technology shortages, and rain-fed farming. It is predicted that climate change could severely disrupt food systems and decrease crop yields by 50%, thus causing about 20% of Sub-Saharan Africa (SSA) children to be undernourished by 2050 [56].

One of the indicators of a wounded food system on the continent is the frequency of undernourishment - understood as the percentage of the population whose usual food consumption is inadequate to provide the dietary energy levels essential for maintaining a standard and active life [57]. It is important to mention that most undernourished people in Africa are found in SSA. Table 2 shows the number of people undernourished in different African regions from 2005 to 2019. The data show that only North Africa has experienced a decline, while the rest of the sub-regions have recorded increases in undernourishment. Undernourishment is projected to rise to 25.7% in 2030 from 19.1% in 2019 [54].

Table 2

Undernourishment prevalence in Africa

Year	2005	2010	2015	2016	2017	2018	2019	2030
World	12.6	9.6	8.9	8.8	8.7	8.9	8.9	9.8
Africa	20.0	18.9	18.3	18.5	18.6	18.6	19.1	25.7
SSA	23.9	21.3	21.2	21.4	21.4	21.4	22.0	29.4
Eastern	32.2	28.9	26.2	27.1	26.8	26.7	26.2	33.6
Central	35.5	30.4	28.2	28.8	28.7	29.0	29.8	38.0
Southern	4.9	5.4	7.0	8.0	7.0	7.9	8.4	14.6
Western	13.8	12.1	14.3	14.2	14.6	14.3	15.2	23.0
Northern	9.8	8.8	6.2	6.3	6.6	6.3	6.5	7.4

Source: Author, Developed from FAO [34]
* Values projected up to 2030

The reviewed literature concurs that economic expression is the most effective way of addressing food system challenges [4,46]. The economic growth of any country is closely tied to the favourable functioning of its political system [45]. Therefore, dealing with hunger and food insecurity is also tied to the welfare of the broader economy, as supported by favourable politics.

According to Harrigan [58], the best strategy to fight hunger and poverty and ensure food system resilience is to increase economic growth through favourable democratic political systems. Poverty is well dealt with through targeted policies at national and regional levels. Thus, efforts to improve the functioning and resilience of a food system should target eliminating poverty through effective policies. A study of 14 countries in the 1990s established that although poverty declined in 11 countries with high economic growth, it increased in 3 countries with low or stagnant economic growth [26]. Chambo [59] found that a 1% increase in per capita income ignited a 1.7% reduction in poverty rates. However, SSA has had the world's most volatile economic growth rate, with the average annual growth rate of per capita real GDP from the mid-1980s to 1994 mainly negative and recovered to a mere 1.2% between 1995 and 1997 [26].

This has been partly due to political instability and political leadership's adoption of poor and misplaced policies [60]. Figure 2 summarises the economic journey of SSA from 1961 to 2021. Adam et al. [61] argue that due to internal and external shocks, SSA could take longer to recuperate economically and socially. Poverty and food challenges persist despite recent improvements in economic growth rates.

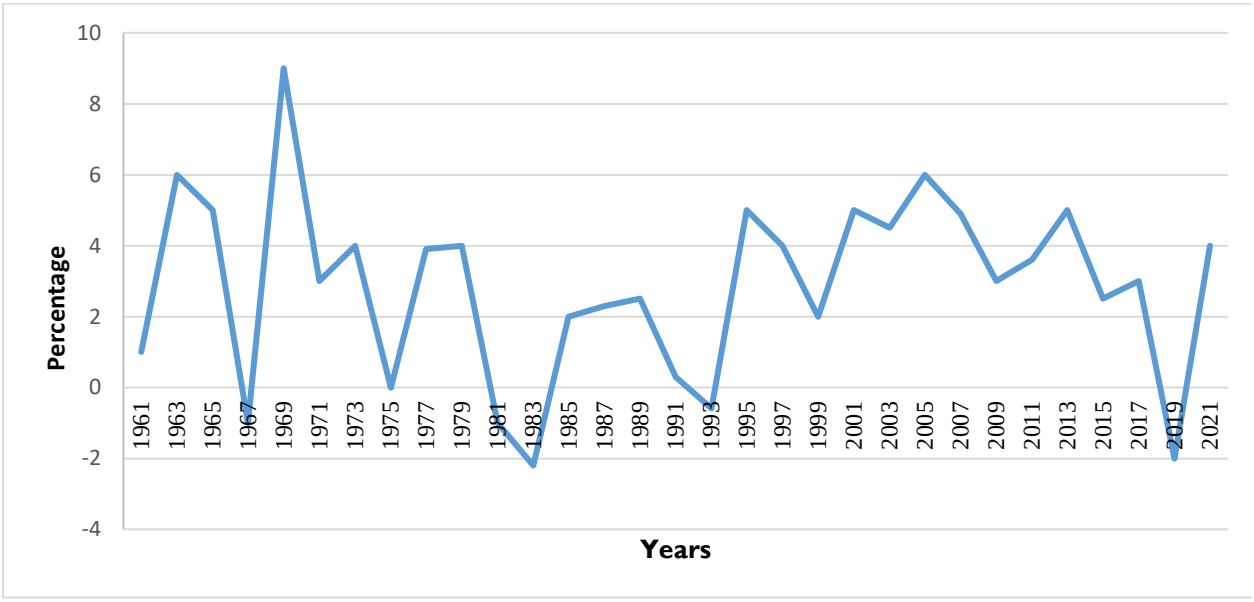

Figure 2. SSA economic growth over time.
Source: Author, Developed from various sources.

Several empirical studies found that price shocks have been the primary source of Africa's food system challenges. For instance, Wossen et al. [62] observed that child malnutrition increased when Mozambique increased food prices. A 50% rise in food prices ignited a 5.8% increase in poverty. This consequently affected other components of the local food system. Using data gathered from over 50000 individuals in 18 SSA countries, Verpooten et al. [63] studied how the worldwide food price crisis of 2005–2008 and the associated response mechanisms impacted household food security. They found that urban dwellers were the most affected, while rural folks seemed to fare smoothly. In particular, they found that the severity of food insecurity decreased by 9.2% in rural areas but increased by 7.8% in urban areas between 2005 and 2008. In Ethiopia, Matz et al. [64] found that the unstable price of teff resulted in people's destitution, causing them to reduce their daily meals. The urban poor resorted to skipping or missing meals. Lately, food prices have increased by double digits on average throughout SSA countries, with politically unstable such as Sudan and Zimbabwe recording over 180% increases [8] (see Figure 3).

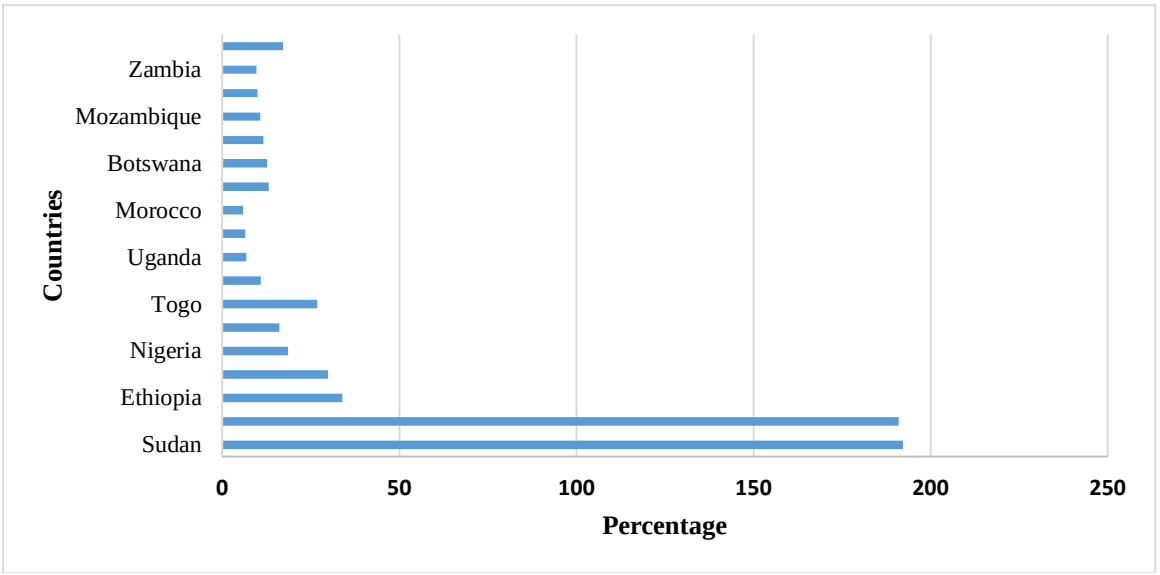

Figure 3. Average food inflation (March to August 2022).
Source: Author, Developed from various sources.

Between June and August of 2022, soaring food prices because of the war were the significant causes of the food insecurity of over 38 million people in SSA [8,15]. The below-average agricultural output in the 2021/22 season and disrupted trade flows triggered high food prices in Africa, particularly for staple products [8]. Of the more than 30 nations with food costs listed by FAO, a significant number was in Africa: Burundi, the Central African Republic, Chad, Côte d'Ivoire, the Democratic Republic of Congo, Eritrea, Ethiopia, Ghana, Guinea-Bissau, Kenya, Lesotho, and Liberia [15].

Agricultural productivity, particularly for crops, has been underperforming in SSA since the mid-1970s compared to other global regions [65]. Structural Adjustment Programmes from the early 1980s to the early 1990s only worsened the situation [10]. Since then, most SSA have been relying on food imports. SSA countries spent around US$43 billion on food imports in 2019, possibly due to decades of underinvestment and neglected public infrastructure [48,66], rapid population growth, climate change, underinvestment, and other challenges, including COVID-19. One key challenge closely related to this study and requiring expansion is the impact of conflict on Africa's food system.

Marx et al. [67] found that wars and insurgencies were the disruption causes to Africa's food system. von Grebmer et al. [68] approximated that US$52 billion or 75% of public aid meant agricultural development was lost to conflicts between 1980 and 1997 in SSA. Boliko [69] also found that about 79% of stunted children were found in regions currently in political instability. The UN also reported that over 34 million people in SSA were either undergoing or recovering from armed conflict and required food and other humanitarian assistance [70].

In Nigeria, Ghana, and Mali, conflicts between herders and farmers have significantly hampered food system operations [71]. Gangsters, terrorists, and criminals have forced significant proportions of farmers to abandon fields and flee to safety. For instance, in northeast Nigeria, Boko Haram and the Islamic State have forced approximately 2.5 million peasant farmers to flee their homes. Agunyai and Ojakorotu [72] estimated that over US$120 billion in agricultural output was lost due to conflicts and wars between 2016 and 2017 in Africa. In Nigeria and Cameroon, border violence has significantly disrupted food transportation and even production within borderland communities. The Ambazonian separatist grouping has forced many Cameroonians to migrate to Nigeria. In contrast, the Boko Haram rebellion has displaced people, including a significant number of farmers, towards Cameroon, Chad, and Niger [73]. Wudil et al. [26] estimate that nearly 4.3 million people in Cameroon need urgent food assistance due to conflicts in the sub-region.

The literature shows that food systems are not adversely impacted by wars and conflict within their immediate location but also those far off [46,48,70]. Therefore, the interconnectedness of countries and regions following the globalisation wave has introduced new challenges that were not previously imagined. In showcasing how food systems are affected by developments that unfold elsewhere, this article brings the Russia-Ukraine war into perspective. The literature on these issues is currently unfolding. The article, therefore, contributes to ongoing debates.

5. Results

This article's findings show that the ongoing Russia-Ukraine war has significantly affected most African countries' food systems since February 24, 2022. The impact of the war is felt through spikes in the prices of energy, food, and agricultural inputs caused by supply chain disruptions. At the time of writing, the war was still ongoing despite international de-

escalation efforts. The findings show that the war impacts Africa's food systems by affecting its components: pre-production, production, processing/packaging/storage/distribution, and consumption.

5.1. Pre-production

More than any other components of Africa's food systems, the Russia-Ukraine war significantly changed the pre-production component that forms the basis of food production. The diverse inputs (seeds, agrochemicals, fertilisers, and farm equipment) used in agriculture are sourced from actors within this stage of the food system value chain [15, 19]. The destruction of infrastructure in Ukraine (roads, ports, electricity grids, railways networks, factories, and communication networks) [23] and the shutting down of commercial shipping through Odesa and other ports in the Black Sea generated challenges for countries which receive commodities through such ports [24]. The shutting down of ports and the international sanctions executed on Russia have disrupted commodity flows between Russia and the world, including agricultural inputs that are basic to African agriculture [34]. Trade restrictions, airspace closure, contractor uncertainty and anxieties over security also drove up commodity transportation costs [2,26].

With most African countries relying on both Russia and Ukraine for agricultural inputs [25, 28], disruptions in supply chains adversely impacted planting cycles in the 2022-2023 but also the 2023-2024 season [31]. The rising costs of urea, ammonia, and phosphates soon cascaded into higher fertiliser costs [26]. After an 80% increase in 2021, the war added 30% by the beginning of May 2022 [32]. In Mozambique and South Africa, Ngepah [33] found that food insecurity was generated through the war's impact on agricultural inputs imports (e.g., fertiliser, fuel), vital for food production and its subsequent distribution. Before the war, in 2020, Nigeria imported fertiliser at the value of US$84.03 million from Russia, Ghana ($38.65 million), Côte d'Ivoire ($32.47 million), South Africa ($57.8 million), Angola ($2.72 million), Zimbabwe ($8.545 million), Tanzania ($25.58 million), and Uganda ($10 million) [15]. Hackenesch and Lacher [35] observed that by disrupting the commodity supply, the Russo-Ukrainian war exposed African countries' vulnerability to the political economy of the global capitalist system by affecting agricultural inputs and food commodities, particularly grains.

The war has also disrupted energy supplies to Africa. Energy is required for the smooth operation of diverse agricultural activities. Examples of energy use in agricultural production include fuel for agricultural equipment (tractors, trucks, water pumps, and many others) and production facilities, and other downstream activities, such as cooling, processing, transporting, and distributing food products [2,25]. Energy shortages have seen African countries scrambling for cheaper and dirtier fuels that will eventually damage equipment [36]. Only 11 countries are large oil and gas exporters, while the rest are net importers. With the ongoing conflict, higher energy prices can boost these countries while significantly affecting the rest of the energy-importing countries [15]. Before the war, energy prices were already rising due to many factors, such as COVID-19 and lower energy supplies. However, the prices are stable and within the US$80 and US$95 price range. After the invasion, oil prices topped USD$100 a barrel [35]. Because of Russia's large oil export shares, the war quickly ignited energy supply shocks and a continuous upsurge in energy prices [21]. These energy spikes compromised the capacity of African farmers to access fuel, considering the poor economies of their countries [18]. Most African countries preside over poor economies, largely agrarian, and with less determination towards industrialisation. Therefore, with the

competition for energy supplies, most of these countries are being hit hard by the volatility in oil prices. Countries such as South Africa, Namibia, Zambia, and Zimbabwe were already battling energy crisis before the war. The spikes in energy prices following the war have, thus, significantly slowed down manufacturing activities as high energy prices affect productive economic sectors as power crises continue [17]. Therefore, the war significantly disrupted the input base for African agriculture, undermining the entire food system.

5.2. Production

The Russia-Ukraine war is implicated in causing higher production costs for African farmers [14] and lower household incomes [28]. Russia is the major fertiliser supplier, which many African countries use to increase farm productivity [15,26]. Cuts in supplies triggered high prices of fertilisers, making it tough for African farmers, most of whom are smallholder and peasant farmers, to acquire fertilisers at affordable prices, thus directly adversely impacting productivity [17]. Lower productivity by farmers also negatively impacted the performance of other actors across the food system chain [20]. According to the WFP [20], about 4.05 million Zimbabwean people were food insecure in February 2023, partly due to the war, which stifled agricultural production. The 2022-2023 season in many African countries was also adversely affected due to input challenges, especially fertiliser [24]. The war triggered a shortage of agricultural machinery and equipment needed in countries like [16,21,24].

Overall, the findings illustrate that the war affected the African food system by undermining the agricultural input base. With no access to adequate inputs, African food production, which is dominated by smallholder peasant producers, struggled to meet the food needs of the foods of a region whose population is increasing.

5.3. Processing/Packaging/Storage/Distribution

The African food system's processing, packaging, storage and distribution components are discussed only in passing in the identified articles [16,21,24]. This component of the food system is discussed mainly alongside other components, particularly the pre-production and consumption components. However, the few existing articles on this component allude to the impact on transportation due to fuel shortages [15,23].

Overall, only a limited number of the selected articles focused on the impact of the war on processing, packaging, storage and distribution. This possibly highlights the continent’s limited participation in the value addition of agricultural products.

5.4. Consumption

The debates on the war's impact on the food system's consumption component abound. Virtually all the identified articles extensively commented on the war's impact on Africa's consumption. This possibly confirms the region as mainly a consumer. The war has heavily hit the continent, from energy and food to agricultural equipment [15, 23]. The war has underscored Africa’s dependency on other regions for its basic food products [74]. Africa emerged as a net food importer [15], exacerbating the food insecurity condition of countries on the continent [25]. The war heightened vacillations in agricultural products and food prices due to shortages in essential commodities [26]. The World Bank [75] confirms that due to the war, maize and wheat prices increased by 27% and 13%, respectively, in January 2023 compared to January 2021. This ignited food inflation, mainly in lower-income countries [15].

The impact has been severe in regions which depend on food imports from Russia and/or Ukraine, such as Africa [27], worsening the food poverty of millions of people [76].

Russia and Ukraine export maize, wheat, and barley grains to Africa. Before the war, the two countries collectively supplied wheat worth US$4.8 billion to Africa [76]. The two countries also have significant amounts of maize and sunflower oil in Africa [29]. From Ukraine, Libya imported US$264.66 worth of cereals in 2020; US$346.99 million in Tunisia; US$9.43 million in Kenya; US$17.79 million in Uganda; US$9.38 million in Somalia; and US$264.66 million in Sudan [23]. Figure 4 summarises the value of cereal imports by African countries from Russia.

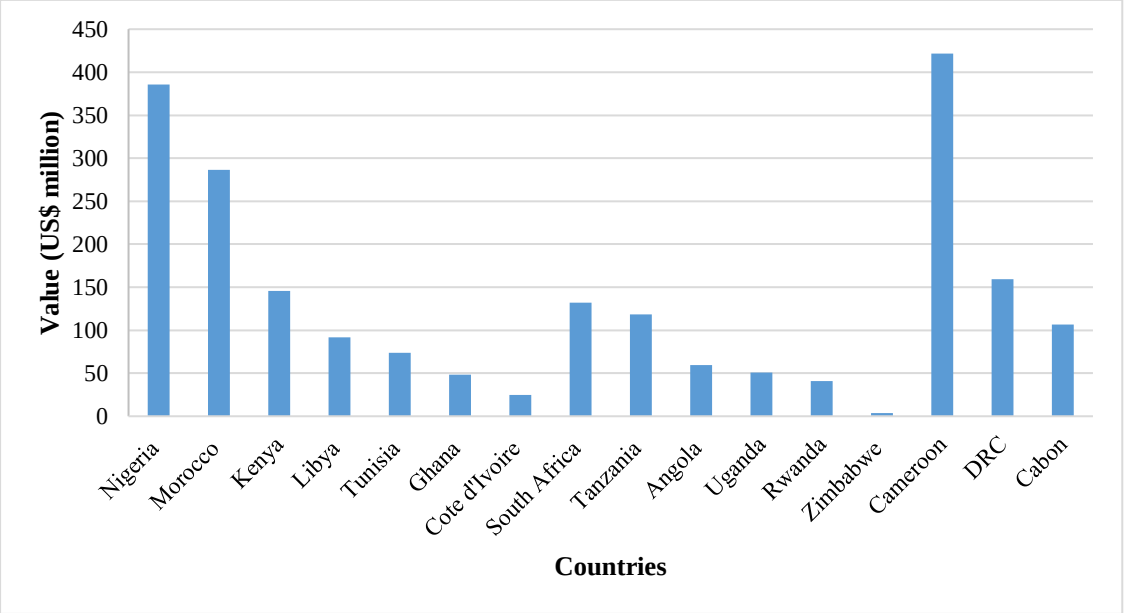

Figure 4. Cereal imports from Russia by African countries.
Source: Author: Adapted from various sources.

Southern Africa imported about 80% of its wheat from the two countries [29,77]. In East Africa, Burundi, Uganda, Rwanda, Tanzania, Somalia, and Sudan also imported about 50% of their wheat from the two countries [1]. Sudan imported as high as 75% of its wheat from the two countries. Other countries with high percentages of wheat imports from the two countries included South Africa (80%), Congo-Brazzaville (69%), and Senegal (66%) [2]. As soon as the war began, South Africa, Kenya, Uganda, Zimbabwe, Mozambique, and Cameroon recorded high price hikes in wheat and other food products as their wheat was mainly imported from the Black Sea region [29]. In Zimbabwe, for instance, the basket of basic food items rose by an average of 7% in US$ from March to September 2022. The staple maize meal increased by an average of 14%, while vegetable oil prices rose from US$2.07 per litre in January to US$3.23 in July [25]. Prices for maize grain in the Masvingo province, Zimbabwe, ranged between US$7 and US$8 per 20kg in 2023, up from US$5 to US$6 per 20kg in January 2022 before the war [30]. The surge in food prices threatened food access by the poor and vulnerable and further undermined their food security. The Russia-Ukraine war, therefore, touched all the nerves of Africa's food systems, much to the worsening of the situation in a region in which about 333 2 million people were classified as severely food insecure [78] while 20% were undernourished in 2016 [79].

6. Discussion

The disruption of Africa's food systems by the Russia-Ukraine demonstrates the interference of the political economy in local, regional, and global food systems. Findings show how political and economic events unfolding elsewhere easily spill over and become matters of concern. The article confirms early studies that have bemoaned the fatalistic implications of the Russia-Ukraine war on humanity and its activities [41,60]. While the war negatively impacts all global regions, Africa seems to be the most affected due to its high dependence outlook and agrarian nature. Since political independence in the early 1960s and 70s, African scholars have been lamenting the dependency syndrome that characterises countries on the continent [1,77,78]. African countries continue to rely on their former European colonisers to navigate social, political, and economic challenges. This syndrome has significantly compromised Africa's capacity to take bold steps towards realising its development. Thus, despite presiding over some of the best farmlands, the Russia-Ukraine war, in just two remote countries, has been heavily felt on the continent. While other global regions have been affected on the financial and energy fronts by the war, Africa has been affected right on the food front, with the food systems of most countries rendered dysfunctional.

The war demonstrated that most African countries depend not only on Russia and Ukraine for advanced commodities (improved inputs such as seed, spray chemicals, and equipment) but also on simple products such as maize, rice, barley, and wheat. This shows that Africa has failed to develop its agriculture sector due to its vulnerability to political and economic events afar off. However, Africa's dependency is confined not only to food access and production but also to innovation [1,79]. Africa has limited agriculture inputs production centres. Thus, equipment and inputs have to be imported. This has aggravated the continent's vulnerability to the impacts of the ongoing war.

As an agrarian community, the war has affected Africa across the food systems chain, from pre-production to consumption. The limited access to agricultural inputs immediately impacts production, processing, and, thus, consumption of food by households. Most African households rely on agriculture for their livelihoods and incomes [80]. Therefore, events affecting the agriculture sector are easily transmitted to most households. Furthermore, the majority of African food producers are smallholder farmers (around 80%) [81]. Limited financial resources by these farmers require governments to make sustained interventions to ensure access to the necessary inputs and markets. The disruptions of the input supply chain by the war, as well as the international sanctions on Russia, have, thus, complicated input access, significantly negatively impacting this agrarian region.

The impact of the war on Africa's food system is not uniformly felt across countries. Countries have also been affected on different fronts. For instance, South Africa, Egypt, Congo-Brazzaville, Senegal, and Morocco have been the most affected, particularly due to their reliance on the two countries for wheat [2]. Most of the other countries have been affected due to their dependence on inputs, particularly fertiliser and oil. Thus, the more the country is tied to the two countries' political economy, the more its food system has also been impacted.

Overall, the war has significantly impacted Africa's food system due to the importance of the two warring countries in terms of food products provision to Africa. The two countries supply most of the food grains (maize, wheat, and rice), inputs (fertiliser), and energy (fuel) to most African countries. For these reasons, the political and economic developments in the

two countries have easily affected Africa's food system, thus posing a food security challenge. Intervention mechanisms should include sustained diplomatic interventions to encourage Russia and Ukraine to de-escalate the conflict to avoid a global food security crisis. African governments must develop their food systems and ensure resilience to avoid susceptibility. This will enable them to only look to other countries for other products, such as fuel, which they cannot produce locally. In cases where African countries cannot make particular commodities for themselves and are forced to import, they should diversify where they import to avoid being stranded in localised disruptions.

7. Conclusions

This article examined the connection between political developments, economic structures, and food systems in Africa, focusing on the Russia and Ukraine wars. The article shows that the war disrupted global supply chains, from which African countries benefited immensely from the food and farming requirements. Most African countries acquire agricultural inputs such as fertilisers, seeds, and spray chemicals from Russia and Ukraine. They also source agricultural equipment from the two countries. In addition, most African countries acquire wheat, maize, sunflower oil, and fuel from Russia and Ukraine. As a result, the disruption in the supply chain in the Black Sea region and the international sanctions placed on Russia by the international community soon touched the nerve of Africa's food system, food pre-production (inputs), production (farming), distribution, and consumption.

The war has showcased how food systems are heavily tied to countries' and regions' political and economic systems. With malnutrition on the rise globally, it is more vital than ever to ensure functional diplomacy to resolve misunderstandings and problems at local levels before their effects can spill over. The war, however, also exposed the dependency syndrome in Africa. As an agrarian community with vast tracks of the best farmlands globally and vast traditional knowledge and expertise in smallholder farming, Africa's food system should have been one of the least affected by the war. External dependency on agriculture basic inputs seed should be one area that needs to be addressed as a matter of agency.

The article recommends that African governments learn from the war and develop their food systems to ensure resilience. This should be achieved through plant seed and fertiliser innovations so that countries can only look to other countries for other products, such as fuel, which they cannot produce locally. African countries should also diversify where they import particular products to avoid being stranded in localised disruptions. Future studies should explore how African governments can work together to strengthen their food systems.

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References

1. Mhlanga, D.; Ndhlovu, E. The Implications of the Russia–Ukraine War on Sustainable Development Goals in Africa. *Fudan Journal of the Humanities and Social Sciences* 2023, 16(4), pp. 435-454. https://doi.org/10.1007/s40647-023-00383-z.
2. Hatab, A.A. *Russia's invasion of Ukraine jeopardises food security in Africa*. The Nordic Africa Institute 2022. Available online: https://www.diva-portal.org/smash/get/diva2:1682307/FULLTEXT01.pdf. (accessed on 17/09/2024).
3. FAO. FAO food balance database. Food. Agri. Organ. United Nations Stat (FAOSTAT) 2022. Available online:

https://www.fao.org/faostat/en/#data/FBS (accessed on 14/02/2023).
4. Behnassi, M.; El Haiba, M. Implications of the Russia–Ukraine war for global food security. Nature Human Behaviour 2022, 6, pp. 754–755. https://doi.org/10.1038/s41562-022-01391-x.
5. Esfandabadi, Z.; Ranjbari M.; Scagnelli, S.D. The imbalance of food and biofuel markets amid Ukraine-Russia crisis: A systems thinking perspective. Biofuel Research Journal 2021, 34, pp. 1640-1647. https://doi.org/10.18331/BRJ2022.9.2.5.
6. Hidalgoa, D.M.; Nunna, P.D.; Beazleya, H. Challenges and opportunities for food systems in a changing climate: A systematic review of climate policy integration. Environmental Science and Policy 2021, 124, pp. 485–499. https://doi.org/10.1016/j.envsci.2021.07.017.
7. Ndhlovu, E.; Mhlanga D. The Politicization of the COVID-19 Pandemic in Zimbabwe and Implications on the Attainment of the SDGs.' In: Post-Independence Development in Africa Decolonisation and Transformation Prospects. Mhlanga, D.; Ndhlovu, E. (Eds.). Springer Cham, 2023, pp. 365-385. https://doi.org/10.1007/978-3-031-30541-2_20.
8. Mhlanga, D.; Ndhlovu, E. Introduction: Russo-Ukrainian war and global disruption. In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E.; Mhlanga, D. (Eds). Springer, Cham 2024, pp. 1-13. https://doi.org/10.1007/978-3-031-63333-1_1.
9. Marx, K. Grundrisse. Harmondsworth: Penguin, 1973. Available online: https://www.marxists.org/archive/marx/works/download/pdf/grundrisse.pdf. (accessed on 12/11/2024).
10. Ndhlovu, E. Land, agrarian change discourse and practice in Zimbabwe: Examining the contribution of Sam Moyo. (PhD thesis). University of South Africa: Pretoria 2021. Available online: https://www.researchgate.net/publication/364308067_Land_Agrarian_Change_Discourse_and_Practice_in_Zimbabwe_Examining_the_Contribution_of_Sam_Moyo (accessed on 11/11/2024).
11. Van der Waldt, G. Constructing conceptual frameworks in social science research. The Journal for Transdisciplinary Research in Southern Africa 2020, 16(1), a758. https://doi.org/10.4102/td.v16i1.758.
12. Creswell, J.W.; Creswell, J.D. Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. (6th ed.). SAGE 2022. Available online: https://www.amazon.co.za/Research-Design-Qualitative-Quantitative-Approaches/dp/1071817949 (accessed on 16/11/2024).
13. George, A.Z. Research frameworks: critical components for reporting qualitative health care research. Journal of Patient Centred Research and Reviews 2024, 11, pp. 4-7. https://doi.org/10.17294/2330-0698.2068.
14. Antwi-Boateng, O.; Al Nuaimi, M.H. Peripheral and Gender Perspectives: The Russia-Ukraine War and Africa's Response and Impact. Journal of International Women's Studies, 2023, 25(6), pp. 1-9.
15. Duho, K.C.T.; Abankwah, S.A.; Agbozo, D.A.; Yonmearu, G.; Aryee, B.N.A.; Akomanin, O. Exploring the Russo-Ukrainian Crisis and Its Impact on African Countries: A Cross-Regional Analysis. Dataking Policy Brief 5, Accra, Dataking Consulting 2022, 54 p. http://dx.doi.org/10.2139/ssrn.4085903.
16. Chihwai, P. Effect of the Russia-Ukraine War on Food and Hunger Sustainable Development Goals in Africa. In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E.; Mhlanga, D. (Eds). Springer Cham 2024, pp. 143-161. https://doi.org/10.1007/978-3-031-63333-1_9.
17. Ndhlovu, E.; Mhlanga, D. Towards a functional food system in Africa. In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E.; Mhlanga, D. (Eds). Springer Cham 2024, pp. 345-361. https://doi.org/10.1007/978-3-031-63333-1_21.
18. Mhlanga, D.; Ndhlovu, E. The Russia-Ukraine war: Global energy supply and sustainable development. In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E.; Mhlanga, D. (Eds). Springer Cham 2024, pp. 263-280. https://doi.org/10.1007/978-3-031-63333-1_16.
19. Ndhlovu, E.; Dube, K. Restaurants Industry Recovery Challenges from COVID-19 Amidst the Russo-Ukrainian War. In: COVID-19, Tourist Destinations and Prospects for Recovery Volume One: A Global Perspective. Dube, K.; Nhamo, G.; Swart, M.P. Springer Nature, Switzerland, 2023, pp.337-356. https://doi.org/10.1007/978-3-031-22257-3_18.
20. World Food Programme. Zimbabwe - Food Security and Markets Monitoring Report, 2023. Available online: https://reliefweb.int/report/zimbabwe/zimbabwe-food-security-and-markets-monitoring-report-january-2023 (accessed on 11/11/2024).

21. Aidi, H. The Russia-Ukraine War: Implications for Africa. Policy Brief PB - 22/22. Policy Center for New South 2022. Available online: https://www.policycenter.ma/sites/default/files/2022-03/PB_22-22_Aidi_0.pdf. (accessed on 17/10/2023).
22. Mhlanga, D.; Ndhlovu, E. A critical analysis of the sustainable development goals framework in the wake of the Russia-Ukraine conflict. In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E.; Mhlanga, D. (Eds). Springer, Cham 2024, pp. 51-67. https://doi.org/10.1007/978-3-031-63333-1_4.
23. Berahab, R. The Energy Crisis of 2021 and its Implications for Africa. Policy Centre for the New South. Available online: https://www.policycenter.ma/sites/default/files/PB_06-22_Berrahab.pdf. (accessed on 13/09/2023).
24. Tinarwo, J.; Erasmus, J.L.; Tinarwo, B.; Jena, F. Understanding the impact of the Russia-Ukraine war on food and nutrition security in Zimbabwe. In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E.; Mhlanga, D. (Eds.). Springer, Cham 2024, pp. 199-214. https://doi.org/10.1007/978-3-031-63333-1_12.
25. Zindi, B. Examining the impacts of the Russo-Ukrainian conflict on Zimbabwe's progress towards Sustainable Development Goal 2 (Zero Hunger). In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E.; Mhlanga, D. (Eds). Springer Cham 2024, pp. 215-229. https://doi.org/10.1007/978-3-031-63333-1_13.
26. Wudil, A.H.; Usman, M.; Rosak-Szyrocka, J.; Pilař, L.; Boye, M. Reversing Years for Global Food Security: A Review of the Food Security Situation in Sub-Saharan Africa (SSA). International Journal of Environmental Research and Public Health 2022, 19, 14836. https://doi.org/10.3390/ijerph192214836.
27. One Africa. Ukraine, and the New Geopolitics / IPI Global Observatory 2022. Available online: https://theglobalobservatory.org/2022/03/africa-ukraine-and-the-new-geopolitics/. (accessed on 02/06/2022).
28. Papadavid, P. 'The Russia-Ukraine war: selected economic impacts on African women'. Working Paper. London: ODI, 2023. Available online: https://media.odi.org/documents/ODI_Working_paper_-_The_Russia-Ukraine_war_selected_economic_impacts_on_African_women.pdf. (accessed on 19/10/2024).
29. Mlaba, K. How Will the Ukraine-Russia War Impact Africa? Here's What to Know. Global Citizen, March 02 2022. Available online: https://www.globalcitizen.org/en/content/ukraine-russia-war-impact-africa-hunger-poverty/ (accessed on 24/07/2022).
30. FEWSNET. Zimbabwe Food Security Outlook, March 2023. Washington DC. Available online: https://fews.net/southern-africa/zimbabwe/food-security-outlook-update/ March-2023 &ved (accessed on 17/04/2024).
31. Raga, S.; Bohlmann, H.; Lemma, A.; Ngui, D.; Papadavid, P.; te Velde, D.W.; Zaki, C. 'Impact of the Russia–Ukraine war on Africa: policy implications for navigating shocks and building resilience' ODI Synthesis Report. London: ODI, 2024. Available online: (https://odi.org/en/publications/impact-of-the-russia-ukraine-war-on-africa-policy-implications-for-navigating-shocks-and-building-resilience) (accessed on 17/04/2024).
32. Lopes, C. The Untamed Impact of a Faraway Shock: Africa and the War in Ukraine. Strategic Review for Southern Africa 2022, 44(1), pp. 9-24. https://orcid.org/0000-0001-6754-7017.
33. Ngepah, N. Food security effects of food and agricultural inputs trade shocks from the Russia-Ukraine region in South Africa and Mozambique: exploring the roles of the Maputo corridor, SADC, and continental sources. Working Paper IWU-CC-003. Nairobi: AERC, 2023. Available online: https://policycommons.net/artifacts/10915516/food-security-effects-of-food-and-agricultural-inputs-trade-shocks/11794185/ (accessed on 12/08/2023).
34. Ndhlovu, E.; Mhlanga, D. Towards a functional food system in Africa. In: The Russia and Ukraine Conflict: Implications for Sustainable Development Prospects in Africa. Ndhlovu, E & Mhlanga, D. (Eds). Springer, Cham, 2024. https://doi.org/10.1007/978-3-031-63333-1_21.
35. Hackenesch, C.; Lacher, W. The Russia-Ukraine War's Shockwaves in Africa? Megatrends Working Paper 2024, 10, 39, https://doi.org/10.18449/2024MTA-WP10.
36. Wang, Y.; Zhang, Z.; Xu, M. Evolution pattern of African countries' oil trade under the changing in the global oil market. Energy 2023, 284, 128656, https://doi.org/10.1016/j.energy.2023.128656.

37. FAO. Sustainable food systems: concept and framework: Brief. FAO, Rome, Italy, 2018. Available online: https://openknowledge.fao.org/server/api/core/bitstreams/b620989c-407b-4caf-a152-f790f55fec71/content. (Accessed 12/11/2024).
38. Ndhlovu, E.; Mhlanga, D. African Agency in Medical Innovation and Practices: From Antiquity to the Present. African Renaissance 2024, 21(1), pp. 323-340. https://doi.org/10.31920/2516-5305/2024/21n1a16.
39. Béné, C.; Oosterveer, P.; Lamott, L.; Brouwer, I.D.; de Haan, S.; Prager, S.D. When food systems meet sustainability – Current narratives and implications for actions. World Development 2019, 113, pp. 116–130. https://doi.org/10.1016/j.worlddev.2018.08.011.
40. Tendall, D.M.; Joerin, J.; Kopainsky, B.; Edwards, P.; Shreck, A.; Le, Q.B.; Kruetli, P.; Grant, M.; Six, J. Food System Resilience: Defining the Concept. Global Food Security 2015, 6, pp. 17-23. https://orcid.org/0000-0001-8514-1088.
41. Glauber, J.; Laborde, D. How Will Russia's Invasion of Ukraine Affect Global Food Security? IFPRI Blog Issue Post, February 24 2022. Available online: https://www.ifpri.org/blog/how-will-russias-invasion-ukraine-affect-global-food-security (accessed on 17/07/2024).
42. UN. Sustainable Development Goals: Sustainable Development Knowledge Platform, 2020. Available online: https://sdgs.un.org/goals (accessed on 28/03/2024).
43. Frelat, R.; Lopez-Ridaura, S.; Giller, K.E.; Herrero, M.; Douxchamps, S.; Djurfeldt, A.A.; Erenstein, O.; Henderson, B.; Kassie, M.; Paul, B.K.; et al. Drivers of household food availability in sub-Saharan Africa based on big data from small farms. Proceedings of National Academy of Sciences 2016, 113(2), pp. 458–463. https://doi.org/10.1073/pnas.1518384112.
44. Otekunrin O.A.; Otekunrin O.A.; Sawicka B.; Ayinde I.A. Three decades of fighting against hunger in Africa: progress, challenges, and opportunities. World Nutrition 2020, 11, pp. 86–111. https://doi.org/10.26596/wn.202011386-111.
45. Ndhlovu, E.; Mhlanga, D. Socio-economic and Political Challenges in Zimbabwe and the Development Implications for Southern Africa. Journal of African Foreign Affairs 2021, 8(2), pp. 77-100. https://doi.org/10.31920/2056-5658/2021/v8n2a5.
46. Davis, I.; Pfeifer Cruz, C. Global developments in armed conflicts, peace processes and peace operations. In: SIPRI Yearbook 2022: Armaments, Disarmament and International Security. Oxford University Press: Oxford, 2022. Available online: https://www.sipri.org/yearbook/2022/02. (accessed on 11/06/2023).
47. Shararah, M. The Russia-Ukraine Conflict: Its Implications for the Global Food Supply Chains. Foods 2022, 11(14), 2098. https://www.mdpi.com/2304-8158/11/14/2098#.
48. Kang, M. Climate Change Impacts on Agriculture and Conflicts in Sub-Saharan Africa. World Economy Brief 2022, 12(22), pp. 1–9.
49. Ahmed, I.I.; Lipton, M. Impact of structural adjustment on sustainable rural livelihoods: A review of the literature. Institute of Development Studies and Poverty Research Unit, University of Sussex. IDS Working Paper 1991, 62. Available online: https://core.ac.uk/download/pdf/19919083.pdf. (accessed on 03/12/2023).
50. Sahn, D.; Arulpragasam, J. Adjustment without a structural change: The case of Malawi. In: Adjusting to Economic Failure in African Economies. Sahn (ed). Cornell University Press, London, UK, 1994, pp. 196-233. https://doi.org/10.7591/9781501737749-011.
51. Cromwell, W. Malawi. In: Structural Adjustment and the African Farmer. Duncan, A.; Howell, J. (eds.), Overseas Development Institute, London, UK, 1992, pp. 202-234.
52. Reed, D. Structural Adjustment and the Environment. Westview Press, UK, 1992, 195 p.
53. Gibbon, P. A failed agenda? African agriculture under structural adjustment with special reference to Kenya and Ghana. Journal of Peasant Studies 1992, 20(1), pp. 50-96.
54. FAO. The state of food security and nutrition in the world 2020: Transforming food systems for affordable healthy diets. Rome: Food and Agriculture Organization of the United Nations, 2020. Available online: https://openknowledge.fao.org/server/api/core/bitstreams/9a0fca06-5c5b-4bd5-89eb-5dbec0f27274/content. (accessed on 11/07/2024).
55. Bjornlund, V.; Bjornlund, H.; Van Rooyen, A.F. Why agricultural production in sub-Saharan Africa remains low compared to the rest of the world: A historical perspective. International Journal of Water Resources Development 2020, 36 (Suppl. 1), S20–S53.

https://doi.org/10.1080/07900627.2020.1739512.
56. Pickson, R.B.; Boateng, E. Climate change: a friend or foe to food security in Africa? Environment, Development and Sustainability 2022, 24, pp. 4387–4412.
57. FAO. Sustainable Development Goals; 2.1.1 Prevalence of undernourishment, 2019. Available online: www.fao.org/sustainable-development-goals/indicators/211/en/#:~:text=Indicator%202.1.,normal%20active%20and%20healthy%20life (accessed on 11/07/2024).
58. Harrigan, J. Food insecurity, poverty and the Malawian Starter Pack: Fresh start or false start? Food Policy 2008, 33, pp. 237–249.
59. Chambo, S.A. Agricultural co-operatives: Role in food security and rural development. In Proceedings of the Group Meeting on Co-operatives, New York, NY, USA, 28–30 April, 2009. Available online: https://www.un.org/esa/socdev/egms/docs/2009/cooperatives/Chambo.pdf. (accessed on 18/09/2023).
60. Ndhlovu, E.; Mhlanga, D. Decolonisation of Development in Early Post-independence Africa. In: Post-Independence Development in Africa Decolonisation and Transformation Prospects. Mhlanga, D.; Ndhlovu, E. (Eds.). Springer Cham, 2023, pp. 63-81. https://doi.org/10.1007/978-3-031-30541-2_4.
61. Adam, C.; Henstridge, M.; Lee, S. After the lockdown: Macroeconomic adjustment to the COVID-19 pandemic in sub-Saharan Africa. Oxford Review of Economic Policy 2020, 36, S338–S358. https://doi.org/10.1093/oxrep/graa023.
62. Wossen, T.; Berger, T.; Haile, M.G.; Troost, C. Impacts of climate variability and food price volatility on household income and food security of farm households in East and West Africa. Agricultural Systems 2018, 163, pp. 7–15. https://doi.org/10.1016/j.agsy.2017.02.006.
63. Verpoorten, M.; Arora, A.; Stoop, N.; Swinnen, J. Self-reported food insecurity in Africa during the food price crisis. Food Policy 2013, 39, pp. 51–63. Available online: https://econpapers.repec.org/scripts/redir.pf?u=https%3A%2F%2Fdoi.org%2F10.1016%252Fj.foodpol.2012.12.006;h=repec:eee:jfpoli:v:39:y:2013:i:c:p:51-63. (accessed on 11/04/2023).
64. Matz, J.A.; Kalkuhl, M.; Abegaz, G.A. The short-term impact of price shocks on food security-Evidence from urban and rural Ethiopia. Food Security 2015, 7, pp. 657–679. https://doi.org/10.1007/s12571-015-0467-4.
65. Chauvin, N.D.; Mulangu, F.; Porto, G. Food Production and Consumption Trends in Sub-Saharan Africa: Prospects for the Transformation of the Agricultural Sector. UNDP Regional Bureau for Africa: New York, NY, USA, 2012. Available online: https://www.aflatoxinpartnership.org/wp-content/uploads/2021/05/Food-Production-and-Consumptionin-SSA.pdf. (accessed on 19/09/2023).
66. Jayne, T.; Fox, L.; Fuglie, K.; Adelaja, A. Agricultural Productivity Growth, Resilience, and Economic Transformation in Sub-Saharan Africa. Association of Public and Land-grant Universities (APLU): Washington, DC, USA, 2021. https://www.usaid.gov/sites/default/files/2022-05/BIFAD_Agricultural_Productivity_Growth_Resilience_and_Economic_Transformation_in_SSA_Final_Report_4.20.21_2_2.pdf. (accessed on 10/10/2024).
67. Marx, B.; Stoker, T.; Suri, T. The economics of slums in the developing world. Journal of. Economic Perspectives 2013, 27, pp. 187–210. http://dx.doi.org/10.1257/jep.27.4.187.
68. Von Grebmer, K.; Bernstein, J.; Nabarro, D.; Prasai, N.; Amin, S.; Yohannes, Y.; Thompson, J. Global Hunger Index: Getting to Zero Hunger. International Food Policy Research Institute: Washington, DC, USA, 2016.
69. Boliko, M.C. FAO and the situation of food security and nutrition in the world. Journal of Nutritional Science and Vitaminology 2019, 65, S4–S8. https://doi.org/10.3177/jnsv.65.s4.
70. Adong, A. Armed Conflicts and Forced Displacements: Incentives and Consequences on Consumption and Social Preferences. Center for Effective Global Action: The University of California, Berkeley, CA, USA, 2021, 155. Available online: https://escholarship.org/uc/item/5qj337jp (accessed on 17/09/2024).
71. Onwujekwe, E.C.; Ezemba, C.C. Food Security and Safety: Africans Perspectives A Review. Archives of *Current Research International*, 2021, 21, pp. 14–20. https://doi.org/10.9734/ACRI/2021/v21i830260.
72. Agunyai, S.C.; Ojakorotu, V. COVID-19, Human Displacement, and Expanding Crises of Insecurity in Africa: The Case of Almajiri Children in Nigeria. *International Journal* of *Criminology* and *Sociology* 2021, 10, pp. 1443–1454. http://dx.doi.org/10.6000/1929-4409.2021.10.165.

73. Jacob, P.K.; Lenshie, N.E.; Okonkwo, I.M.M.; Ezeibe, C.; Onuoha, J. Ambazonian Separatist Movement in Cameroon and the Dialectics of Cameroonian Refugee Crisis in Nigeria. *Journal* of *Immigrant* & *Refugee* Studies 2022, 28, pp. 200–216.
74. Ndhlovu, E.; Mhlanga, D. 'Decolonisation of Development in Early Post-independence Africa.' In: Mhlanga, D.; Ndhlovu, E. (Eds.). Post-Independence Development in Africa Decolonisation and Transformation Prospects. Springer Cham, 2023, pp. 63-81. https://doi.org/10.1007/978-3-031-30541-2_4.
75. World Bank. Food security update. January 2023. Accessed January 18, 2023. Available online: https://www.worldbank.org/en/topic/agriculture/brief/food-security-update. (accessed on 20/03/2024).
76. World Bank. Food security update, December 2022. Accessed December 08, 2022. Available online: https://www.worldbank.org/en/topic/agriculture/brief/food-security-update?cid=ECR_LI_worldbank_EN_EXT (accessed on 29/11/2019).
77. Wax, F. Get ready for 'Hell', UN food chief warns amid Ukraine shockwaves: World Food Programme flags famine risk in Africa and the Middle East as Ukraine war hits supplies. Politico, 22 March 2022. Available online: https://www.politico.eu/article/world-food-programme-eu-fund-us-food-aid-ukraine-russia/ (accessed on 29/11/2022).
78. FAO. The state of food security and nutrition in the world 2017. Building resilience for peace and food security. Rome: FAO, 2017. Available online: https://www.fao.org/policy-support/tools-and-publications/resources-details/en/c/1107528/ (accessed on 29/11/2019).
79. World Health Organisation. The state of food security and nutrition in the world 2017. Building resilience for peace and food security. Rome: FAO, 2018. Available online: http://www.fao.org/state-of-food-security-nutrition/ (accessed on 29/11/2019).
80. Ndhlovu, E. Socio-Economic Characterisation of Resettled Smallholder Farmers in Rural Zimbabwe. Journal of Asian and African Studies 2022, 57(8), 1495-1510. https://doi.org/10.1177/00219096211058877.
81. Moyo, S. Family farming in sub-Saharan Africa: Its contribution to agriculture, food security and rural development. Food and Agriculture Organization of the United Nations and the United Nations Development Programme. Working paper number 150, 2016. Available online: https://hdl.handle.net/10419/173805. (accessed on 19/07/2018).

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THE ROLE OF THE CONSTRUCTION INDUSTRY IN ECONOMIC GROWTH AND SUSTAINABLE DEVELOPMENT

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Abstract. The construction industry is one of the determining driver of economic growth and sustainable development, particularly in developing economies, where it contributes significantly to GDP and employment creation. This study investigates the dual role of the sector as an economic engine and a sustainability agent, focusing on Moldova and the European Union. The research hypothesizes that integrating innovative technologies and circular economy principles can enhance the sector's economic and environmental performance while addressing regional disparities. The study aims to analyse the sector's contributions to GDP, employment, and sustainability, identifying challenges and opportunities for improvement. Using a quantitative framework, the research assesses the contributions of construction activities to GDP formation in dynamics, including by country, sector-specific sustainable practices and activity structure. In this article such tools as linear regression, comparative analysis and cause-effect analysis are used in order to achieve the research aim. The findings reveal significant regional disparities, with stable growth in developed economies and higher volatility in developing countries, highlighting the impact of the construction sector on economic development. The findings emphasize the importance of specific policies geared towards increasing skills, keeping the workforce at home and mainstreaming sustainable practices. This research provides a clear vision of the construction industry's role in stimulating economic growth and promoting sustainable development through innovation and specific sustainable practices.

Keywords: *employment generation, innovation, regional disparities, sustainability practices, sustainable infrastructure, workforce retention.*

Rezumat. Industria construcțiilor este unul dintre motoarele determinante ale creșterii economice și dezvoltării durabile, în special în economiile în curs de dezvoltare, unde contribuie semnificativ la PIB și la crearea de locuri de muncă. Acest studiu investighează rolul dublu al sectorului ca motor economic și agent de durabilitate, concentrându-se pe Moldova și Uniunea Europeană. Cercetarea emite ipoteza că integrarea tehnologiilor inovatoare și a principiilor economiei circulare poate spori performanța economică și de mediu a sectorului, abordând în același timp disparitățile regionale. Studiul urmărește să

analizeze contribuțiile sectorului la PIB, ocuparea forței de muncă și durabilitate, identificând provocările și oportunitățile de îmbunătățire. Folosind un cadru cantitativ, cercetarea evaluează contribuțiile activităților de construcții în formarea PIB-ului în dinamică, inclusiv pe țări, practicile sustenabile specifice sectorului și structura activităților. În acest articol în vederea atingerii scopului cercetării sunt utilizate astfel de instrumente precum regresia liniară, analiza comparative și analiza cauză-efect. Constatările relevă disparități regionale semnificative, cu o creștere stabilă în economiile dezvoltate și volatilitate mai înaltă în țările în curs de dezvoltare, subliniind impactul sectorul construcțiilor asupra dezvoltării economice. Concluziile evidențiază importanța politicilor specifice orientate spre creșterea competențelor, menținerea forței de muncă în țară și integrarea practicilor sustenabile. Această cercetare oferă o viziune clară a rolul industriei construcțiilor orientat spre stimularea creșterii economice și spre promovarea dezvoltării durabile prin inovare și practicile sustenabile specifice.

Cuvinte-cheie: *crearea de locuri de muncă, inovare, disparități regionale, practici durabile, infrastructură durabilă, menținerea forței de muncă.*

1. Introduction

The construction industry is a determining driver of economic development and a cornerstone for national infrastructure, playing an essential role in gross domestic product (GDP) growth, employment creation, and social progress. This sector is particularly significant in developing economies, where it contributes up to 14% of GDP, serving as a catalyst for economic resilience and wealth creation through infrastructure investments [1-5]. By facilitating the development of essential systems such as transportation, energy, and public utilities, construction underpins broader economic activities and addresses national economic and social objectives [3,6]. These contributions underscore the sector's importance in fostering inclusive economic growth and achieving sustainable development goals (SDGs).

The relevance of studying the construction industry lies in its dual role as an economic driver and an agent of sustainable development. Sustainable development involves economic diversification, access to services, environmental protection, adherence to ecological principles, and ensuring adequate living conditions for all regions [7]. In the European Union (EU-27), residential construction contributed consistently to GDP, fluctuating between 4.7% and 5.8% from 2014 to 2023, reflecting its steady importance in developed economies. In contrast, Moldova demonstrated higher but more volatile contributions, peaking at 10% in 2020, which highlights the country’s reliance on construction as a key economic pillar [8,9]. These regional differences illustrate the need for tailored approaches to maximize the sector's economic potential while addressing its vulnerabilities, particularly in emerging economies.

In addition to its economic significance, the construction industry is integral to advancing sustainability. Sustainable construction practices such as energy-efficient designs, eco-friendly materials, and resource optimization reduce environmental impacts while fostering economic resilience and social inclusivity [10,11]. However, the sector faces challenges including high costs of green technologies, regulatory barriers, and skill shortages. Addressing these challenges is critical in light of global commitments to sustainability, particularly in the context of climate change and the growing demand for resource-efficient urbanization. Innovations like Building Information Modeling (BIM), automation, and IoT

technologies provide transformative solutions by improving efficiency, precision, and waste management in construction processes [12].

The environmental impact of the construction industry further highlights the importance of this research. As one of the largest contributors to environmental degradation, the sector's resource-intensive activities from material extraction to demolition significantly contribute to greenhouse gas emissions, habitat destruction, and waste generation. Through effective waste management, construction companies not only gain economic advantages but also enhance the country's environmental state, given that most construction waste poses environmental hazards [13]. Sustainable construction addresses these issues by adopting methodologies like Life Cycle Assessment and Leadership in Energy and Environmental Design certifications to improve project sustainability [10,14]. Additionally, the circular economy provides a promising framework by promoting material reuse and recycling, thereby reducing waste and extending resource lifecycles. Implementing CE principles in construction relies on supportive policies, incentives, and efficient waste management systems, aligning the industry with long-term sustainability goals [15].

The research gains further relevance by examining the regional dynamics of the construction sector, revealing distinct economic structures and policies. Developed countries such as Germany and France exhibit stable contributions to GDP, supported by robust policies and diversified economies. Conversely, smaller nations like Cyprus and Malta benefit from foreign investments in real estate, while Moldova's higher contributions highlight its dependence on construction. This reliance poses risks, including workforce challenges such as labour migration and skill shortages, which affect project efficiency and quality. Addressing these issues through policy reforms, vocational training, and employment formalization is essential for stabilizing the sector and ensuring sustainable growth [8,9,16].

The present study is particularly timely as the construction industry faces increasing global scrutiny over its environmental impact and its ability to meet sustainability objectives. The integration of advanced technologies, adoption of circular economy principles, and alignment with sustainability frameworks are critical to transforming the sector into a driver of sustainable development. This research not only highlights the construction sector's contributions to GDP and employment but also emphasizes its environmental and social implications. By focusing on Moldova and the EU, it provides actionable insights into regional dynamics, identifying opportunities and challenges for advancing sustainable construction practices. The findings are aimed at informing policymakers, industry stakeholders, and researchers on strategies to maximize the sector's economic potential while addressing its sustainability obligations.

2. Materials and Methods

The study analyses the economic and sustainability impacts of the construction sector, focusing on GDP formation and sustainable development in Moldova and EU countries. It collects data from reputable sources such as the National Bureau of Statistics of Moldova [8], Eurostat [9], and reports from the World Bank and the European Union. Primary datasets cover construction sector trends and residential construction contributions across EU countries, while secondary data provide additional context.

It uses a quantitative framework to assess the construction sector's contributions to GDP and sustainability practices. Statistical analysis categorizes countries into low, medium, and high GDP contribution groups. Linear regression and trendline analysis evaluate long-

term trends, with R^2 values indicating correlation strength. It also analyses the structural distribution of construction activities in Moldova, focusing on building construction, civil engineering, and specialized works.

The assessment of sustainability includes Life Cycle Assessment (LCA) to evaluate environmental impacts and Leadership in Energy and Environmental Design (LEED) standards to benchmark efforts [14]. Data analysis tools such as Microsoft Excel perform calculations, while R handles regression analysis and validates trends.

The study adopts a comparative approach to highlight differences between Moldova and EU countries, using visual representations of sectoral contributions and sustainability practices. It acknowledges challenges such as inconsistent data standards, limited information on informal activities, and difficulties accessing real-time data on technological adoption. Despite these limitations, it provides actionable insights, emphasizing the construction sector's determining role in economic growth and sustainable development.

3. Results and discussions

The construction industry holds a central role in the economic advancement of developing nations, serving as a major driver of growth and a foundational element of national infrastructure. Its influence, however, is complex and multifaceted and its key economic impacts are following:

- Economic growth and infrastructure development. As a determining capital input, construction propels economic growth and facilitates wealth creation, particularly in low- and middle-income countries. It underpins the development of physical and economic infrastructure, which are vital components of a nation’s economic performance [1-3].
- Income distribution and social development. Infrastructure projects contribute to improved income distribution and foster social progress. They generate investment opportunities across related industries and are instrumental in achieving key national economic and social objectives [6,3].
- Employment and GDP contribution. The construction sector significantly impacts GDP while offering extensive employment opportunities. This makes it a cornerstone of economic policy strategies in developing countries, supporting job creation and economic stability [17].

The construction sector holds a special extremely important position in advancing sustainable development, acting as a bridge between economic expansion, social welfare, and environmental stewardship. By harmonizing these three pillars, the construction industry has the potential to drive significant progress toward a more sustainable future. This exploration delves into the industry's ongoing efforts to embrace sustainable practices, examines the technological innovations that facilitate these transitions, and highlights the critical role of integrating a circular economy into construction processes.

Sustainable construction aims not only to reduce the environmental impact of building activities but also to foster social inclusivity and economic resilience. By adopting energy-efficient designs, using eco-friendly materials, and minimizing resource waste, the industry contributes to lowering carbon emissions and conserving natural resources. However, these efforts often encounter challenges such as high costs of green technologies, lack of skilled labour, regulatory hurdles etc. Technology plays a transformative role in overcoming these obstacles. Tools like Building Information Modeling (BIM), automation, and 3D printing

enable more efficient resource utilization, precision in construction processes, and innovative approaches to building design. Moreover, the implementation of smart construction technologies, such as Internet of Things (IoT) sensors and data analytics, allows for real-time monitoring of energy consumption and waste management, driving further efficiencies.

The construction industry, recognized as one of the largest contributors to environmental degradation, faces increasing scrutiny due to its high consumption of resources and substantial ecological footprint. Its resource-intensive processes, ranging from material extraction to construction and demolition, contribute significantly to greenhouse gas emissions, habitat destruction, and waste generation. Sustainable construction represents an innovative and transformative approach to reducing the environmental impact of the construction industry. Sustainable construction seeks to mitigate these environmental impacts by enhancing energy efficiency, optimizing waste management, and encouraging the adoption of environmentally sustainable materials [10,11,14].

The construction industry is a major driver of environmental degradation, primarily due to its high resource consumption and intensive processes. Sustainable construction (SC) addresses these challenges by enhancing energy efficiency, optimizing waste management, and promoting the utilization of environmentally sustainable materials [10,11]. In this context, key methodologies and certifications, including Life Cycle Assessment (LCA) and Leadership in Energy and Environmental Design (LEED), are widely applied to assess and optimize sustainability within construction projects [14].

The Fourth Industrial Revolution (Industry 4.0) offers transformative opportunities for the construction sector to integrate advanced technologies that promote sustainability. In the context of sustainability, development does not imply endless growth. At a certain point, a sustainable community stops expanding and focuses on transformation, efficiently utilizing the resources it already possesses [18]. Innovations such as automation, digitalization, and smart construction practices enable significant reductions in waste generation and enhance the efficiency of resource management [12]. The integration of Industry 4.0 technologies is regarded as an important focus for future research and development within the construction sector [12].

Sustainable construction addresses environmental challenges while simultaneously promoting economic efficiency and social stability. By fostering job creation and facilitating the development of sustainable infrastructure, it plays a vital role in supporting economic growth, particularly in developing countries [10]. From a social perspective, sustainable construction contributes to alleviating urban challenges, such as the heat island effect, while reducing the overall environmental strain on urban ecosystems [19].

A circular economy (CE) in the construction sector emphasizes the prolonged lifecycle of materials through strategies such as recycling and reuse, thereby minimizing the industry's environmental impact. The successful implementation of a CE relies on critical factors, including supportive policy frameworks, organizational incentives, and the establishment of efficient waste management infrastructure [15]. The adoption of circular economy practices is pivotal for ensuring long-term sustainability and enhancing the competitive advantage of the construction industry [15].

Despite significant progress, the full integration of sustainable practices in the construction industry continues to face several challenges. These include the development of robust quantitative methodologies for assessing sustainability, the inherently fragmented

structure of the industry, and the limited adoption of sustainable practices across construction enterprises [19-21].

The construction industry represents a significant driver of economic growth, often contributing a considerable proportion to a country's GDP. In developing economies, the sector can account for up to 14% of GDP, largely due to its multiplier effect, which promotes growth in associated industries such as building materials production and service sectors [4,5].

The following figure shows the contribution of residential construction to GDP shows varying trends across the three regions analysed: the European Union (27 countries), the Euro Area (20 countries), and the Republic of Moldova.

As the data presented in the figure above shows, in the European Union (EU-27), the contribution remained relatively stable, fluctuating slightly between 4.7% (2015) and 5.8% (2023), indicating a moderate and consistent role of residential construction in the region's GDP formation.

The linear trendline equation is y=0.1467x+4.4733, with an R^2 value of 0.9167, indicating a strong and consistent positive correlation over time. The Euro Area displayed a similar pattern, with percentages ranging between 4.9% (2015) and 6.0% (2022). This reflects the Euro Area's stable and slightly growing reliance on residential construction for economic development. The steady growth underscores the increasing significance of residential construction as a driver of economic activity. Policies focusing on energy efficiency and urban development likely contribute to this upward trend.

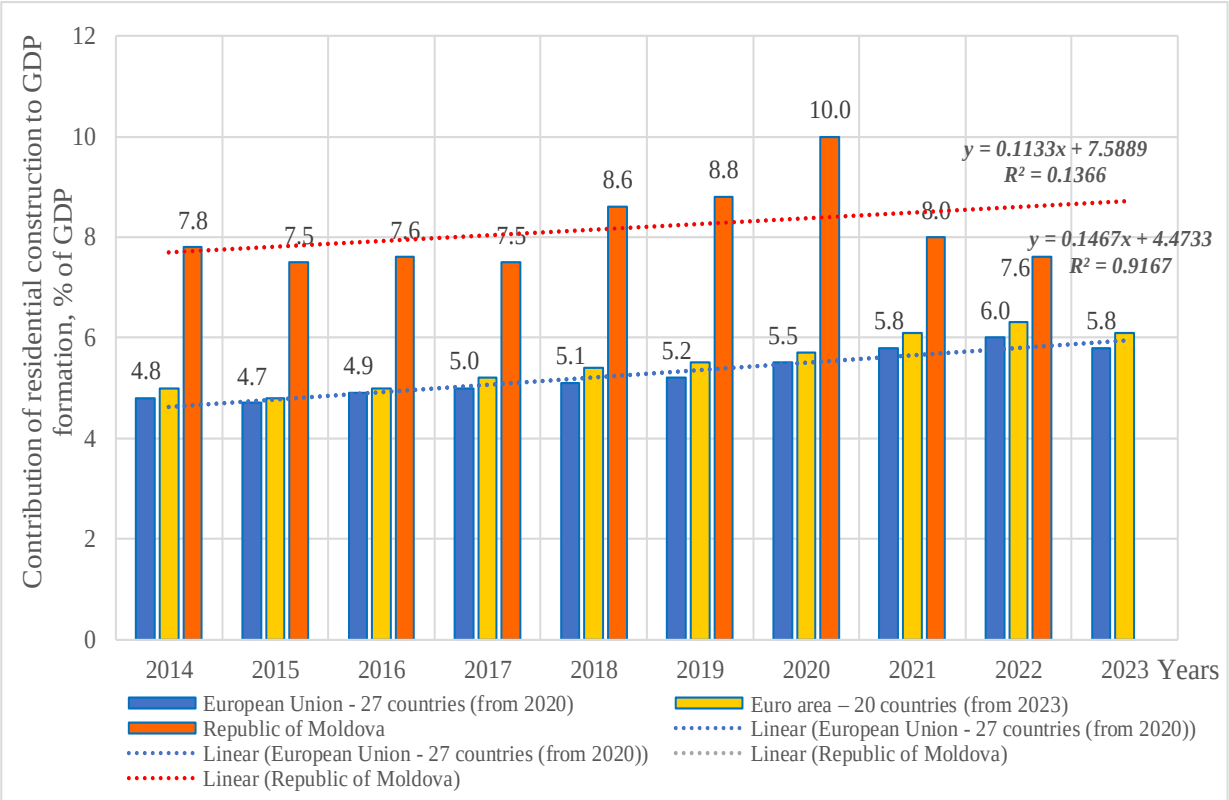

Figure 1. Evolution of the contribution of residential construction to GDP formation between 2014 and 2023 [8,9].

In contrast, the Republic of Moldova exhibited significantly higher contributions, ranging from 7.5% (2015) to a peak of 10.0% (2020), with a gradual decline thereafter. This

indicates a more substantial dependence of Moldova's economy on residential construction, especially during the analysed period. The linear trendline equation is y=0.1133x+7.5889, with an R^2 value of 0.1366, indicating weaker consistency in the trend compared to the EU. The higher contribution (compared to EU averages) reflects the sector's critical role in Moldova's economy, potentially driven by urbanization, housing demand, and reliance on construction as a key economic pillar.

The contribution of residential construction to GDP formation shows distinct regional dynamics. While the EU-27 and Euro Area demonstrate stable growth driven by structured policies and diversified economies, Moldova's higher but more volatile contribution reflects its economic reliance on construction. The strong trendline correlations in the EU regions suggest predictable growth, whereas Moldova's lower R^2 value calls for enhanced economic resilience and strategic planning to stabilize the sector's performance over time.

In order to demonstrate how widely the contribution of the construction sector to GDP formation in the EU countries varies, the following table shows statistical data on the contribution of residential construction to GDP formation in the EU countries between 2014 and 2023.

According to the data on the contribution of the construction sector to GDP in the countries of the European Union, all countries can be divided into three categories:

- Countries with Low Contribution (below 3%).
- Countries with Medium Contribution (3%–6%).
- Countries with High Contribution (above 6%).

Countries with Low Contribution (below 3%) include countries such as Greece, Ireland, Bulgaria, and Latvia which consistently demonstrate the lowest contributions, generally ranging below 3% throughout the observed period. Greece shows the lowest contributions, starting at 1.1% in 2014, dropping to a minimum of 0.6% in 2017, and recovering to 2.3% by 2023. For Greece, the low values are primarily attributed to the prolonged effects of the 2008 financial crisis, which deeply affected the construction sector due to reduced investments, stagnant real estate markets, and austerity measures. Ireland and Bulgaria follow a similar low-contribution trajectory, with slow but steady increases over time, reaching 3.3% and 2.8%, respectively, in 2023. For Ireland and Bulgaria, the relatively low contributions stem from less reliance on residential construction within their overall economic structures. However, Ireland's gradual recovery can be linked to increased housing demand and post-crisis stabilization. These countries indicate underutilized potential in residential construction as an economic driver. Future policies could focus on incentivizing housing development and construction investments to boost sectoral contributions to GDP.

Table 1

Evolution of the contribution of residential construction to GDP formation in EU countries between 2014 and 2023

EU countries	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Belgium	5.9	5.7	5.8	5.8	5.8	5.9	6.0	6.1	5.7	5.4
Bulgaria	1.6	1.4	2.7	2.8	2.7	2.8	2.9	2.7	2.8	2.8
Czechia	4.2	4.3	4.4	4.9	5.2	5.2	5.6	6.0	6.3	6.2
Denmark	3.8	4.0	4.2	4.7	4.8	5.1	5.8	6.2	5.8	5.6
Germany	5.8	5.7	5.9	5.9	6.1	6.3	6.9	6.8	7.0	6.9
Estonia	3.8	3.9	4.3	4.5	4.4	4.8	5.3	4.8	5.0	5.7
Ireland	1.7	1.4	1.8	2.0	2.3	2.2	2.0	2.3	2.8	3.3
Greece	1.1	0.8	0.7	0.6	0.7	0.8	1.1	1.3	2.0	2.3
Spain	4.1	3.9	4.2	4.7	5.3	5.6	5.8	5.6	6.1	6.0

Continuation Table 1

France	6.1	6.0	6.1	6.4	6.5	6.6	6.5	7.2	7.0	6.4
Croatia	2.7	2.5	2.6	2.4	2.6	2.8	3.1	3.7	3.6	3.7
Italy	4.2	4.1	4.0	4.0	4.0	3.9	3.9	5.6	6.5	7.0
Cyprus	3.9	3.6	4.4	5.0	6.4	7.5	7.9	8.0	8.5	8.6
Latvia	2.6	2.5	2.1	2.1	2.6	2.6	2.6	2.9	2.6	3.1
Lithuania	2.6	3.2	3.6	3.0	2.8	3.1	3.3	3.2	3.8	3.7
Luxembourg	3.6	3.8	4.1	3.6	3.8	3.9	3.8	4.0	3.7	3.5
Hungary	1.9	2.2	2.4	2.7	3.0	3.2	4.1	3.9	4.7	4.1
Malta	2.9	2.9	2.8	3.1	4.7	5.0	6.4	6.0	4.1	3.9
Netherlands	3.1	3.5	4.2	4.6	5.0	5.2	5.5	5.7	5.5	5.2
Austria	5.0	5.2	5.3	5.5	5.7	5.8	6.0	6.3	6.4	5.8
Poland	3.1	2.6	2.5	2.2	2.0	2.1	2.2	2.3	2.2	2.2
Portugal	2.6	2.6	2.7	3.0	3.3	3.4	3.6	4.1	4.1	3.9
Romania	2.4	2.4	2.6	2.7	2.0	2.2	2.4	3.1	3.2	3.0
Slovenia	2.2	2.2	2.1	2.1	2.1	2.2	2.3	2.4	2.8	2.9
Slovakia	3.1	2.9	3.5	3.2	3.6	3.5	4.1	4.3	4.8	4.1
Finland	6.0	6.0	6.6	6.7	7.1	7.0	7.0	6.9	7.2	5.9
Sweden	4.2	4.8	5.3	5.7	5.2	4.7	5.0	5.3	5.2	3.8

Source: elaborated by authors based on data [9].

Countries with a medium contribution (3%-6%) represent a middle group. This group include the majority of EU countries fall into this group, including Austria, Belgium, Czechia, Denmark, Estonia, Hungary, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovenia, and Sweden. These countries exhibit relatively stable contributions over time, with incremental growth observed in most cases. For example, Austria shows a steady increase from 5.0% in 2014 to 6.3% in 2022, while Czechia grows from 4.2% in 2014 to 6.2% in 2023. There is noticeable consistency in contributions, reflecting balanced reliance on residential construction alongside other economic activities. The medium contribution levels are indicative of well-diversified economies where construction plays an important, but not dominant, role. For instance, in countries like Austria and Belgium, construction activities are closely linked to urban development and sustainability initiatives. The stable growth observed in countries like Czechia and Estonia reflects steady demand for housing driven by urbanization and demographic trends. At the same time, these countries demonstrate resilience and potential for further growth in residential construction. Enhanced focus on sustainable building practices, energy-efficient housing, and urban regeneration could support continued sectoral development.

The highest contributions (above 6%) are observed in countries such as Cyprus, Finland, France, Germany, Italy, Malta, and Spain. Cyprus consistently leads, with contributions increasing from 3.9% in 2014 to a peak of 8.6% in 2022. Similarly, Malta exhibits substantial growth, peaking at 6.4% in 2020. Countries like Cyprus and Malta benefit from strong foreign investment in real estate and housing, including residency programs for property investors ("golden visas"). Finland, France, and Germany maintain stable high contributions, reaching values above 6.5% in recent years. Italy shows a notable increase from 4.2% in 2014 to 7.0% in 2023. Finland, France, and Germany reflect mature economies with a consistent focus on residential construction as part of broader economic growth and urban development strategies. Italy's upward trend highlights recovery efforts and renewed investments in housing post-pandemic, driven by government incentives and population needs. For these countries, residential construction serves as a vital contributor to economic stability and growth. Sustaining these levels will require continuous investment in

modernization, energy-efficient construction, and circular economy principles to ensure long-term sustainability.

The construction industry serves as a fundamental driver of capital formation, with a significant share of total investment allocated to construction activities. This investment facilitates the development of related economic sectors and contributes to sustained economic growth [4,5]. The construction sector plays an important role in the development and maintenance of infrastructure, including roads, schools, hospitals, and housing, which are essential for societal well-being and economic competitiveness [5,22]. Additionally, it contributes to social development by enhancing living conditions and facilitating the modernization of regions, thereby improving quality of life and advancing sustainable development objectives [22].

Construction investment is not just about building physical structures but about fostering economic development, social progress, and sustainability. It serves as a catalyst for growth across multiple sectors and is indispensable for achieving national and global development objectives. The figure no.2 presents the evolution of the number of active enterprises in the construction sector in the Republic of Moldova during the period 2014–2023, illustrating a steady upward trend and providing insights into the sector's growth dynamics and its increasing importance within the national economy.

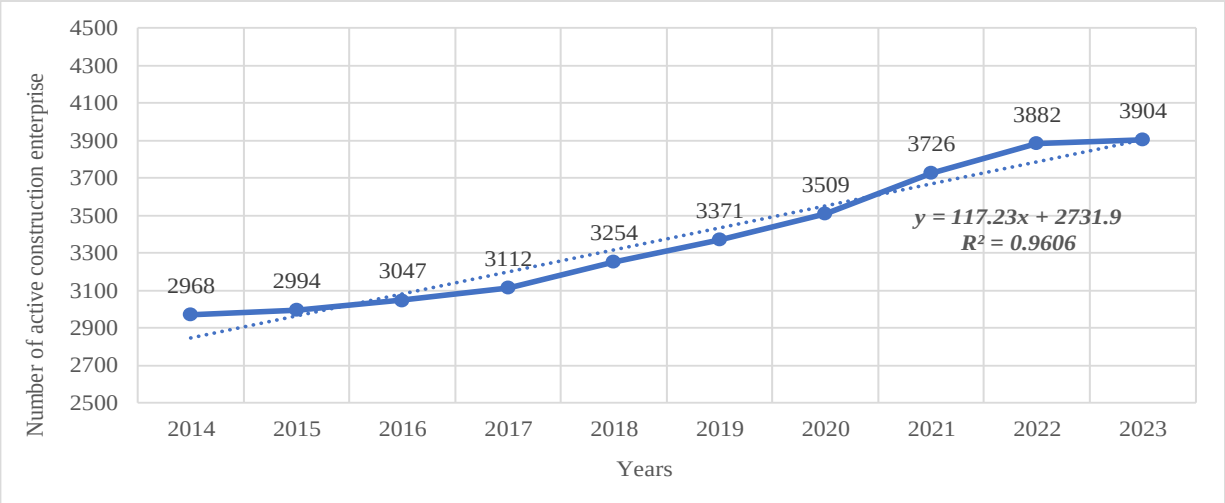

Figure 2. Evolution of the number of active enterprises in construction in the Republic of Moldova in the period 2014-2023.

Source: Elaborated by the authors based on data from the National Bureau of Statistics of the Republic of Moldova [8].

The data presented in Figure 2 reveal a steady increase in the number of active enterprises in the construction sector in the Republic of Moldova, growing from 2,968 in 2014 to 3,904 in 2023, which represents a growth of approximately 31.6% over nine years. This upward trajectory is reinforced by the trendline equation y=117.23x+2731.9, indicating an average annual growth of 117 enterprises, with a strong linear correlation reflected by the R^2 value of 0.9606. Particularly notable is the growth phase between 2020 and 2023, during which the number of enterprises rose significantly from 3,509 to 3,904, likely driven by recovery and expansion following the global COVID-19 pandemic. In comparison, the total number of active enterprises across all sectors in Moldova also grew steadily, from 51,659 in 2014 to 63,778 in 2023, demonstrating a broadly consistent pattern of economic expansion.

While construction enterprises form a small proportion of the total, their relative share has remained stable, underscoring the sector's integral role in the national economy.

The steady growth of the construction sector reflects its importance in Moldova's economic development. However, the sector faces challenges such as labour migration, which leads to skill shortages, limited domestic demand due to Moldova's small population and purchasing power, and regulatory inefficiencies that could hinder its potential. Addressing these issues will be essential for ensuring the sustainable growth of the construction industry, which remains a priority contributor to the country's economic progress.

Practically in all countries construction investment plays a fundamental role in advancing the national economy and developing social infrastructure. They stimulate investment opportunities in related industries and are essential for achieving key national economic objectives [23,24].

The figure no.3 illustrates the structure of active construction enterprises in the Republic of Moldova, highlighting the distribution among building construction, civil engineering works, and specialized construction activities in 2023.

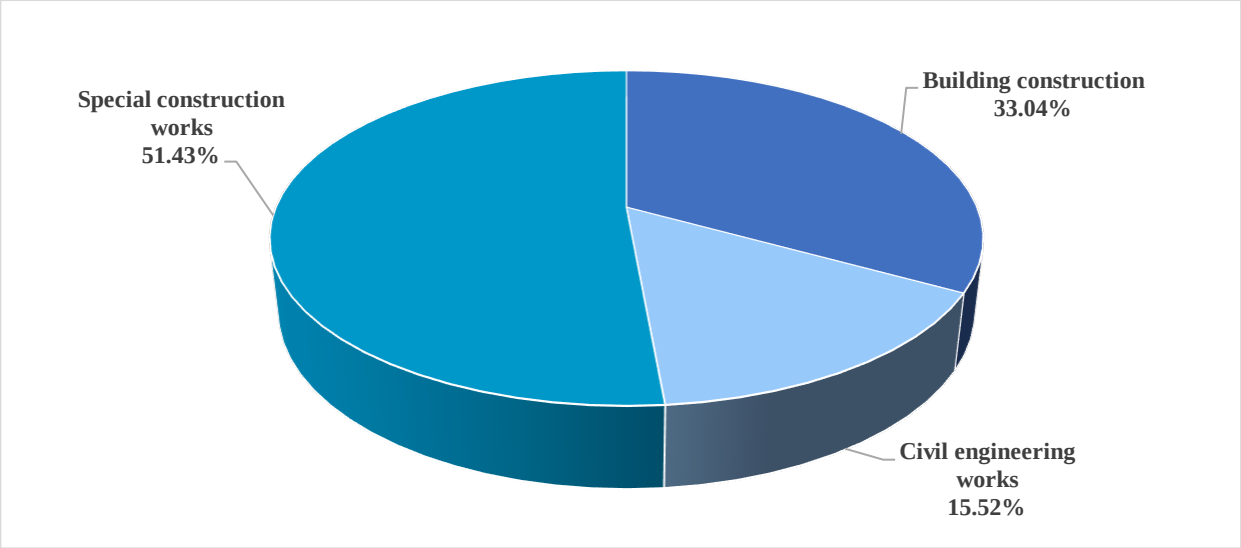

Figure 3. Structure of active construction enterprises by type of activity in the Republic of Moldova in 2023.

Source: Elaborated by the authors based on data from the National Bureau of Statistics of the Republic of Moldova [8].

The data presented in Figure 3 provide a clear distribution of the structure of active construction enterprises in the Republic of Moldova in 2023. The chart indicates that a significant portion of the enterprises in the construction sector are involved in special construction works, accounting for 51.43% of the total. This is followed by building construction, which represents 33.04%, and civil engineering works, which make up 15.52%. This distribution highlights the predominant role of specialized construction works in the Moldovan construction industry. This structure reflects the growing focus on specialized infrastructure projects, alongside consistent demand for building construction and civil engineering works.

The large share of special construction works is likely due to the increasing demand for infrastructure and specialized services, such as the construction of roads, utilities, and

energy-efficient buildings, which are becoming a priority in the country. These works often involve more technical expertise and are influenced by investments in public infrastructure, particularly by international organizations like the World Bank and the European Union, which fund projects related to energy, transport, and urban development.

Building construction, with its 33.04% share, reflects the steady demand for residential, commercial, and industrial buildings. This demand is driven by urbanization, population growth, and migration patterns, as well as by domestic and foreign investments. The construction of residential properties, in particular, is supported by remittances from Moldovan workers abroad, which often fund home construction and renovation projects.

Several factors have driven this growth in the construction sector. Moldova's gradual economic development, particularly in urban centres like Chisinau and Balti, has supported demand for residential, commercial, and infrastructural projects, with urbanization trends increasing the need for housing, industrial facilities, and public infrastructure.

In addition to all its significance and advantages, the construction sector also faces challenges, such as ensuring equitable access to employment opportunities across various skill levels, from unskilled to highly skilled labour, while continuing to play a vital role in reducing unemployment and improving income distribution [16].

In the Republic of Moldova and other developing countries, this dynamic is particularly pronounced. The construction sector serves as a critical employment generator, absorbing a large portion of the workforce, including both skilled and unskilled labour, which is essential in countries with high unemployment rates or limited industrial diversification. However, in Moldova, the sector faces the additional challenge of labour migration, with many skilled workers leaving for better opportunities abroad, leading to labour shortages and a reliance on less qualified workers domestically. This impacts the quality and efficiency of construction projects and highlights the need for targeted policies to retain and upskill the workforce.

In other developing countries, similar patterns emerge, where the construction sector is both a key economic driver and a source of social inequality. For example, the informal employment prevalent in construction often lacks job security and benefits, leaving workers vulnerable to economic fluctuations. To address these challenges, governments and stakeholders must implement strategies to formalize employment, enhance vocational training programs, and create incentives for retaining skilled labour locally. Thus, while the construction sector has immense potential to reduce unemployment and improve income distribution, its success depends on overcoming structural challenges and fostering an inclusive approach to workforce development, particularly in Moldova and comparable developing nations.

Although this study provides insights into the economic, social and environmental impacts of the construction sector, there are some limitations to be taken into account that prevent an objective analysis of the situation. First of all, inconsistent reporting standards between data sources, especially in developing regions, make comparative analysis difficult. Moreover, the study focuses mainly on residential construction, which may not fully capture the sector's contributions in other sub-domains such as commercial or industrial construction.

For future research it is proposed to broaden the scope to include a wider range of construction activities and regions. In this context we believe that comparative studies on the adoption of Industry 4.0 technologies and circular economy practices in different economic contexts would provide valuable insights. In addition, exploring the socio-economic impact of construction employment, assessing retention and upskilling policies

under the impact of social and management methods would facilitate the further development of this sector.

The research highlights the dual role of the construction industry as an economic driver and an agent of sustainability. The findings reveal significant regional disparities, emphasizing the need for tailored approaches to maximize the sector's potential while addressing its challenges. By adopting innovative technologies, integrating circular economy principles, and aligning with sustainability frameworks, the construction sector can play a transformative role in advancing sustainable development goals.

5. Conclusions

This study reaffirms the construction industry's central role as both an economic engine and a driver of sustainable development. The sector's ability to contribute significantly to GDP, employment creation, and infrastructure development highlights its economic importance, particularly in developing countries where its contributions can reach up to 14% of GDP. The evolution of residential construction's contribution to GDP formation in EU countries underscores significant regional differences driven by economic structure, policy frameworks, and demographic trends. High-contribution countries demonstrate the sector's role as a robust economic driver, while medium and low-contribution groups reflect opportunities for targeted improvements. Policymakers should focus on promoting sustainability, fostering innovation, and addressing regional challenges to ensure the sector's balanced and sustained growth across the EU. The findings underscore the sector's dual impact: fostering economic growth and addressing social challenges through job creation and improved living standards. However, the study also reveals stark regional disparities, with developed countries demonstrating stability in sectoral contributions, while developing nations like Moldova exhibit volatility, reflecting both opportunity and vulnerability.

The study highlights the urgency of integrating circular economy principles within the construction sector. Recycling, material reuse, and life-cycle assessments are identified as critical strategies to mitigate environmental degradation. However, the successful implementation of these practices relies on supportive policies, adequate infrastructure, and organizational incentives, which are underdeveloped in many regions, particularly in emerging economies.

From a social perspective, the construction industry's role as a significant employment generator is evident. However, issues such as labour migration, informal employment, and skill shortages hinder its potential to achieve equitable growth. Addressing these challenges through targeted vocational training programs, labour retention policies, and employment formalization is essential for ensuring workforce stability and enhancing project efficiency. In numerous developing countries, the construction sector is significantly affected by labour migration, as many skilled professionals seek better opportunities abroad. This results in labour shortages and an increased dependence on less qualified workers within the domestic market, ultimately affecting the quality and efficiency of construction projects. This situation underscores the need for targeted policies aimed at workforce retention and skill enhancement.

Future research should expand the scope to include commercial and industrial construction, explore the socio-economic impacts of workforce dynamics, and examine the adoption of advanced technologies across diverse economic contexts. Also, future research should prioritize the development of comprehensive sustainability assessment tools, the

advancement of the social and economic dimensions of sustainability, and the promotion of sustainable practices throughout all phases of construction projects.

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References

1. Giang, D.T.H.; Pheng, L.S. Role of construction in economic development: review of key concepts in the past 40 years. *Habitat International* 2011, 35, pp. 118-125.
2. Lopes, J.; Banaitienė, N. A model for construction sector development in middle-income sub-saharan african countries. *Technological and Economic Development of Economy* 2024, pp. 1-27.
3. Serogina, D.; Pushkar, T.; Zhovtiak, H. The impact of the construction industry on the social and economic development of territories. Scientific Bulletin of the National Academy of Statistics, *Accounting and Audit* 2022, pp. 1-7.
4. Wells, J. The construction industry in the context of development: a new perspective. *Habitat International* 1984, 8, pp. 9-28.
5. Cherian, A. The construction industry in the perspective of an economic boost of the United Arab Emirates . *International Research Journal of Engineering and Technology (IRJET)* 2020, 07(08), pp. 270-276.
6. Tian, G.; Li, J. How Does infrastructure construction affect economic development along the "belt and road": by promoting growth or improving distribution? *Emerging markets finance and trade* 2019, 55, pp. 3332–3348.
7. Ciloci, R.; Gheorghița, M.; Țurcan, I. Conceptual approaches and the effects of circular economy. *Journal of Social Sciences* 2020, 3(2), pp. 13-22.
8. Statistical Databank "Statbank". Available online: https://statistica.gov.md/en/statistical-databank-78.html (accessed on 10 November 2024).
9. Residential Construction - Annual Data, % of GDP [Tipsna50]. Available online: https://data.europa.eu/data/datasets/0i7bfkneabruaz1ym6gnma?locale=en (accessed on 09.11.2024).
10. Liu, Z.-J.; Pypłacz, P.; Ermakova, M.; Konev, P. Sustainable construction as a competitive advantage. *Sustainability* 2020, 12(15), 5946, pp. 1-13.
11. Shurrab, J.; Hussain, M.; Khan, M. Green and sustainable practices in the construction industry. *Engineering, Construction and Architectural Management* 2019, 26(6), pp. 1063-1086
12. Zairul, M.; Zaremohzzabieh, Z. Thematic Trends in Industry 4.0 revolution potential towards sustainability in the construction industry. *Sustainability* 2023, 15, 7720.
13. Gheorghița, M.; Stratila, A. Sustainable development of construction contractors of the Republic of Moldova in the context of waste generation and processing. *Journal of Social of Sciences* 2023, 6(1), pp. 6-15.
14. Lima, L.; Trindade, E.L.G. da; Alencar, L.H.; Alencar, M.; Silva, L. Sustainability in the construction industry: a systematic review of the literature. *Journal of Cleaner Production* 2021, 289.
15. Ghufran, M.; Khan, K.I.A.; Ullah, F.; Nasir, A.R.; Al Alahmadi, A.A.; Alzaed, A.N.; Alwetaishi, M. Circular economy in the construction industry: A step towards sustainable development. *Buildings* 2022, 12 (7), pp. 1-26.
16. Khan, R. Role of construction sector in economic growth: empirical evidence from Pakistan economy. In: *Proceedings of the 1st ICCIDC-I Conference*, Karachi, Pakistan, 4-5 August 2008, pp. 279-290.
17. Challenges facing construction industries in developing countries. *Building research & Information* 2002, 30, pp. 149-151.
18. Litvin, A.; Dobrovolschi L. Dezvoltarea durabilă - o nouă paradigmă a științei economice. In: *Proceedings of the National scientific conference "Innovation: factor of social-economic development"*, "Bogdan Petriceicu Hasdeu" State University of Cahul, 17 decembrie 2021, pp. 1-6.
19. Wang, Y. Exploring the Importance of Sustainability in the Construction Industry. *Applied and Computational Engineering* 2023, 9(1), pp. 312-318.
20. Araújo, A.G. de; Carneiro, A.; Palha, R.P. Sustainable construction management: a systematic review of the literature with meta-analysis. *Journal of Cleaner Production* 2020, 256, 120350.
21. Myers, D. A Review of Construction Companies' Attitudes to Sustainability. *Construction Management and Economics* 2005, 23, pp. 781–785.
22. Serogina, D.; Pushkar, T.; Zhovtiak, H. The Impact of the Construction Industry on the Social and Economic Development of Territories. *Scientific Bulletin of the National Academy of Statistics, Accounting and Audit* 2022, (1-2), pp. 59-65.

23. Serohina, N.; Vishnia, Y. The influence of the level of investment on the development of the construction industry. *State and Regions. Series: Economics and Business* 2022, 14(11), 6796.
24. Ertuğrul, H.; Pirgaip, B. The Nexus between Construction Investment and Economic Development: Evidence from MENA Countries. *Construction Management and Economics* 2021, 39, pp. 932–947.

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THE IMPACT OF AUTHORIZATION IN THE ASSESSMENT OF RISKS AND SAFETY MEASURES OF OVERSIZED TRANSPORT ACTIVITY

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Abstract. The article aims to analyze the regulations and regulatory framework regarding the authorization of oversized transport, highlighting their importance in ensuring road safety and protecting the infrastructure. It also assesses the risks associated with oversized transport and implement the necessary safety measures. A descriptive and analytical approach is used, examining the doctrine in conjunction with relevant national and international legislation in the field of oversized transport. The author analyzes researchers'views, national and international normative acts that regulate the road transport of oversized goods, the conditions necessary for obtaining special transport authorizations, and the specific risks associated with these operations. The study highlights that the authorization of oversized transport is essential for preventing accidents and protecting road infrastructure. Existing regulations impose strict requirements for obtaining the Special Transport Authorization (AST), including approvals from the competent authorities and compliance with specific technical conditions. It also emphasizes assessing risks such as damage to goods, road obstacles, adverse weather conditions and proper load handling. Implementing safety measures, such as the use of properly equipped escort vehicles, is crucial to reducing the risks associated with oversized transport.

Keywords: *Oversized transport, special transport authorization, excess weight, authorized route, specific risks, safety measures.*

Rezumat. Articolul își propune să analizeze reglementările și cadrul normativ privind autorizarea transportului agabaritic, relevînd importanța acestora pentru asigurarea siguranței rutiere și protecția infrastructurii. De asemenea, se urmărește evaluarea riscurilor asociate cu transportul agabaritic și implementarea măsurilor de siguranță necesare. Este utilizată o abordare descriptivă și analitică, examinând doctrina în coroborare cu legislația națională și internațională relevantă în domeniul transportului agabaritic. Autorul analizează viziunile cercetătorilor în domeniu, actele normative naționale și internaționale care reglementează transportul rutier de mărfuri agabaritice. De asemenea, se discută despre condițiile necesare pentru obținerea autorizațiilor speciale de transport și evaluarea riscurilor specifice asociate cu aceste operațiuni. Studiul realizat, evidențiază că autorizarea transportului agabaritic este esențială pentru prevenirea accidentelor și protejarea

infrastructurii rutiere. Reglementările existente impun cerințe stricte pentru obținerea Autorizației Speciale de Transport (AST), inclusiv avize de la autoritățile competente și respectarea unor condiții tehnice specifice. De asemenea, se subliniază importanța evaluării riscurilor, precum deteriorarea mărfurilor, obstacolele rutiere, condițiile meteorologice nefavorabile și manipularea corectă a încărcăturilor. Implementarea măsurilor de siguranță, cum ar fi utilizarea vehiculelor de însoțire echipate corespunzător, este crucială pentru reducerea riscurilor asociate transportului agabaritic.

Cuvinte cheie: *Transport agabaritic, autorizație specială de transport, masă depăşită, traseu autorizat, riscuri specifice, măsuri de siguranță.*

1. Introduction

Oversized transport refers to the transport of goods that exceed the standard weight or size limits established by the legislation in force. These transports are strictly regulated, and their implementation is admissible only under the conditions of obtaining a Special Transport Authorization (AST). Therefore, the quality of the existing regulations in the field of oversized transport authorization determines the prediction of risks and ensuring the safe conduct of oversized transport activities. This situation determines the prospects in the oversized transport sector in the context of the evolution and development of transport enterprises.

2. General description of the regulatory framework regarding the authorization of oversized transport

The regulatory framework regarding the authorization of oversized transport is regulated by a series of legislative acts and specific norms that establish the conditions and procedures necessary for the conduct of these types of transport. These regulations are fundamental for ensuring road safety, protecting the infrastructure, complying with the legislation in force and anticipating the risks of disastrous and fatal events.

In accordance with the provisions of point 11 of the Regulation on the performance on public roads of road transport exceeding the total mass, axle masses and/or maximum permitted dimensions, approved by Government Decision No. 326 of 18.05.2022, the circulation on public roads of road vehicles exceeding the maximum permitted mass and/or dimensions is possible only in exceptional cases, with the possession of a special transport authorization, for the transportation of indivisible loads or for vehicles that, without load, constructively exceed the maximum permitted masses and/or dimensions [1]. This permissive act issued by the National Road Transport Agency is mandatory and absolutely necessary for the operation of oversized transport. Based on the reference document, the route and the tariffs charged for this route will be established by the road administrator [2].

The authorization of oversized transport is regulated by legislative and regulatory acts at international and national levels.

Internationally, the authorization of oversized transport is regulated by:

1. The European Convention on the International Carriage of Goods by Road (CMR) [3], which regulates the international carriage of goods by road, establishing the rights and obligations of the parties involved. Although it does not focus exclusively on oversized transport, the CMR is essential for understanding the general rules applicable to international transport.

2. The European Agreement on the International Carriage of Dangerous Goods (ADR) [4], regulates the transport of dangerous goods, including aspects related to vehicles that may exceed standard weight and size limits. It is important that operators comply with these regulations when transporting oversized goods that are also considered dangerous.

3. The EU-Moldova Agreement on the Road Transport of Goods (2022) [5], which regulates the road transport of goods between the European Union and the Republic of Moldova, including oversized transport. The Agreement provides for common standards for the operation of transport, including authorisation requirements and technical regulations for vehicles carrying out transport with excess weight and dimensions.

4. Directive (EU) 2015/719 [6], which sets maximum limits for the dimensions of road vehicles in the European Union. Although it does not apply directly to the Republic of Moldova, it influences national regulations, given that Moldova aspires to align its legislation with European standards.

5. Regulation (EC) No 1071/2009 [7], which defines the requirements for road transport operators, including those carrying out oversized transport. Operators must demonstrate professional competence and financial reliability.

6. Directive 2008/68/EC [8], regulates the internal transport of dangerous goods, including aspects related to oversized vehicles transporting such goods. It imposes strict requirements regarding safety and information required for dangerous transport.

In the Republic of Moldova, the authorization of oversized transport is regulated by:

7. Road Transport Code Code no. 150/2014 [9], which in art. 5 defines oversized road transport as a road transport operation carried out with exceeding the maximum mass and/or maximum permitted dimensions. It also regulates the organization and conduct of road transport, implicitly establishing the obligations of transport operators to comply with the legal conditions for carrying out road transport, including oversized ones.

8. Road Law no. 509/1995 [10], which regulates the admissibility of the movement on public roads of means of transport with masses and/or dimensions exceeding the permitted limits only on the basis of a special transport authorization, issued by the National Road Transport Agency.

9. Regulation on the performance of road transport on public roads exceeding the total mass of axle weights and/or maximum permitted dimensions, approved by the Decision of the Government of the Republic of Moldova No. 326 of 18.05.2022 [1], which regulates: the conditions for performing road transport, the issuance and validity of special transport permits; control of vehicles with/or without load, with masses and/or dimensions exceeding the maximum permitted limits; responsibility in the event of movement without a special transport permit, failure to comply with its conditions and immobilization of the vehicle.

10. ANTA Instruction on the issuance of a Special Transport Permit for exceeding the maximum permitted limits [11], which describes in stages the AST issuance procedure.

3. Conditions for authorizing oversized transport

The state regulates the activity of entrepreneurs through mandatory norms, imposing on them a number of obligations [12]. Thus, an essential feature of the road transport activity, being an entrepreneurial activity, is the fact that road transport services are subject to the authorization regime in the manner established by the legislation in force [13]. Oversized transport in the Republic of Moldova is regulated by a specific legal framework, which imposes certain requirements for obtaining the necessary authorizations. These requirements

are essential for ensuring the safety and legality of transport on public roads. But these requirements cannot be qualified as excessive formalism in access to the profession and would serve as an obstacle to the normal development of the road transport sector [14]. However, the establishment of strict authorization conditions for this type of transport is necessary to ensure road safety, infrastructure protection and the efficiency of logistics operations.

Studies show that oversized cargo poses significant risks to road safety. According to a recent analysis by Sterett Crane & Rigging Company, obtaining the necessary permits is essential to ensure compliance with legal regulations and prevent road accidents [15]. Without proper authorization, vehicles carrying oversized cargo can create obstacles and cause collisions with other vehicles or road infrastructure. Oversized transport regulations are designed to protect road infrastructure from damage. To this end, oversized transport must comply with the maximum permissible size and mass limits set by law. Without strict licensing conditions, there is a risk of damage to roads, bridges and other structures, which can lead to significant repair and maintenance costs. The establishment of clear authorization conditions contributes to the efficiency of logistics operations. According to several doctrinal analyses in this field, to safely carry out this transport process, the following tasks must be performed: cargo identification, verification of transport capacity, selection of appropriate vehicles, and detailed planning of the optimal route. Particular attention should be paid to the width of the roads, as well as the height and width of bridges, the existence of signs and pillars, roundabouts, electrical networks and the condition of the roads on which the route is planned [16]. This not only optimizes delivery time but also reduces costs associated with transportation.

According to the legislation, road transport of goods with weights or dimensions exceeding the established limits is permitted only with a special authorization issued by the National Road Transport Agency (ANTA). This applies to both vehicles registered in the Republic of Moldova and those from other states.

In order to obtain a special oversized transport permit, the applicant must meet the following conditions [11]:

• Submit an application according to the template established by ANTA.

• Collect the necessary approvals from the Ministry of Internal Affairs and other relevant entities.

• Pay an appropriate fee for processing the application.

The application for the issuance of the special transport permit is completed in full by the applicant, who bears full responsibility for the correctness and veracity of the information provided regarding [1]:

1) the applicant's identification data;

2) the road transport operator's identification data;

3) the model, registration numbers and valid technical inspection report of the vehicle with excesses, including the backup vehicle, if applicable;

4) the point of departure and destination of the transport on the territory of the Republic of Moldova, as well as intermediate points if he opts for a specific route between the point of departure and destination;

5) the configuration of the vehicle in terms of axles, type of axles, suspensions and wheels, distance between axles;

6) total mass and dimensions of the vehicle and/or overtaking load;

7) vehicle axle masses;

8) type of load transported;

9) requested validity period;

10) interested person, model, registration numbers and technical inspection report of the vehicle with which the overtaking vehicle will be accompanied.

The application together with the documents necessary for obtaining the AST, according to point 39 of the Regulation on the performance of road transport on public roads exceeding the total mass of the masses per axle and/or the maximum permitted dimensions can be submitted at the single counter, at the Agency's profile electronic address or through the information system "e-Transport Authorization" [1].

An important achievement in the procedure for submitting documents in order to obtain the AST is the automation of this procedure through the use of information systems, which have generated multiple benefits for transport operators, such as: debureaucratization of the authorization procedure, provision of efficient and accessible services for applicants, ensuring transparency in the authorization process etc.

Depending on the characteristics of the vehicle with overtaking and the route to be traveled, the Agency, in the special transport authorization, will enter [1]:

1) the obligation to accompany the vehicle with overtaking, indicating:

a) the number of accompanying vehicles necessary for carrying out the overtaking transport;

b) the interested party, model, registration numbers of the vehicle with which the overtaking vehicle will be accompanied;

2) other conditions imposed for the movement of the overtaking vehicle that contribute to the safe passage of the authorized route, such as:

a) traffic restrictions established on the authorized route during certain periods of the year, days or time intervals;

b) temporary and local interruption of traffic for the passage of certain road sections, for crossing engineering works or for undercrossing elements of the road infrastructure and utilities;

c) bypassing or dismantling elements of the road infrastructure;

d) position while driving when crossing engineering works or undercrossing elements of the road infrastructure and utilities;

e) dismounting of self-propelled equipment from transport vehicles in order to limit the masses and/or dimensions of the transport;

f) existence and use of height reduction devices;

g) maximum speed of crossing the works of art;

h) informing the road administrator and the media about the transport program;

i) the obligation to comply with the conditions imposed by the transport project or by studying the route.

The authorization may be used only by the carrier in whose name it was issued and may not be transferred to another person [1].

In accordance with point 10 of the Regulation on the performance on public roads of road transport exceeding the total mass of masses on axles and/or the maximum permitted dimensions, the movement of vehicles with overhangs may be carried out on the public road network of the Republic of Moldova under the following conditions [1]:

a) they are admitted to circulation;

b) they correspond in terms of technical condition and traffic safety requirements;

c) they do not exceed the maximum authorized masses of vehicles, established by the manufacturing plant;

d) hold a valid special transport authorization, issued by the issuing body;

e) comply with the provisions set out in the special transport authorization.

4. Risk assessment, design and implementation of safety measures for oversized transport activities

Oversized goods transport involves a number of specific risks that must be carefully managed to ensure the safety of operations. Risk assessment, design and implementation of safety measures in oversized cargo transport are essential to ensure the efficient and safe conduct of these operations. The main risks associated with oversized cargo transport include:

a. Damage to goods. Oversized cargo is susceptible to damage during handling, loading, unloading and transport. Large dimensions and irregular weight can lead to structural or internal damage. A solution to mitigate this risk would be to use specialized packaging equipment and conduct detailed inspections of the cargo before and after transport to detect any defects.

b. Road obstacles. Oversized cargo transport may encounter obstacles such as low-height bridges, narrow or damaged roads, which can affect the smooth conduct of the transport. Therefore, detailed route planning is required, including identifying all potential obstacles and obtaining the necessary permits.

c. Adverse weather conditions. Extreme weather (rain, snow, strong winds) can affect the safety of transportation and the stability of the goods. Therefore, it is necessary to monitor the weather conditions before transportation and adjust the delivery schedule according to the forecast.

d. Regulatory and compliance issues. Oversized and heavy goods require special permits for delivery to different areas. In addition, there are strict safety standards for loading and unloading oversized goods that land freight companies must adhere to. These include guidelines for the correct use of loading ramps and special platforms to maintain stability. Goods must be secured with locks, straps, and brackets on these structures to prevent any movement that could lead to accidents. Another important aspect is the angle of the ramp, regulated to provide a gradual incline and reduce the risk of the cargo slipping or tipping. Alignment with the load is also meticulously checked for a smooth transition. And to ensure the stability of the transport vehicle, land freight companies are responsible for positioning the cargo on the vehicle's loading surface in such a way that it maintains balance during transport and meets the center of gravity requirements. In this chapter, we highlight the need and importance of collaborating with the relevant authorities to ensure compliance with all local and international regulations [17].

f. Improper handling. Improper handling of oversized cargo can cause accidents or damage. Thus, it is imperative that transport operators ensure that personnel are well trained in the application of correct handling techniques and the use of appropriate equipment.

g. Increased risk of accident. Due to their large size, vehicles carrying oversized goods have a higher risk of causing traffic accidents. Therefore, it is mandatory to use properly equipped accompanying vehicles (with light signals, reflective markings) to warn other road users [18]. A road transport accident is a disaster not only for our country, but also for all countries in the world. As a result of road accidents, more than 10 million people in the world

are killed and injured every year. A significant increase in the country's car fleet, with a simultaneous decrease in traffic organization and deterioration of road quality, has led to a sharp increase in the number of road accidents, which very often result in the loss of drivers, passengers and pedestrians. This has led to an increase in the number and danger of transport accidents and crimes, accidents and disasters that lead to the loss of human life and the destruction of property [19]. The road user is the first link in the road safety chain. Whatever the technical measures adopted, the effectiveness of road safety policy ultimately depends on the behavior of the traffic participant [20].

The control over exceeding the limits and maximum authorized total masses of road vehicles used in road transport operations will allow reducing the damage to public roads caused by these exceedings. Regulations on the authorisation of oversized transport facilitate the standardisation of processes in the field. According to a study by the European Commission, the establishment of good practices in oversized transport helps to create a uniform framework that can be applied in all Member States of the European Union [21]. This not only improves cooperation between the different entities involved in transport, but also ensures better coordination between national and local authorities.The opportunities for sustainable development of the Republic of Moldova are closely linked to the existing road infrastructure to meet the economic needs of the population [22].

Risk management in oversized transport is essential to ensure efficient and safe operations. To minimize these risks, it is advisable to carry out several preventive actions, including:

a) Impact analysis. Assessing the potential impact of the identified risks on road safety and the integrity of the goods is crucial. This includes analyzing possible material damage and risks to road users.

b) Designing safety measures, which includes planning and logistics. It is essential to develop a detailed plan that includes the type of vehicle required, the most appropriate route and obtaining special permits. Equally important is effective coordination through collaboration with all parties involved in carrying out transport operations (suppliers, customers, authorities), which is essential to avoid delays and additional costs. Complex logistical planning is required to determine the type of vehicle required, the most appropriate route, and obtaining special permits. This involves collaborating with the competent authorities to ensure compliance with road regulations.

c) Use of appropriate vehicles and their regular maintenance. The use of specialized vehicles and appropriate equipment is essential for reducing risks. Modern vehicle fleets must be equipped to handle oversized transports effectively. Vehicles used for oversized transport must be properly maintained to prevent technical failures that could lead to accidents. Regular technical checks are essential

d) Personnel training. Drivers and personnel involved in handling oversized goods must be properly trained on the specific risks and safety measures. This includes knowledge of the correct handling of equipment and reaction in emergency situations. There is much research and evidence on the impact of professional training on the efficiency of logistics operations. Well-trained drivers are able to plan routes more efficiently, minimize delays and manage resources better, which leads to significant savings for transport companies [23].

e) Continuous monitoring of transport conditions and evaluation of the effectiveness of the implemented measures are essential for rapid adaptation to any changes or problems that arise during transport.

Risk estimation is an essential step in identifying and anticipating hazards occurring on the oversized transport route. According to some researchers [24], risk estimation should include the following forecasting stages:

- the possibility of a hazard occurring
- the probability of a hazard occurring
- the possibility of identifying the hazard
- the hazard[1] effect and the possibilities of remedying the harmful consequences.

The implementation of preventive actions in the previous stage (calculations and analyses) determines the operation of the necessary actions in the oversized transport process. The purpose of risk estimation is to eliminate or reduce the possibility of critical errors, which could cause the occurrence of irreparable hazards, as well as to identify or mitigate their negative effects.

Risk assessment, design and implementation of safety measures in oversized transport are interdependent processes that contribute to ensuring safe and efficient transport. Continuous collaboration between transport operators, authorities and other stakeholders is extremely important for the success of these activities.

5. Trends in the field of oversized transport

A condition for the integration of the Republic of Moldova into the European Union is the harmonization of national legislation with European regulations in the field of road transport [25].

Oversized transport is in a state of continuous evolution, influenced by technological advances, market requirements and environmental regulations. This section will explore the emerging trends and innovations that are transforming the oversized transport sector, highlighting their impact on operational efficiency and sustainability. Trends and innovations in the oversized transport sector are influenced by technological advances, market requirements and constantly changing regulations. Some of the most important trends and innovations observed in this sector include:

1) Increased demand for oversized transport services. According to ANTA [26], the demand for oversized transport has increased significantly, being stimulated by the rapid development of industries such as construction, renewable energy and the automotive sector. This trend is due to:

- Expansion of global trade. The growth of international trade has led to a greater need for oversized transport.
- Infrastructure projects. Infrastructure investments in various European countries have generated an increased demand for the transport of large equipment

2) Digitalization and automation of processes, is becoming an essential element in streamlining oversized transport operations. This includes:

- Transportation Management Systems (TMS). These software solutions allow for real-time tracking of deliveries, route optimization and resource management.
- Automation of orders and deliveries, which reduces processing time and improves transparency for customers, who can receive real-time updates on the status of their shipments

3) Autonomous vehicles [2] represent a major innovation in oversized transport. They use advanced sensors and artificial intelligence to navigate the roads autonomously. The advantages include:

- Reduction of accidents. Autonomous technology can reduce human error, thereby increasing road safety.
- Operational efficiency. Autonomous trucks can operate without breaks, increasing delivery efficiency.

4) Sustainability and green energy. In Europe and beyond, there has been a significant increase in concern for the state of the environment. Climate change and pollution are major issues facing most countries on the European continent [27]. Sustainability is becoming a priority in the transport sector, and current trends include:

- Fleet electrification. Electric vehicles are increasingly used for heavy-duty transport, reducing carbon emissions and dependence on fossil fuels. Recent projects aim to develop charging infrastructure for electric vehicles.
- Alternative fuels. The use of hydrogen and biofuels is expanding in the maritime and air transport sectors, contributing to the reduction of polluting emissions.

5) Artificial intelligence (AI). Artificial intelligence plays a crucial role in optimizing processes in heavy-duty transport, which focuses on:

- Data analysis. AI algorithms can analyze traffic and weather data to predict delays and optimize routes.
- Improving safety. AI is used to monitor driver behavior and prevent accidents by detecting signs of fatigue or distraction.

6) Dedicated infrastructure. The development of dedicated infrastructure for oversized transport is an emerging trend that can significantly improve the efficiency and safety of these operations. The necessary measures to be taken in this direction include:

- Building special roads for oversized vehicles, which can reduce congestion on standard routes and improve delivery times
- Improving existing infrastructure. Investments in the modernization of roads, bridges and tunnels are essential to allow the safe circulation of oversized vehicles. For example, governments in many European countries are investing in the development of highways and bridges to facilitate oversized transport [26].

5. Conclusions

Oversized transport is an essential sector for the economic development of the Republic of Moldova and beyond, with significant implications for infrastructure, the environment and road safety. Analyzing current regulations, challenges encountered and emerging trends, we can draw some important conclusions and formulate recommendations for improving the authorization and management process of oversized transport.

- *Complexity of regulations*. The authorization process for oversized transport is often complicated, involving multiple institutions and legal requirements. This complexity can lead to significant delays in delivery and additional costs for transport operators.
- Impact on infrastructure. Oversized transport has a considerable impact on road infrastructure, causing premature wear and tear of roads and the need for frequent repairs. This fact reveals the importance of adequate route planning and assessment of the condition of the infrastructure.

- *Environmental challenges*. Emissions generated by oversized transport contribute to air pollution and climate change. It is essential to adopt measures that reduce the environmental impact, including the use of environmentally friendly vehicles and route optimization.
- *Technological innovations*. Technological advances, such as digitalization, the use of autonomous vehicles and drones, have the potential to transform the oversize transport sector, improving operational efficiency and road safety.
- *Inter-institutional collaboration*. Effective collaboration between local authorities, regulatory agencies and transport operators is crucial for the success of the authorization process. Open communication can reduce ambiguities and speed up the obtaining of the necessary approvals.

In order to streamline the authorization process and minimize risks in the oversize transport process, we come up with the following recommendations:

a) Simplify the authorization process.

- Review the legislation. A review of the legislative framework is needed to simplify the process of obtaining authorizations for oversize transport. This could include consolidating the requirements in a single document or online portal.
- Developing a detailed guide for transport operators explaining the steps required to obtain permits could reduce confusion and delays.

b) Infrastructure Investments.

- Allocating funds to upgrade roads affected by oversized transport, including the construction of dedicated routes for large vehicles.
- Regular infrastructure assessments. Implementing a regular programme of road and bridge condition assessments will help identify problems before they become critical.

c) Promoting sustainability.

- Incentivising green vehicles. Offering subsidies or tax incentives to operators using electric or low-emission vehicles can help reduce environmental impact.
- Implementing green technologies. Encouraging the use of modern technologies, such as intelligent traffic management systems, can help optimise routes and reduce emissions.

d) Continuing professional training.

- Organizing regular training courses for drivers and personnel involved in oversized transport will increase awareness of safety and legal regulations.
- Simulations and practical exercises. Carrying out simulations of emergency situations in oversized transport will help personnel react effectively in critical cases.

e) Improving Inter-institutional Collaboration.

- Forming inter-institutional groups specifically dealing with issues related to oversized transport will facilitate the exchange of information and rapid resolution of problems.
- Digital platforms for communication. Implementing digital platforms that allow rapid communication between authorities and transport operators can reduce the time needed to obtain permits.

Oversized transport is a vital sector that requires constant attention from authorities, economic operators and society as a whole. By implementing the proposed

recommendations, a more efficient, safer and more sustainable system for managing oversized transport can be developed, thus contributing to sustainable economic growth and environmental protection. Adaptability to new technological trends and inter-institutional collaboration will be essential in this endeavor.

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References

1. Regulation on the performance on public roads of road transport exceeding the total mass of the masses on the axles and/or the maximum permitted dimensions, approved by the Decision of the Government of the Republic of Moldova: no. 326 of 18.05.2022. In: Official Gazette of the Republic of Moldova , no. 151-157 art. 384. Chișinău, Republica Moldova: Guvernul RM, 2022. Available online: https://www.legis.md/cautare/getResults?doc_id=131340&lang=ro, (accessed on 18.12.2024).
2. Garștea, N. Oversized road transport -particularities, realization conditions, problems and development perspectives. *Journal of Engineering Science* 2024, 31(1), pp. 7-17. https://doi.org/10.52326/jes.utm.2024.31(1).01.
3. Convention relating to the contract for the international carriage of goods by road (CMR), concluded in Geneva, Switzerland on May 19, 1956. Available online: https://treaties.un.org/doc/Treaties/1961/07/19610702%2001-56%20AM/Ch_XI_B_11.pdf (accessed on 18.12.2024).
4. Economic Comission for Europe Inland Transport Comitee. Agreement concerning the International Carriage of Dangerous Goods by Road (A.D.R.) In: *United Nations Publications*. United Nations: Geneva, Switzerland , 2022, 1344 p. ISBN**:** 9789210014328. DOI**:** https://doi.org/10.18356/9789210014328. Available online: https://unece.org/transport/standards/transport/dangerous-goods/adr-2023-agreement-concerning-international-carriage (accessed on 18.12.2024).
5. Agreement between the European Union and the Republic of Moldova on the carriage of freight by road, in force since 21.08.2023. In: *Official Journal of the European Union*. European Union: Strasbourg, France, 2022, no. L 181, 7.7.2022, p. 1-3. Available online: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:22022A0707%2801%29 (accessed on 19.12.2024).
6. Directive (EU) 2015/719 of the European Parliament and of the Council amending Council Directive 96/53/EC laying down, for certain road vehicles circulating within the Community, the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic, adopted on 29.04. 2015. In: *Official Journal of the European Union*. European Union: Strasbourg, France2022, no. L 115, 6.5.2015, pp. 1–10. Available online: https://eur-lex.europa.eu/eli/dir/2015/719/oj/eng (accessed on 21.12.2024).
7. Regulation (EC) No. 1071/2009 of the European Parliament and of the Council establishing common rules concerning the conditions to be complied with to pursue the occupation of road transport operator and repealing Council Directive 96/26/EC, adopted on 21.04.2009. In: *Official Journal of the European Union*. European Union: Strasbourg, France, 2009, no. L 300/51, 14.11.2009, pp. 51-71. Available online: https://eur-lex.europa.eu/eli/reg/2009/1071/oj/eng (accessed on 21.12.2024).
8. Directive 2008/68/EC of the European Parliament and of the Council on the inland transport of dangerous goods, adopted on 24.09.2008. In: Official Journal of the European Union. European Union: Strasbourg, France, 2009, no. L 260, 30.9.2008, p. 13–59. Available online: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32008L0068 (accessed on 21. 12.2024).
9. Road Transport Code of the Republic of Moldova: no. 150 of 17.07.2014. In: Official Gazette of the Republic of Moldova, no. 247-248, art. 568. Moldpres, Chisinau, Republic of Moldova, 2014. Available online: https://www.legis.md/cautare/getResults?doc_id=123700&lang=ro (accessed on 22. 12.2024).
10. Law on Roads, adopted by the Parliament of the Republic of Moldova: no. 509 of 22.06.1995. In: Official Gazette of the Republic of Moldova, Moldpres, Chisinau, Republic of Moldova, 1995, no. 62-63 art. 690.
11. ANTA Instruction on the issuance of the Special Transport Authorization for exceeding the maximum permitted limits. Available online: https://anta.gov.md/content/instructioneAST (accessed on 22.12.2024).
12. Mihalachi, Iu. Improving the regulatory framework of the entrepreneurial activity in road passenger transport: tz. dr. hab. in law. Chișinău 2018, 212 p. CZU: 347.763 (043.2).

13. Garștea, N. Legislația transporturilor. Tehnica-UTM, Chișinău, RM, 2023, 221 p. ISBN 978-9975-45-955-6.
14. Garştea N. Analiza desfăşurării activităţii de transport în conformitate cu prevederile legislaţiei Republicii Moldova. In: Conferinţa a II-a practico-ştiinţifică din 27 octombrie 2006. Strategii de Management Inginerie şi Tehnologii în Transporturi. Chişinău, 2006. pag. 273-280.
15. Sterett Crane Rental Company. Tips and Best Practices for Oversized Load Transportation. Available online: https://www.sterettcrane.com/blog/tips-and-best-practices-for-oversized-load-transportation (accessed on 04.01.2025).
16. Mecioszek, E. Conditions of oversize cargo transport. Scientific Journal of Silesian University of Technology 2019, 102, pp. 109-117. DOI: https://doi.org/10.20858/sjsutst.2019.102.9.
17. Sanges Trans. The challenges of oversized cargo transport faced by forwarding companies. Available online: https://www.sangestrans.com/blog-transport-agabaritic/provocarile-transportului-de-marfuri-agabaritice-cu-care-se-confrunta-companiile-de-expeditii (accessed on 05.01.2025).
18. Decision of the Government of the Republic of Moldova: no. 357 of 13.05.2009. In: Official Gazette of the Republic of Moldova, no. 92-93, art. 409. Moldpres, Chisinau, Republic of Moldova, 2009.
19. Garștea, N. Analysis of the criminal situation in the field of road accidents: causes, problems and solutions regarding their prevention. In: The XXXI-st SIAR International Congress of Automotive and Transport Engineering "Automotive and Integrated Transport Systems – AITS 2021". Technical University of Moldova, Chișinau, Republic of Moldova, October 28-30, 2021, 230 p. ISBN 978-9975-45-782-8.
20. Garștea, N.; Postolachi, C. Factors of influence on the increase in the number of road accidents in the Republic of Moldova. In: Materials of the National Scientific and Practical Conference with International Participation "Transport: Economy, Engineering and Management", October 25-26, 2013, Tehnica-UTM, Chisinau, 2013, p. 93-100.
21. Bădescu, M.; Purcar, C. Considerations on oversized transportation in the UE(Community). In: MATEC Web of Conferences, Sibiu, 2017. Available online: https://www.matec-conferences.org/articles/matecconf/pdf/2017/35/matecconf_mse2017_06001.pdf (accessed on 05.01.2025).
22. Voloșenco, G.; Garștea, N.; Șestenco-Diacec, N. Transport Infrastructure as Indicator of Economic Development of the Country. In: The XXXI-st SIAR International Congress of Automotive and Transport Engineering "Automotive and Integrated Transport Systems - AITS 2021". Technical University of Moldova, Chișinau, Republic of Moldova, October 28-30, 2021, 230 p. ISBN 978-9975-45-782-8.
23. Lu, W.; Choi, S.-B.; Yeo, G.-T. Resilient route selection of oversized cargo transport: the case of South Korea–Kazakhstan. The International Journal of Logistics Management 2021, 33(2), pp. 410-430.
24. Masłowski, D.; Dendera-Gruszka, M.; Giera, J.; Kulinska, E.; Olejnik, K.; Szumidłowska, J. Risks and Challenges of Oversized Transport inthe Energy Industry. Energies 2024, 17(24), 6444.
25. Mihalachi, Iu. Security and control of the activity of road transport operators according to the legislation of the Republic of Moldova. National Security Studies 2020, 2(2), pp. 186-195.
26. Conditions for obtaining the Special Transport Authorization (AST) in international freight traffic. Available online: https://anta.gov.md/content/ast (accessed on 06.01.2025).
27. Holleman. Trends and prospects for oversized transport in the coming years. Available online: https://www.holleman.ro/articole/detalii/tendinte-si-perspective-pentru-transportul-agabaritic-in-urmatorii-ani/99/ (accessed on 06.01.2025).

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EXPLORING GLOBAL BEST PRACTICES IN HIGHER EDUCATION FOR STUDENTS WITH DISABILITIES AND OPPORTUNITIES FOR MONGOLIA

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Abstract. The right of students with disabilities to higher education is a fundamental aspect of social development and an essential human rights issue addressed globally. It reflects the core principle of humanism, which emphasizes equality, providing equal opportunities, and treating all individuals as equals without discrimination. Ensuring the equal inclusion of students with disabilities in higher education not only guarantees the right to education but also promotes their professional and economic independence. It enhances self-confidence, improves quality of life, and boosts societal participation, ultimately contributing to increased productivity within the population. This is a crucial step toward fostering a more equitable and fair society, offering students the chance to succeed in any field they choose. However, in Mongolia, there remain numerous challenges to providing higher education to students with disabilities, including infrastructure accessibility, the capabilities of educational institutions, and the training of teachers and staff. The lack of advanced technological tools and specialized methods within the learning environment stands as a significant barrier. Globally, several countries have made significant strides in ensuring equal access to education for students with disabilities. The United States, European Union, and Japan have introduced comprehensive laws, policies, support services, and cutting-edge technological solutions to facilitate greater access to education for people with disabilities. By adapting and implementing these practices in Mongolia, we can make substantial progress toward creating a more inclusive and equitable education system.

Keywords: *Equality, active participation, advanced technology, international experience, possibility of implementation in Mongolia.*

Rezumat. Dreptul la învățământul superior a studenților cu dizabilități prezintă un aspect fundamental al dezvoltării sociale și o problemă esențială a drepturilor omului, abordată la nivel global. Acest aspect reflectă principiul de bază al umanismului, care pune accent pe egalitate, oferind șanse egale tuturor, fără discriminare. Asigurarea incluziunii egale a studenților cu dizabilități în învățământul superior nu garantează doar dreptul la educație, ci și promovează independența lor profesională și economică. Îmbunătățește încrederea în sine, calitatea vieții și stimulează implicarea lor socială. Acesta este un pas crucial către

promovarea unei societăți mai echitabile și mai corecte, oferind studenților șansa de a reuși în orice domeniu pe care îl aleg. Cu toate acestea, în Mongolia, rămân numeroase provocări pentru a oferi învățământ superior studenților cu dizabilități, inclusiv accesibilitatea infrastructurii, capacitățile instituțiilor de învățământ, formarea profesorilor și a personalului. Lipsa instrumentelor tehnologice avansate și a metodelor specializate în mediul de învățare reprezintă o barieră semnificativă. La nivel global, mai multe țări au făcut progrese semnificative în asigurarea accesului egal la educație pentru elevii cu dizabilități. Statele Unite ale Americii, Uniunea Europeană și Japonia au introdus legi cuprinzătoare, politici, servicii de asistență și soluții tehnologice de ultimă oră pentru a facilita accesul la educație a persoanelor cu dizabilități. Prin adaptarea și implementarea acestor practici în Mongolia, putem face progrese substanțiale spre crearea unui sistem educațional mai incluziv și mai echitabil.

Cuvinte cheie: *egalitate, participare activă, tehnologie avansată, experiență internațională, posibilitate de implementare în Mongolia.*

1. Introduction

In Mongolia, opportunities for students with disabilities to pursue higher education remain limited, with many barriers preventing their full participation. These challenges are largely due to the lack of specialized programs, accessible learning environments, support services, and employment opportunities, which hinder the academic and professional advancement of students with disabilities. Despite the steady presence of people with disabilities in the country, these issues persist in limiting their access to higher education. From 2020 to 2023, the percentage of people with disabilities in Mongolia remained relatively stable, as shown in Table 1. Specifically, the percentage was 3.23% in 2020, 3.11% in 2021, 3.33% in 2022, and 3.17% in 2023. These figures suggest that the proportion of people with disabilities in Mongolia's population has not fluctuated significantly over the past few years. This steady presence of people with disabilities is important because it underscores the importance of considering their specific needs and challenges in education, healthcare, and employment. While the data indicates a stable prevalence, it also highlights an ongoing issue: the limited support systems in place to help students with disabilities access higher education. One of the key barriers is the lack of infrastructure that accommodates students with diverse needs. Many universities and colleges in Mongolia are not fully equipped to provide the necessary adjustments for students with mobility impairments, vision or hearing disabilities, and other forms of physical or mental impairments. This lack of accessibility means that many students with disabilities are either unable to attend college or face significant challenges while pursuing their education. In addition to infrastructure issues, there is a lack of specialized programs designed to meet the needs of students with disabilities. While some educational institutions may have programs in place to assist these students, the offerings are often limited and not comprehensive enough to address the wide range of disabilities. Furthermore, there is a shortage of qualified staff trained to provide support services such as sign language interpretation, physical assistance, and academic tutoring for students with disabilities. Without these critical support services, students with disabilities may struggle to fully engage in their studies and achieve academic success. Employment opportunities for students with disabilities also remain limited in Mongolia. Even after completing higher education, many graduates with disabilities face significant challenges in entering the workforce. The lack of accessible workplaces,

coupled with societal stigma and misconceptions about the abilities of people with disabilities, often leads to discrimination in hiring practices. Additionally, many employers may not be aware of how to accommodate employees with disabilities, further reducing employment prospects. The steady percentage of people with disabilities in the population, as seen in the disability statistics from 2020 to 2023, serves as a reminder of the need for more inclusive policies and programs that address the barriers faced by this group. In order to improve access to higher education and employment for students with disabilities, targeted efforts must be made to create inclusive educational environments, provide specialized programs, and ensure the availability of support services. This includes not only improving physical accessibility on campuses but also offering mentorship, training for faculty and staff, and promoting awareness about disability rights and inclusion. Furthermore, it is crucial to invest in programs that facilitate the transition from education to employment for students with disabilities. This could involve providing career counseling, job placement services, and workplace accommodations to ensure that graduates with disabilities can successfully enter the workforce and contribute to society. By improving access to higher education and employment for students with disabilities, Mongolia can create a more inclusive and equitable society for all its citizens, regardless of ability.

Table 1

Number of people with disabilities (2020-2023) [1]

Type of Disability	2020	2021	2022	2023
Vision	11.871	11.695	12.696	12.053
Speech	4.060	4.074	4.220	3.618
Hearing	8.708	8.430	8.780	7.800
Movement	21.810	21.011	21.064	20.018
Mental	20.742	20.414	21.639	21.396
Attached	7.678	7.430	7.580	7.409
Others	33.530	33.115	39.136	38.934

The number of people with vision impairments increased by 1.5%, from 11,871 in 2020 to 12,053 in 2023. This increase, although slight, suggests a growing need for interventions to support individuals with visual disabilities. Vision impairment can severely impact an individual's quality of life, requiring specialized healthcare, assistive technologies, and accessibility measures. Early interventions, such as regular eye exams and public awareness campaigns, are vital to addressing this increase in prevalence. The number of individuals with speech impairments decreased by 11.2%, from 4.074 in 2021 to 3.618 in 2023. This decline could be attributed to advancements in early detection, speech therapy, and improved support systems. However, despite the decline in numbers, individuals with speech impairments still face significant challenges in communication, which may affect their educational, social, and professional opportunities. Continued efforts in speech therapy, communication aids, and education inclusion are crucial for improving the lives of people with speech impairments. The number of hearing-impaired individuals increased by 0.5%, reaching 7.800 in 2023. Although the increase is modest, hearing impairments are a major concern due to the potential social isolation and educational challenges they pose. The rising prevalence of hearing loss, especially in older populations, underscores the importance of expanding access to hearing aids, auditory rehabilitation, and inclusive environments that

support people with hearing disabilities. The number of individuals with movement disabilities has decreased by 8.2%, from 21.810 in 2020 to 20.018 in 2023. This decrease could be linked to improvements in medical treatment, rehabilitation therapies, and accessibility in public infrastructure. Despite this reduction, mobility impairments continue to present substantial barriers, including difficulties with transportation, education, and employment. Further improvements in accessibility and the integration of assistive devices, such as mobility aids and prosthetics, can help mitigate these challenges. Mental disabilities have shown a projected rise, with the number of individuals reaching 21.396 in 2023, reflecting a 3% increase. This upward trend points to the growing need for psychiatric care and mental health services. Mental health issues, including depression, anxiety, and developmental disorders, can have long-term effects on individuals' daily functioning. The increase in prevalence highlights the necessity of integrating mental health services into mainstream healthcare systems, fostering a more supportive environment for people with mental disabilities, and promoting mental well-being through awareness and early intervention programs. The number of individuals with co-occurring disabilities remained relatively stable at 7.409 in 2023. Co-occurring disabilities involve individuals who experience multiple forms of impairment, which can complicate care and support needs. This stable prevalence emphasizes the need for specialized services that address the unique challenges faced by individuals with more than one disability. Social participation and educational opportunities are essential for enhancing the quality of life for people with multiple disabilities, requiring policies that promote inclusivity and equality. The number of individuals with other disabilities remained high, with a projected 38.934 people in 2023. This category encompasses a wide range of disabilities, which can include cognitive, neurological, and other physical impairments not categorized elsewhere. The consistent prevalence of individuals in this category highlights the broad spectrum of disabilities that require specialized attention, services, and resources. Addressing the needs of people with various types of disabilities can improve social inclusion and overall well-being.

The data from 2020 to 2023 provides valuable insights into the changing landscape of disability prevalence, showing both increases and decreases in different categories. Vision and hearing impairments show gradual increases, while speech and movement impairments have declined, albeit slightly. Mental disabilities have notably risen, underscoring the need for greater focus on mental health services and psychiatric care. The prevalence of co-occurring disabilities remains stable, indicating a persistent need for inclusive education and social programs. The consistently high number of individuals with other disabilities highlights the ongoing challenges faced by people with a wide range of impairments. To address these trends, it is crucial to continue improving accessibility, healthcare, and social services for individuals with disabilities. Innovations in assistive technologies, inclusive education, and targeted healthcare interventions can significantly improve the quality of life for those affected. Moreover, public policies should prioritize disability inclusion, ensuring that people with disabilities have equal opportunities for participation in all aspects of society. As disability prevalence continues to evolve, it is essential to adapt support systems to the growing and changing needs of the disabled population, ensuring that they can live independently and with dignity in society [1].

This data highlights the urgent need to enhance opportunities for people with disabilities to participate in society and access education. It is crucial to implement policies aimed at improving their quality of life [2–4].

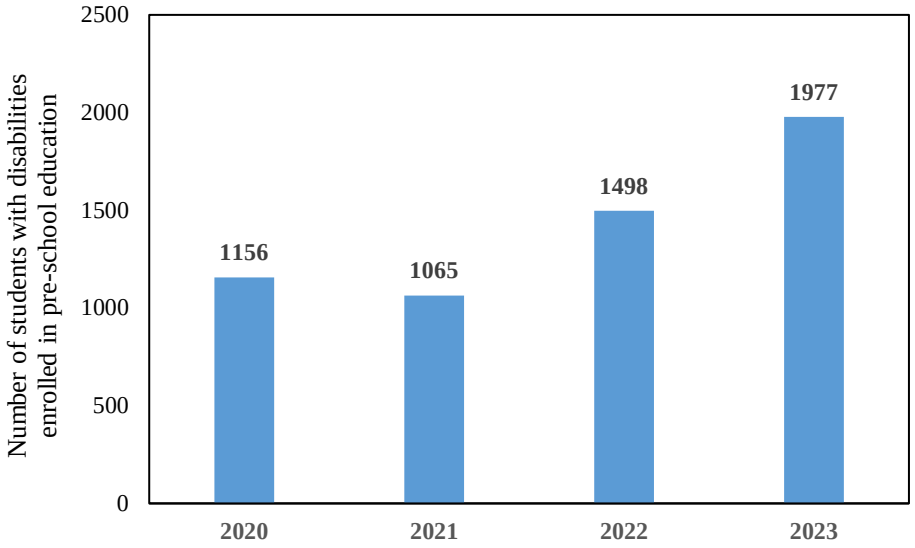

Figure 1. Number of students with disabilities enrolled in pre-school education.

Between 2020 and 2023, the number of children with disabilities enrolled in preschool educational institutions nationwide has increased. In 2021, the minimum enrollment was 1.065 students, while in 2023, this number rose to a maximum of 1.977 students (Figure 1). As this number continues to grow, it becomes crucial to address the special needs of these students and create inclusive learning environments [3–5].

In the 2023-2024 academic year, a total of 5,673 students with disabilities are pursuing education across various levels: 1.696 in special schools, 1,498 in preschool education, 643 in vocational and training centers, and 414 at the university level [1]. This research aims to enhance access to higher education for students with disabilities by identifying specialized programs, teaching methods, and support services tailored to their needs.

Reviewing successful international practices in higher education for students with disabilities and exploring their implementation in Mongolia will be a critical step toward improving our education system and ensuring higher education is accessible to all students, regardless of their abilities. By applying the findings of this research to educational institutions and government policies, we aim to expand opportunities for students with disabilities, promoting greater social participation and equality. The purpose of this study is to explore successful international practices in higher education for students with disabilities and provide recommendations for their implementation in Mongolia. This research will help identify effective strategies and solutions to improve higher education opportunities for students with disabilities in the country.

The primary objectives of this research are to examine best practices from around the world and assess their feasibility for adaptation in Mongolia. The research focuses on identifying policies and strategies that have successfully improved access to higher education for students with disabilities in other countries and evaluating their applicability in the Mongolian context. Additionally, the study aims to develop research findings that will propose policy recommendations aimed at enhancing higher education access for students with disabilities.

One of the fundamental goals of this research is the development and implementation of specialized curricula to transform learning environments, making them more inclusive and

accessible. In many countries, specialized curricula have played a pivotal role in addressing the diverse needs of students with disabilities. These curricula include modifications in teaching methods, classroom layouts, and learning materials to ensure equitable access to education. Drawing inspiration from successful models, the research will propose frameworks for designing inclusive curricula tailored to Mongolia's educational institutions. This effort is expected to improve learning outcomes and create an environment where students with disabilities feel valued and supported.

Furthermore, the creation of digital and hybrid learning systems is seen as essential in providing students with disabilities the flexibility they need to thrive. Digital learning platforms equipped with adaptive technologies, such as screen readers, speech-to-text software, and customized keyboards, have proven effective in other countries. These technologies cater to a wide range of disabilities, enabling students to engage with educational content more effectively. Hybrid learning models, combining online and in-person instruction, can offer additional flexibility, particularly for students who face mobility challenges or require personalized support. By incorporating these solutions, Mongolia can ensure that students with disabilities have equal access to quality education, regardless of their physical or geographical limitations.

The research also underscores the importance of financial support, including scholarships and dedicated support services, to ensure that students with disabilities have the resources they need to succeed academically. Scholarships specifically designed for students with disabilities can help alleviate the financial burdens associated with higher education. Countries like the Netherlands and Norway have established robust financial aid programs that provide tuition discounts, grants, and loans tailored to the needs of students with disabilities. Adopting similar programs in Mongolia would significantly enhance access to higher education for this demographic. Additionally, support services such as counseling, career guidance, and mentorship programs are crucial in addressing the unique challenges faced by students with disabilities. These services can help students navigate their academic journeys more effectively and build the confidence needed to pursue their goals.

Post-graduation, reforming workplace policies to support the employment of individuals with disabilities will be key in creating conducive working conditions. Inclusive workplace policies, such as reasonable accommodations, accessible office spaces, and anti-discrimination measures, have been successfully implemented in various countries. These policies not only facilitate the employment of individuals with disabilities but also promote a culture of diversity and inclusion within organizations. By introducing similar reforms, Mongolia can ensure that graduates with disabilities transition smoothly from education to employment, contributing meaningfully to the workforce and society as a whole.

The research also emphasizes the need for a robust policy and legal framework to support these initiatives. Drawing from international experiences, such as those in the Netherlands and Norway, it is crucial to implement specific laws and establish the necessary legal foundation to guarantee accessibility for students with disabilities. This includes legislation focused on ensuring accessible infrastructure, technology, and services within educational institutions. A strong legal framework will provide the foundation for sustainable improvements in higher education access for students with disabilities in Mongolia.

Another critical aspect of the research is the improvement of the school and learning environment. In countries like the Netherlands and Norway, educational institutions have been designed to create inclusive environments through modernized infrastructure and

accessible facilities. Mongolia should prioritize similar upgrades to its educational institutions, ensuring that classrooms, libraries, laboratories, and other facilities are fully accessible to students with disabilities. Incorporating universal design principles in new construction and retrofitting existing structures will be essential in creating an inclusive educational landscape [10–12].

Developing international partnerships and cooperation is another key recommendation highlighted by the research. Collaboration with developed nations and international organizations can provide Mongolia with valuable insights and resources to improve access to higher education for students with disabilities. Partnerships can facilitate knowledge exchange, access to funding, and technical expertise, enabling Mongolia to implement innovative solutions more effectively. For example, international partnerships could support the introduction of cutting-edge assistive technologies and training programs for educators specializing in inclusive education.

Aligning special programs and learning outcomes with international standards is also vital. Specialized programs, such as classroom instruction tailored to the needs of students with disabilities, counseling services, and assistive technologies, have been successfully implemented in various countries. By adopting similar programs, Mongolia can ensure that students with disabilities receive the support they need to succeed academically and socially. Integrating these programs into the national education system will help create a more inclusive and equitable learning environment.

By incorporating these innovative solutions, significant progress can be made toward improving the conditions for higher education and creating a more inclusive society for all students with disabilities in Mongolia. These initiatives, which align with best practices from successful international models, will open up new opportunities for students with disabilities within Mongolia's education system. Ultimately, the implementation of these measures will not only enhance access to higher education but also empower students with disabilities to achieve their full potential and contribute meaningfully to society.

2. Materials and Methods

In this study, a comprehensive review of literature regarding the development of people with disabilities in education was conducted, utilizing sources from internationally indexed platforms. The selected articles were analyzed through the content analysis method, which facilitated a detailed comparison of the methodologies, evaluations, and outcomes presented across these sources. The study also incorporated theoretical works and reports to derive both practical and theoretical conclusions. As a result, new insights were generated, highlighting how international practices in higher education for students with disabilities could be adapted and implemented in the Mongolian context.

3. Results

Mongolia has taken significant steps to support students with disabilities by implementing a variety of programs and activities. These initiatives are designed to foster an inclusive educational environment and ensure that students with special needs have access to resources that promote their academic and personal development. Various entities, including educational institutions, government agencies, universities, and businesses, collaborate to provide comprehensive support systems. This document outlines the key programs, university activities, and specific examples that highlight Mongolia’s commitment to this important cause.

Several universities in Mongolia play a pivotal role in supporting students with disabilities by providing tailored programs, accessible facilities, and opportunities for skill development.

The National University of Mongolia (NUM) offers inclusive education programs designed to accommodate students with disabilities. The university ensures accessibility through adaptive classrooms, learning technologies, and mentorship programs. Additionally, NUM organizes workshops aimed at enhancing essential skills like communication, leadership, and teamwork. For instance, the "Empowering Every Student" workshop series includes activities that build confidence and promote inclusivity. Moreover, NUM provides internships and research opportunities, enabling students with disabilities to gain practical experience in their chosen fields.

The Mongolian National University of Medical Sciences (MNUMS) focuses on integrating students with disabilities into healthcare-related programs by offering accessible laboratories and specialized support for clinical training. Through its "Healthcare Accessibility Initiative," the university pairs students with mentors from the healthcare industry to provide academic guidance and professional development. Scholarships are also available to support students with disabilities pursuing degrees in medical and healthcare fields, ensuring access to quality education and career opportunities.

The University of Humanities in Mongolia actively supports students with disabilities through flexible course schedules and online learning options. To celebrate diversity and foster creativity, the university runs the "Cultural Inclusion Program," which includes extracurricular activities like art workshops, poetry readings, and storytelling events. Furthermore, the university's Career Center provides tailored counseling and job placement services to assist students with disabilities in securing meaningful employment.

The Mongolian University of Science and Technology (MUST) offers technical education programs designed for students with disabilities, including adaptive technology training and practical engineering courses. The university hosts annual hackathons and innovation challenges, providing opportunities for students with disabilities to showcase their technical and creative skills. In addition, partnerships with technology companies help facilitate internships and employment opportunities, bridging the gap between education and the job market for these students.

In addition to university-led initiatives, government agencies and private businesses play an essential role in supporting students with disabilities in Mongolia. The Ministry of Education and Science provides funding and resources to ensure that educational institutions can implement inclusive policies and practices. The National Inclusive Education Policy plays a vital role in integrating students with disabilities into mainstream education systems by outlining strategies and providing guidelines for developing accessible infrastructure. To further support these students, the government offers various scholarship programs, such as the "Inclusive Education Grant," which helps them pursue higher education. Additionally, skill development workshops are organized to prepare students for the workforce by focusing on essential skills like time management, problem-solving, and professional communication. The private sector also contributes significantly through corporate social responsibility (CSR) initiatives. For instance, Golomt Bank's "Empower Dreams" program provides scholarships and internship opportunities for students with disabilities in business and finance-related fields, enabling them to build successful careers. Similarly, Oyu Tolgoi LLC's Accessibility Project collaborates with universities to enhance campus infrastructure and deliver adaptive

technologies, ensuring a more inclusive educational environment for students with disabilities.

Examples of successful programs and activities for supporting students with disabilities in Mongolia include youth empowerment camps, accessible technology initiatives, internship and job placement programs, and extracurricular activities and clubs. Organized by non-governmental organizations in collaboration with universities, youth empowerment camps focus on building confidence and life skills through activities such as team-building exercises, leadership training, and career counseling. Accessible technology initiatives involve partnerships between universities and tech companies to provide adaptive tools, such as screen readers, speech-to-text software, and customized keyboards, enabling students with visual and motor impairments to access educational content more effectively. Collaborative programs between universities and businesses, such as the "Inclusive Workplaces Initiative," offer internships tailored to the specific needs of students with disabilities, ensuring inclusive environments. Additionally, many universities have established clubs and societies to promote inclusion and social interaction. For example, the "Diverse Abilities Club" at the National University of Mongolia organizes cultural events, sports activities, and peer support groups to foster community and engagement. Mongolia actively participates in international initiatives to support students with disabilities. Exchange programs and scholarships, such as the "Asian Development Bank's Inclusive Education Program" provide students with opportunities to study abroad and gain global perspectives. These programs not only enhance academic and professional skills but also promote cross-cultural understanding and collaboration. Mongolia's efforts to support students with disabilities demonstrate a strong commitment to inclusivity and equal opportunity. Universities, government agencies, and private sector organizations work together to create an environment where students with disabilities can thrive academically, professionally, and socially. Through tailored programs, accessible infrastructure, and skill development initiatives, Mongolia continues to empower students with disabilities, ensuring they have the resources and opportunities needed to succeed in their educational and professional journeys [13–18]. Additionally, competitions in areas like sewing arts and sports provide students with the opportunity to showcase and develop their talents. Exchange programs, cooperation agreements, and partnerships with international organizations also offer students opportunities to study abroad. Further, Mongolia has made strides in providing support for students with disabilities, including the expansion of special library materials and the implementation of psychological counseling programs. Regular sign language training for teachers and the organization of meetings, discussions, and conferences to promote employment and social participation for young people with disabilities are also part of these efforts. However, in addition to these activities, it is crucial to learn from international best practices to expand access to special needs education and enhance existing mechanisms.

To improve conditions for equal access to education for students with disabilities and support their active participation in society, it is essential that all sectors of society, not just educational institutions, contribute to the effort. Drawing on successful international practices, several key strategies have been implemented in universities across the United States to enhance the learning environment for students with disabilities. These strategies include:

1. Multidisciplinary support office: Many U.S. universities have dedicated offices for students with disabilities, offering specialized programs and services. These offices

provide counseling, course materials, translation services, and access to assistive technologies and learning materials. To ensure that learning materials are accessible to all students, universities promote the use of e-textbooks, audio lessons, and video lectures. This approach makes lectures available in multiple formats, enhancing access for students with disabilities [9,10].

2. Inclusive teaching special courses for professors and teachers, educating them on how to effectively teach students with disabilities. These programs ensure that educators are equipped with the skills to support diverse learning needs [11,12].
3. Infrastructure accessibility: Accessibility infrastructure is vital in the U.S. educational system. This includes the installation of ramps, elevators, and accessible public transportation options, ensuring that students with disabilities can participate in education without physical barriers [13].
4. Financial support: U.S. educational institutions offer various scholarships actually for students with disabilities. Federal and state grants are designed to reduce the financial burden of education for these students, making higher education more accessible [6,14].

These practices could serve as valuable models for improving the educational system in Mongolia, particularly in h disabilities.

In European countries, several educational support measures have been successfully implemented to support students with disabilities [15,16]. For instance, in the Netherlands, universities have established dedicated advisory services to ensure access to education for students with disabilities. These services provide specialized consulting, tailored course materials, translation, and customized technological support. The dissemination of learning materials in text formats, as well as the development of audiobooks and video lessons in accessible formats, is also a standard practice within the Dutch educational system focus is on both educational and financial support for students with disabilities. The country offers scholarships and loan programs, alongside accessible e-learning platforms and technology solutions. School buildings and classrooms are designed with lifts, ramps, and other adaptations to ensure that students with disabilities can fully participate in education.

In Japan, tends out due to its extensive use of advanced technology. Schools in Japan employ specialized technology, e-learning platforms, and communication tools to enhance the learning experience for students with disabilities. Teachers receive training on how to instruct students with disabilities through specialized programs. Universities also develop e-books, video, and audio content, alongside adapted technology, to create a fully accessible environment. Japan's approach is notable for its efficient incorporation of cutting-edge technology into education, setting it apart from both the United States and Europe in terms of technological integration [17,18].

Australia has developed robust policies and measures aimed at increasing access to education for students with disabilities [19,20]. Special advisory teams play a key role in enhancing both the learning environment and teaching methods. These teams not only provide essential counseling services but also implement projects designed to make educational institutions more accessible. The Australian system has a comprehensive network of counseling services for students with disabilities, surpassing the systems in the United States and Europe in terms of coverage and reach. Furthermore, continuous efforts are made to improve infrastructure and ensure increased access to schools for all students, including those with disabilities.

Australia has developed comprehensive policies and measures aimed at increasing access to education for students with disabilities. Special advisory teams dedicated to supporting students with disabilities play a pivotal role in enhancing both the learning environment and teaching methods. These teams provide essential counseling services and implement projects to make schools more accessible. Notably, the Australian education system boasts a more extensive network of counseling services for students with disabilities than those found in the United States and Europe. Additionally, continuous efforts are made to improve infrastructure and increase access to schools, ensuring that students with disabilities can participate in education without barriers.

Examining the initiatives in countries such as the United States, Europe, Japan, and Australia, it is clear that comprehensive measures are being implemented worldwide to improve access to education for students with disabilities. These measures aim to support students with disabilities, equalize their learning opportunities, and enhance access to education. By combining these successful international practices, opportunities to improve access to education for students with disabilities in Mongolia can be identified. One essential step is to enhance the policy and legal framework to ensure equal educational opportunities for students with disabilities. Drawing from international experiences, such as those in the Netherlands and Norway, it is crucial to implement specific laws and establish the necessary legal framework, including legislation focused on ensuring the accessibility of education for all students. Additionally, implementing technology support programs is another vital step in enhancing access to education. Support programs should include systems for reading and note-taking for the visually impaired, visualization and translation tools for the hearing impaired, as well as audio and video lessons for all students. The development of electronic learning materials would also play a key role in creating an inclusive educational environment. Furthermore, scholarships and financial aid for students with disabilities in Mongolia must be expanded. Following international best practices, such as those in the Netherlands and Norway, scholarship and loan programs should be introduced to alleviate future education costs and enhance workforce skills. It is necessary to create targeted financial assistance programs, including tuition discounts, to ensure that students with disabilities can access higher education. Another critical aspect is establishing training programs for special educators. In order to effectively educate students with disabilities, teachers need specialized training. European countries, such as the Netherlands and Norway, employ teachers who are specially trained to work with students with disabilities, and Mongolia should implement similar training programs to develop teachers' professional skills, equipping them with the necessary methods to support these students. Moreover, the accessibility of learning environments and school buildings is crucial for students with disabilities. In countries like the Netherlands and Norway, educational institutions are designed to create an inclusive environment. Mongolia should modernize the infrastructure of educational institutions to accommodate students with disabilities, ensuring classrooms and facilities are fully accessible and equipped with the necessary tools and technologies. Additionally, Mongolia should foster international partnerships to improve access to education for students with disabilities. Learning from the experiences of European countries and exploring the feasibility of implementing their measures can be highly beneficial. Cooperation with developed nations, seeking assistance from international experts, and exchanging knowledge will help drive reforms in Mongolia's education sector. Lastly, aligning special programs and learning outcomes with international standards is essential. A

key lesson from the Netherlands and Norway is the development and implementation of specialized programs, including classroom instruction, technology assistance, counseling services, and translation support for students with disabilities. Mongolia should develop similar specialized programs, introduce consulting services for students with disabilities, and integrate assistive technologies to create a more inclusive educational system. By following these steps, Mongolia can significantly improve educational opportunities for students with disabilities, ensuring they have the necessary support to succeed academically and socially.

5. Conclusions

Improving access to education for students with disabilities is a critical priority for Mongolia, and achieving this goal requires the effective application of international expertise, cooperation, technological support, and financial assistance. The foundation for equitable education lies in improving the educational environment, enhancing teachers' professional skills, providing financial support, and integrating technological solutions. Ensuring access to higher education for students with disabilities goes beyond upholding their right to education; it plays a crucial role in assessing their social participation, contributions to society, and overall quality of life. However, Mongolia faces significant challenges in this area, such as a lack of infrastructure, inadequate learning environments, and insufficient technology, which hinder the full inclusion of students with disabilities in higher education. By drawing from international experiences and adopting inclusive practices, Mongolia can create an education system that offers equal opportunities for students with disabilities in the future.

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References

1. National Statistical Database of Mongolia. National Statistical Database of Mongolia, https://shorturl.at/l76Tz, 2024.
2. Sakellariou, D.; Rotarou, E.S. The effects of neoliberal policies on access to healthcare for people with disabilities. *Int J Equity Health* 2017, 16, pp. 1-8.
3. Molina Roldán S, Marauri J, Aubert A, Flecha R. How Inclusive Interactive Learning Environments Benefit Students Without Special Needs. *Front Psychol* 2021, 12, pp. 1-12.
4. Nazarova, Z. Organization of the Game Process of Learning in the Preschool Education System. *JournalNX* 2020, 6, pp. 1-7.
5. Ugalde, L.; Santiago-Garabieta, M.; Villarejo-Carballido, B.; Puigvert, L. Impact of Interactive Learning Environments on Learning and Cognitive Development of Children With Special Educational Needs: A Literature Review. *Front Psychol* 2021, 12, pp. 1-15.
6. Avon, L.; Loprest, P. Disability and the education system. *Future of Children* 2012, 22, pp. 1-18.
7. Kloos, E.; Nacik, E.; Ward, C. Developing Implementation Capacity of a State Education Agency to Improve Outcomes for Students With Disabilities. *J Disabil Policy Stud* 2023, 34, pp. 1-8.
8. Clarke, M. Rethinking graduate employability: the role of capital, individual attributes and context. *Studies in Higher Education* 2018, 43, pp. 1-10.
9. Motahhari Nejad, H.; Ahmadi Deh Ghotbaddini, M. Effective factors on student loyalty: a relationship marketing approach. *Quarterly Journal of Research and Planning in Higher Education* 2023, 20, pp. 1-7.
10. Castro-Kemp, S.; Samuels, A. Working together: A review of cross-sector collaborative practices in provision for children with special educational needs and disabilities. *Res Dev Disabil* 2022, 120, pp. 1-10.
11. Douce, C. E-learning and disability in higher education. *Open Learning: The Journal of Open, Distance and e-Learning* 2015, 30, pp. 1-10.
12. Burgstahler, S. Opening doors or slamming them shut? Online learning practices and students with disabilities. *Soc Incl* 2015, 3, pp. 1-15.

13. Laczko-Kerr, I.; Berliner, D.C. The effectiveness of "Teach For America" and other under-certified teachers on student academic achievement: A case of harmful public policy. *Educ Policy Anal Arch* 2002, 10, pp. 1-12.
14. Ashraf, M.T.; Rahla, R. Hurdling Barriers: Exploring Inaccessibility in Higher Education Institutions for Mobility Assistive Device Users. *Contemporary Issues in Social Sciences and Management Practices* 2023, 2, pp. 1-10.
15. Popov, N.; Wolhuter, C.; Ermenc, K.S.; Hilton, G.; Ogunleye, J.; Niemczyk, E.; Vasquez-Martinez, C.-R. Quality, Social Justice and Accountability in Education Worldwide. *BCES Conference Books* 2015, 13(1), pp. 1-9.
16. Buchner, T.; Shevlin, M.; Donovan, M.A.; Gercke, M.; Goll, H.; Šiška, J. Same Progress for All? Inclusive Education, the United Nations Convention on the Rights of Persons With Disabilities and Students With Intellectual Disability in European Countries. *J Policy Pract Intellect Disabil* 2021, 18, pp. 1-12.
17. Ogoshi, Y.; Ogoshi, S.; Saitoh,T.; Saitoh, Y.; Itoh, Y.; Wakamatu, M. Proof of Concept: ICT System PicotTo for Individual Education Support. *International Journal of Engineering and Technology* 2022, 14, pp. 1-10.
18. Ogoshi, S.; Ogoshi, Y.; Saitoh, T.; Tanaka, K.; Itoh, Y.; Wakamatu, M. Individual Education Support System Using ICT for Developmental Disabilities. *Cognitive Behavioral Therapy - Basic Principles and Application Areas* 2023. pp. 1-15.
19. Fisher, K.R.; Purcal, C. Policies to change attitudes to people with disabilities. *Scandinavian Journal of Disability Research* 2017. 19. pp. 1-10.
20. Duncan, J.; Punch, R.; Gauntlett, M.; Talbot-Stokes, R. Missing the mark or scoring a goal? Achieving non-discrimination for students with disability in primary and secondary education in Australia: A scoping review. *Aust J Educ* 2020, 64, pp. 1-12.

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IDENTIFYING REASONS FOR STUDENTS LEARNING ACTIVITY IN VOCATIONAL TECHNICAL EDUCATION

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Abstract. The fundamental changes taking place in socio-economic life, both in the country and abroad in recent years, have required a revision of priorities in the system of training engineering personnel and have identified one of the most important goals of a higher technical school – the preparation of the future engineer for independent professional and creative activity, as a necessary condition for the formation of the student's personality, motivated by the creative realization of personal potential, professional skills and abilities. Among the psychological and pedagogical problems of higher education, the most significant is the problem of developing the educational motivation of students, since a high level of educational motivation is one of the most effective means of increasing the efficiency and quality of the educational process. The article includes theoretical and empirical research focused on learning motivation among students of the study programs of Engineering and Management in Transport and Automotive Transport Engineering within the Faculty of Mechanical, Industrial and Transport Engineering of the Technical University of Moldova, identifying the specifics of the dominant learning motivation depending on the year and study program, determining students' attitude towards the objects of the curriculum from the perspective of interest, importance and understanding, and establishing the factors influencing students' learning motivation.

Keywords: *motivation, learning motivation, school motivation, demotivation, vocational education.*

Rezumat. Schimbările fundamentale care au loc în viața socio-economică atât în țară, cât și în afara ei în ultimii ani au necesitat o revizuire a priorităților în sistemul de pregătire a personalului ingineresc și au identificat unul dintre cele mai importante obiective ale școlii tehnice superioare – pregătirea viitorului inginer pentru activitate profesională și creativă independentă ca o condiție necesară a formarii personalității studentului, motivată de realizarea creativă a potențialului personal, aptitudinilor și abilităților profesionale. Dintre problemele psihologice și pedagogice ale învățământului superior, cea mai semnificativă este problema formării motivației educaționale a studenților, întrucât un nivel ridicat de motivație educațională este unul dintre cele mai eficiente mijloace de creștere a eficienței și calității

procesului de învățământ. Articolul cuprinde o cercetare teoretică și empirică axată pe motivația învățării la studenții programelor de studii Inginerie și Management în Transporturi și Ingineria Transportului Auto din cadrul Facultății Inginerie Mecanică, Industrială și Transporturi a Universității Tehnice a Moldovei, identificarea specificului motivației dominante a învățării în funcție de anul și programul de studii, determinarea atitudinii studenților față de obiectele planului de învățământ din perspectiva interesului, importanței și înțelegerii și stabilirea factorilor de influență a motivației învățării la studenți.

Cuvinte cheie: *motivație, motivația învățării, motivația școlară, demotivare, învățământ profesional tehnic.*

1. Introduction

The fundamental changes taking place in socio-economic life, both in the country and abroad in recent years, have required a revision of priorities in the system of training engineering personnel and have identified one of the most important goals of a higher technical school – the preparation of the future engineer for independent professional and creative activity as a necessary condition for the formation of the student's personality, motivated by the creative realization of personal potential, professional skills and abilities.

In the current educational context, motivation plays a crucial role in students' academic success, especially in vocational education, where preparation for a specific career is a priority. Developing and maintaining learning motivation in these students presents challenges and involves a deep understanding of the psychopedagogical factors that influence their learning process.

Motivation is a complex and complicated field of research. For many years, motivation has been a field of increased interest for specialists and the subject of an impressive number of investigations. The problem of learning motivation is not new either, it has been addressed in a series of pedagogical, psychological, psychosocial studies.

Motivation to learn influences the learning process itself and, implicitly, the results and finalities of this process. Negative phrases and labels, *such as students are no longer interested in learning, they don't like books, they are not motivated to learn, they are no longer the same as before etc.*, have often appeared in investigations carried out by various researchers in educational institutions [1]. It is a reality frequently reported by teachers in our country and a pressing and current problem, to which specialists in the field of educational sciences, but also practitioners, are trying to find solutions. Due to its importance, the specialized literature has focused a lot on this topic, which remains relevant.

The problem of motivation, in general, and that of learning motivation, in particular, is broad and complex. The various approaches have generated multiple definitions, theories, conceptions, models, the circulation of which from one scientific field to another, their mutual interweaving and their reappearance in a renewed form sometimes make their identification difficult.

The term „*motivation*" comes from the Latin „*motivus*", which means „*mobile*" and „*move*" or „*movere*", which means „*to move, to relocate, to set in motion*" [2-4]. It follows that motivation is any force, regardless of its nature, that sets the organism in motion, the activity it carries out.

Motivation comes from the word „*motive*", which encompasses the needs, desires, or impulses that drive an individual to accomplish tasks and goals [5]. Motivation is essentially the presence of an incentive that drives people to take action.

Motivation is a fundamental concept in psychology and related fields such as education, management, and mental health. There are several definitions of motivation [6-19], and these may vary depending on the perspective and context in which they are used.

Motivation is a complex and multifactorial process, involving a number of different components. For a long time, it has been viewed as a set of forces that drive our activity: need, reason, interest, belief, aspiration, ideal, aspiration, tendency, passion, desire, curiosity, will, instinct etc. [2, 10, 20-23]. These components of motivation are interconnected and can vary depending on the individual and the specific circumstances. Taken together, they can influence a person's behavior and decisions and play an important role in achieving goals and satisfying one's needs. Each of these components of motivation can be analyzed individually to better understand their role in the human motivation process.

Motivation for learning is a complex and fascinating field in psychology and education, involving a wide range of psychological factors and processes. Motivation for learning (academic/school) refers to an internal state of the student that initiates and maintains behavior directed towards the goal of learning.

Learning motivation is the set or totality of internal motives of behavior directed towards the accumulation of knowledge. Some students come to university with a well-pronounced cognitive need, others come because „*it is necessary*", as a student duty; for some students, learning motivation is more theoretical, intellectually oriented, and for others – towards practical.

School motivation is an essential component of learning and has a significant role in achieving academic and, implicitly, professional performance. With age, students begin to know their possibilities, skills and interests and to act in accordance with the expectations of their family, teachers and the society they are part of, personal aspirations etc.

In a school context, motivation is nothing more than the process that leads, guides and maintains a certain behavior desirable for the student status: attending classes, engaging in learning activities in class and at home, successfully completing tasks, etc. and is adequately understood only when it is not only related to the object of learning, but also to the conditions within which learning is carried out, the perceptions that the student has regarding a certain didactic activity [2].

Starting from the premise that each student has certain non-specific positive tendencies, related to the need for success, fulfillment, and competence, certain situations can be created in school that stimulate and amplify these resources and thus influence the efficiency of learning. Specific motivational situations are: the situation of control, competition, game, and performance [24].

From the point of view of learning, training and development, there are: general, specific, intrinsic and extrinsic motivation. The school and any other educational institution must promote intrinsic motivation in order to be able to carry out training that will make students autonomous and responsible. If the student is to give meaning to learning, intrinsic motivation must be more important than extrinsic motivation. Scholars outline five conditions for a person to learn [2]: to create motivation and reinforcement systems; to define their own goals; to design strategies to achieve them; to be satisfied when they have achieved their goals; not to give up in case of failure. Otherwise, the student enters a process of demotivation.

There are several factors that can demotivate the learning process and negatively influence commitment and learning outcomes, including: lack of relevance, unfavorable

learning environment, excessive or insufficiently challenging demands, negative feedback, frustration and repeated failure, loss of interest, excessive stress, lack of autonomy, lack of recognition or reward, personal problems (health, family or financial).

2. Motivating student learning in higher vocational education

Starting studies in higher vocational technical education, the former student faces a number of changes: firstly, the level of external control over his educational activities is sharply reduced; secondly, the structure of the educational activity itself changes – learning motives are complemented and closely linked with professional motives; thirdly, there is an entry into a new social community – „*studenthood*". Therefore, at this stage of adaptation, the process of motivating students becomes particularly important.

In order for a student to be satisfied with the results of his educational activities, he must self-organize and control them. But this requires a fairly pronounced motivation for learning on the part of the student. It is also important that the very structure of educational and professional motivation ensures the correct direction of educational activities. Professional motivation, related to the educational activities of students in the system of higher vocational education, is understood as a set of factors and processes that encourage and direct a person to study future professional activity [25,26]. More productive development of a student's professional education is possible only at a high level of formation of professional motivation for learning, which determines the internal development of professional competence. In this case, by motives of professional activity is understood the awareness of students of the importance of motives (obtaining higher education, professional development).

The structure of professional learning motivation includes internal and external learning motives. The motive, formed under the influence of factors related to educational activities, is internal. Intrinsic motivation is perceived by the student as a state of happiness and satisfaction from the educational activity itself. Internal motives of students' learning in higher vocational technical education include broad cognitive motives and motives of self-education. They arise in the course of independent cognitive activity, are focused on mastering new knowledge, continuous cognitive activity, initiative, the desire for competence, independence, thereby ensuring the ability of students to overcome emerging difficulties in the learning process.

The motive that is caused by any conditions of the surrounding reality and is not related to the educational process is external. External motives constitute the motivation based on some specific educational activities put forward to the student for achievement. External motives include narrow educational and cognitive motives: receiving a scholarship, a diploma, obeying (submitting) the requirements of a teacher or parents, receiving praise, recognition from peers.

Analyzing the psychological features of the development of students' educational and cognitive activity, the entire period of study is divided into three stages [25]. Stage I (year 1) is characterized by high-level indicators of professional and learning motives that govern educational activities; at the same time, they are idealized, since they are conditioned by the understanding of their social, and not personal, meaning. Stage II (year 2) is characterized by a general decrease in the intensity of all motivational components; cognitive and professional motives cease to govern educational activities. Stage III (years 3-4) is characterized by an increased degree of awareness and integration of various forms of learning motives.

At the initial stage, students with a penchant for humanities disciplines encounter certain difficulties in real and technical disciplines. To prevent the reduction of motivation in these students, the integration of the content of general education and special disciplines is used, an example being optional classes for in-depth study of technical English or another foreign language. In these classes, students improve their English language skills and acquire additional knowledge in their specialty by extracting information from technical texts in foreign languages, which increases their self-confidence and motivation to master the profession.

At the final stage, the number of students combining study with work is increasing, which leads to absenteeism from classes and a negative impact on the efficiency of educational activities. Relevant pedagogical assistance consists in developing in students an understanding of the priority of obtaining an education that will ensure them a permanent job in their specialty in the future, before temporary earnings, and in providing assistance in the rational distribution of work and study time.

The basis of pedagogical work with students who have combined studies with work activity is a differentiated approach that takes into account various factors: the significance of this activity for the student, the financial situation of the student's family, the ability to organize and control their activities. Pedagogical assistance consists either in helping students combine studies with work by jointly searching for ways to rationally allocate time, drawing up an individual schedule for attending classes and consultations, using distance learning opportunities, or convincing them to give up earning money, if the student is unable to independently catch up on the missed material, if he has accumulated numerous academic debts, and further combining work with studies threatens him with expulsion.

A necessary condition for the implementation of a scientifically based learning process in order to develop students' motivation for learning and professional activities is educational and methodological support, which includes educational and methodological documentation and tools. Educational and methodological documentation is aimed at determining the content and basis for planning learning, and educational and methodological tools are material objects that ensure the organization of training at a modern technical level. The professional learning process is bidirectional, characterized by the joint participation of the teacher and students, therefore educational and methodological support should serve both parties interacting on equal scientific and pedagogical terms.

Following the analysis of the literature and scientific works on the development of learning motivation in students in vocational and technical education, it was found that the study needs to be initiated with the diagnostic stage by identifying groups of students according to their level of training, learning motivation and reasons for attending the educational institution.

To study the dominant motives for attending an educational institution, one can apply the well-known methodology of T. I. Ilyin [25,27], which contains three scales: *acquiring knowledge* (the desire to accumulate knowledge, curiosity); *obtaining a profession* (the desire to acquire professional knowledge and develop professionally important qualities); „*obtaining a diploma*" (the desire to obtain a diploma through formal acquisition of knowledge, the desire to find „*bypass solutions*" when passing exams and tests). The results obtained in the study represent a characteristic of the initial motives of students, on the basis of which the university should develop a system of means for developing motivation in learning, scientific

research and educational activity of students, especially in the first year of study. Special attention should be paid to students who came to the university primarily to obtain a diploma.

A specific motive for the student's cognitive activity is interest. In this regard, the objects (disciplines) in which students show increased interest and the objects in which there is a low level of interest are identified. The increased or decreased level of interest is influenced by the content of the studied material, the methods of work (teaching) and the personality of the teacher. In disciplines with a high level of interest, the teacher presents practice-oriented content, uses interactive methods and technologies, and in disciplines with a low level of interest, mainly traditional classical methods of reproductive teaching are used and there is no practical significance of the educational material content

3. Developing diagnostic and assessment tools for student learning motivation

The diagnosis and assessment of student learning motivation can be achieved through a variety of methods and techniques. These methods include the use of questionnaires and rating scales, structured or semi-structured interviews, direct observations of student behavior and engagement in learning activities, educational portfolios, individual feedback and discussions, and self-assessment and reflection. Each method has specific advantages and limitations, and their use in combination can provide a more comprehensive understanding of student learning motivation.

The organization of the research aimed at: establishing hypotheses and investigative objectives, determining the research period, delimiting the experimental subject groups, selecting research methods, processing and interpreting data.

It was assumed that there are differences in the manifestation of learning motivation in students of the first cycle of the bachelor's degree, first, second, third, fourth year of studies and the second cycle of the master's degree, first year of studies in two study programs: Engineering and Management in Transport (EMT) and Automotive Transport Engineering (ATE) within the Faculty of Mechanical, Industrial and Transport Engineering of the Technical University of Moldova. The differences in the manifestation of motivation in students refer to: priority reasons for learning; factors influencing learning; students' attitudes towards academic subjects according to the criteria of interest, importance, understanding; motivational dominants of learning.

The general objectives of the observational experiment were related to [27]:

- analyzing the correlations of students' opinions from the two programs at different years of study;
- identifying the weight/proportion of functions that influence students' learning motivation;
- determining ways to stimulate learning motivation;
- measuring/investigating the availability for participation in a motivational development program;
- presenting conclusions and identifying solutions.

The research sample consisted of 153 students from the Faculty of Mechanical, Industrial and Transport Engineering of the Technical University of Moldova. Experimental subjects were selected according to the following criteria: to represent different years of study (years 1-4, cycle I bachelor and year 1, cycle II master); to represent two study programs (EMT and ATE); to carry out full-time studies. Finally, five experimental groups were formed: year 1 – 31 students, year 2 – 32 students, year 3 – 39 students, year 4 – 22 students and

year 1 master – 29 students (Table 1). The study applied the indirect observation method: analysis of specialized documents, reports of previous research and statistical documents [1].

The research on student learning motivation was carried out during the 2023-2024 academic year, in three stages: *in the first stage*, the research instruments were selected and adapted, *in the second stage*, the ascertaining experiment was carried out, examining the specifics of student learning motivation, *in the third stage*, the results were processed, analyzed and interpreted.

Table 1

The sample of students interviewed

Year of study	Study program		Total
	EMT	ATE	
Year 1	15	16	31
Year 2	21	11	32
Year 3	10	29	39
Year 4	10	12	22
1st year of master's degree	9	20	29
Total	**65**	**88**	**153**

Note: EMT - Engineering and Management in Transport; ATE - Automotive Transport Engineering.

The research methodology focused on identifying students' opinions regarding the dominant motivation for learning, on establishing students' attitudes towards academic subjects, and on determining the particularities of learning motivation.

1. To highlight the dominant motives of students, the *Questionnaire for Determining Motives for Learning*, developed by *Karpova* [2], was applied.

The questionnaire is aimed at determining the dominant motives, recognized by students, in the learning activity: *cognitive, communicative, emotional, personal development, achievement, social position, external, professional*. The subjects were asked to assess the importance/significance of the learning motives for university studies, assessing the degree of importance through a score from 0 to 3 points. Each point has the following significance: 0 points – no significance; 1 point – partial significance; 2 points – moderate significance; 3 points – total significance. The following motivational groups are identified: *cognitive* – 2, 10, 18; *communicative* – 4, 12, 20; *emotional* – 1, 9, 17; *personal development* – 7, 15, 23; *social position* – 8, 16, 24; *self-realization* – 6, 14, 22; *external* (stimulation, punishment) – 5, 13, 21; *professional* – 3, 11, 19. The sum of the points obtained for each motivational group is calculated and the motivational profile is determined.

2. To determine students' attitudes towards academic subjects, the *Questionnaire on Attitudes towards Academic Subjects*, developed by *Bahurina* [2,28,29], was used.

The questionnaire highlights students' attitudes towards academic subjects according to the criteria of *interestingness, importance, understanding*. Subjects were asked to rate each subject of study according to these criteria according to a scale from 1 to 5 points: 1 – low score, 5 – high score.

3. In order to determine the particularities of students' learning motivation, the *Questionnaire for Determining Learning Motivation* [30,31] was applied, developed by the Bucharest Municipality Center for Educational Resources and Assistance (BMCERA), the Bucharest Municipality Center for Psychopedagogical Assistance (BMCPA), the Interschool Logopedic Center – Bucharest (ILC), adapted for students of the two study programs within

the Faculty of Mechanical, Industrial and Transport Engineering of the Technical University of Moldova.

The survey includes 20 questions with multiple answer options [29]. Based on the answers obtained for each topic, the priority reasons were established, the factors that determine students for choosing a specialty, the factors that influence learning in general, and the motivation for learning in particular. For more efficient processing, the relative frequencies (%) of each year per study program and in general were determined, which makes it possible to compare the empirical results.

4. Results of the ascertainment experiment of student learning motivation

4.1. Determining the dominant learning motivation

The questionnaire aims to identify the reasons perceived by students as important/unimportant in the learning activity. Both data within each year of study by program and comparative data between years are analyzed. The results are presented in Table 2.

a) The presented results allow highlighting the reasons for learning considered by students as dominant or, on the contrary, less important. Thus:

- for the 1st year of studies the dominant reasons are professional (15.36%) and cognitive (14.87%), less important are external (10.29%) and communicative (10.78%);
- for the 2nd year of studies the dominant reasons are professional (14.37%) and cognitive (13.98%), less important are communicative (10.30%) and external (10.70%);
- for the 3rd year of studies the dominant reasons are cognitive (15.56%) and professional (15.32%), less important are external (8.44%) and communicative (9.21%);
- for the 4th year of studies the dominant reasons are cognitive (15.09%) and professional (14.99%), less important are communicative (9.86%) and external (10.16%);
- for the 1st year of the master the dominant motives are cognitive (15.00%), professional development (14.41%), self-realization (14.26%) and professional (14.26%), less important are external (8.56%) and communicative (9.86%);
- for all years of study (total) the dominant motives are cognitive (14.89%) and professional (14.87%), less important are external (9.58%) and communicative (9.89%).

b) Comparison of the obtained data and the common reasons for most students, regardless of the year and study program. The dominant reasons in all years of study are cognitive and professional, with the exception of the first year of the master's degree, where in addition to the two reasons mentioned, professional development and self-realization are also added; the less important reasons are external and communicative.

Table 2

Dominant motives for learning

Year and study program		The dominant motives, %							
		Cognitive	**Communi-cative**	**Emotional**	**Personal development**	**Social position**	**Self-realization**	**External**	**Professional**
Year 1	EMT	15.38	10.49	11.78	13.22	11.06	13.22	9.91	14.94
	ATE	14.38	11.07	12.31	12.86	11.20	11.76	10.65	15.77
	Total	**14.87**	**10.78**	**12.05**	**13.04**	**11.14**	**12.47**	**10.29**	**15.36**

Continuation Table 2

Year 2	EMT	14.08	10.25	12.84	13.77	11.80	11.90	11.18	14.18
	ATE	13.80	10.39	11.11	13.26	13.80	13.08	9.86	14.70
	Total	**13.98**	**10.30**	**12.20**	**13.58**	**12.53**	**12.34**	**10.70**	**14.37**
Year 3	EMT	14.69	9.72	12.09	14.69	12.32	13.03	7.35	16.11
	ATE	15.85	9.05	12.81	13.45	12.33	12.65	8.81	15.05
	Total	**15.56**	**9.21**	**12.63**	**13.76**	**12.33**	**12.75**	**8.44**	**15.32**
Year 4	EMT	14.90	9.94	11.23	13.39	14.69	10.58	12.31	12.96
	ATE	15.26	9.79	10.96	14,48	12.52	11.94	8.22	16.83
	Total	**15.09**	**9.86**	**11.09**	**13.96**	**13.55**	**11.30**	**10.16**	**14.99**
1st year of master's degree	EMT	15.24	10.86	10.23	13.15	12.32	14.40	10.23	13.57
	ATE	14.86	8.56	12.16	15.09	12.84	14.19	7.66	14.64
	Total	**15.00**	**9.36**	**11.49**	**14.41**	**12,66**	**14.26**	**8.56**	**14.26**
Total	EMT	14.77	10.28	11.83	13.61	12.23	12.56	10.38	14.34
	ATE	14.99	9.60	12.09	13.82	12.47	12.80	8.96	15.27
	Total	**14.89**	**9.89**	**11.98**	**13.73**	**12.36**	**12.70**	**9.58**	**14.87**

From the above, we can highlight two important moments. First, within each year, most students consider important, on the one hand, the reasons for learning, related to knowledge, which will help them develop their mind, intelligence, spirit, learn new things, expand their knowledge about the world and their future profession, and, on the other hand, the reasons related to personal and professional development, namely – to know as much information as possible, in order to become interesting and cultured people, as well as to possess useful knowledge for their application in practice. Secondly, it is found that the results obtained in relation to the reasons considered less important – external and communicative – find their explanation in the specifics of these reasons: students learn to receive praise for certain progress or to avoid moralizing and tiring reprimands from teachers or parents, they also avoid socializing with colleagues and friends, they do not get involved in self-education, and success in learning is not the main element for being respected and recognized in the group.

4.2. Identifying students' attitudes towards academic subjects

To identify students' attitudes towards academic subjects, the *Questionnaire on Students' Attitudes towards Academic Subjects* was applied [2,9,10]. Students were asked to rate each subject according to the following criteria: *interesting, important, and understandable*, using a scale from 1 to 5 points.

Analyzing the data obtained, we can state that, in general, students demonstrate a positive attitude towards the subjects, which according to the *interesting* criteria constitute 3.88 points, *importance* – 4.04 points and *understanding* – 3.87 points. They have determined their priorities and interests, demonstrating an active learning attitude. However, as a result of a more detailed analysis, some differences can be noted within each field to which the subjects are assigned.

The subjects in the 1st year mostly depend on the fundamental, general and vocational training, in the 2nd year they are mostly vocational training, and in the 3rd and 4th years – specialized. The subjects according to the field to which they belong and the criteria were scored as follows: *fundamental* – on the *interesting* criterion with 2.99 points, *important* with

3.26 points and *understanding* with 3.02 points; *humanitarian* – on the *interesting* criterion with 3.10 points, *important* with 3.15 points and *understanding* with 3.22 points; *general* – on the *interesting* criterion with 3.83 points, *important* with 3.83 points and *understanding* with 4.02 points; *vocational training* – on the *interesting* criterion with 4.33 points, *important* with 4.24 points and *understanding* with 3.87 points; *specialized* – on the *interesting* criterion with 4.33 points, *important* with 4.48 points and *understanding* with 4.32 points.

Analyzing the grading of subjects by years of study and criteria, the following is attested: year 1 – for the *interesting* criterion with 3.61 points, *important* with 3.77 points and *understanding* with 3.62 points; year 2 – for the *interesting* criterion with 3.97 points, *important* with 4.14 points and *understanding* with 3.92 points; year 3 – for the *interesting* criterion with 4.07 points, *important* with 4.23 points and *understanding* with 4.03 points; year 4 – for the *interesting* criterion with 4.33 points, *important* with 4.39 points and *understanding* with 4.32 points.

From the above, we can see that students demonstrate a positive attitude towards the subjects studied, with increasing interest, importance and understanding as they progress through the years of study, reaching maximum scores in specialized subjects in year 4. However, the notable differences between subject areas reveal a lower appreciation for fundamental and humanitarian subjects compared to vocational and specialized ones.

4.3. Determining the peculiarities of learning motivation in students

In order to determine the particularities of learning motivation among students of the *Engineering and Management in Transport* and *Automotive Transport Engineering* study programs within the *Faculty of Mechanical, Industrial and Transport Engineering* of the *Technical University of Moldova*, the *Questionnaire for determining learning motivation* was applied [11, 12].

1. Determining the important academic subjects for the specialty chosen by the students. Each student was asked to choose 15 most important subjects from the curriculum and 5 subjects that they consider important to be introduced into the curriculum for the formation of the individual professional plan for the purpose of effective training according to the specialty.

Analyzing the most important academic subjects for the individual professional plan mentioned by students, it was found that the emphasis is placed on specialized and professional training subjects, both in general and on a separate study program, which constitute: in general for *specialized subjects* – 24.09 nominations on average per subject of study, at ATE – 24.55 and at EMT – 14.00; in general for *professional training subjects* – 20.77 nominations on average per subject of study, at ATE – 21.31 and at EMT – 15.67.

The subjects less frequently nominated by students as important for their individual professional plan, in general, are the *humanitarian* and *fundamental* subjects, which constitute 9.77 and 10.17 nominations respectively on average per subject of study. By study programs, the results are different from the general ones for this indicator. At ATE, the subjects less frequently nominated are the *humanitarian* and *general* subjects with 4.33 and 6.43 respectively on average per subject of study, and at EMT, the subjects less frequently nominated are the *fundamental* and *humanitarian* subjects with 1.80 and 5.33 respectively.

The most important subjects for the individual professional plan with the most nominations are: *in general* – Vehicle construction (75 nominations), Foreign language (57), Technical diagnostics of vehicles (52), Technical drawing (51), Internal combustion engines (50); in the *ATE study program* – Technical diagnostics of vehicles (52), Internal combustion

engines (50), Vehicle construction (49), 3D modeling (44), Technical drawing (41); in the *EMT study program* – Transport legislation (37), Freight transport (31), Foreign language (29), Passenger transport (28), Marketing and logistics (28).

The most important subjects for the individual professional plan with the fewest nominations are: *in general* – Chemistry (3 nominations), Special Mathematics (3), Technical and Material Basis of Transport (3), Urban Transport Planning and Infrastructure (3), Ethics and Academic Integrity (4); in the *ATE study program* – Communication and Academic Writing (1), Chemistry (3), Basics of Computer Programming (3), Ethics and Academic Integrity (3), Special Mathematics (3); in the *EMT study program* – Chemistry (0), Information Technologies (0), Linear Algebra and Analytical Geometry (1), Descriptive Geometry (1), Ethics and Academic Integrity (1).

According to the analyzed data, several common subjects can be identified for the two study programs considered important to be introduced in the curriculum for the formation of the student's individual professional plan, including: Advanced technologies in the automotive industry (11 nominations), Motorways (7), Environmental protection, Engineering and environment (6), Project management in the field of transport (5), Road traffic design and planning (4), Study of electric vehicles, hybrid/electric vehicles (4), Entrepreneurship (4), Investments in transport, Financial education (4).

At the same time, many other subjects were nominated only once, such as: Transportation of dangerous and oversized goods, History of mechanical engineering, Artificial intelligence in the automotive industry, Labor Code, International transport, Business communication skills, Psychology, Automotive design, Business software tools, Risk and safety management, Applied mathematics, etc.

Determining the factors that influenced the choice of specialty. To determine the factors that influenced the choice of specialty, each student was asked to choose the most important influencing factor from the proposed list. The results obtained are presented in Table 3.

From what is presented, it can be seen that: the dominant factors influencing the choice of specialty are – the desire to study the selected subjects in depth (50.33%), confidence in one's own abilities in the selected subjects (35.29%) and one's own practical professional experience (28.76%), and the less dominant factors – this specialty was chosen by my friends (1.96%), other factors (8.50%), and teacher recommendations (9.80%).

Table 3

Factors influencing the choice of specialty

Factors influencing the choice of specialty	Frequency of responses, %		
	EMT	**ATE**	**Total**
Desire to study the selected subjects in depth	54.55	44.62	**50.33**
Mass media, internet, social networks	12.50	18.46	**15.03**
Own practical professional experience	26.14	32.31	**28.76**
Suggestions from parents or relatives	14.77	24.62	**18.95**
Examples and suggestions from acquaintances	13.64	18.46	**15.69**
Teacher recommendations	9.09	10.77	**9.80**
Confidence in one's own abilities in the selected subjects	31.82	40.00	**35.29**
Intuitive decision-making	22.73	30.77	**26.14**
This specialty was chosen by my friends	1.14	3.08	**1.96**
Other	10.23	6.15	**8.50**

The comparative analysis of the obtained data allows us to highlight, within each program and year of study, the common factors that influence the choice of specialty, as well as the specific factors. Thus, the common factors of both study programs are the desire to study the selected subjects in depth and the confidence in one's own abilities and practical professional experience, and the less dominant specific factors are the advice, recommendations and suggestions of friends, acquaintances, teachers, parents and relatives, mass media, internet, social networks. At the same time, a fairly large share is intuitive decision-making (26.14%).

2. Determining learning objectives. To determine learning objectives, students were asked to select the dominant objectives from the proposed list. The results obtained are presented in Table 4.

Table 4

Dominant student learning objectives

Learning objectives	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
Deepening theoretical knowledge in the field studied	35.48	40.63	48.72	45.45	55.17	**45.10**
Developing practical skills (working with specific tools, technologies or methodologies	64.52	65.63	61.54	68.18	51.72	**62.09**
Learning domain-specific competencies (technical, creative, communication or leadership skills)	51.61	43.75	53.85	59.09	55.17	**52.29**
Understanding the context and practical implications of decisions and actions taken	22.58	50.00	20.51	40.91	17.24	**29.41**
Developing critical and analytical thinking	29.03	62.50	38.46	54.55	48.28	**45.75**
Cultivating creativity and innovation	16.13	25.00	25.64	18.18	20.69	**21.57**
Developing collaboration and communication skills	32.26	40.63	43.59	50.00	44.83	**41.83**
Improving domain-specific problem-solving ability	45.16	37.50	51.28	50.00	37.93	**44.44**
Other	6.45	0.00	5.13	0.00	0.00	**2.61**

From what is presented in the table, it can be seen that:

- the dominant objectives of 1st year students are: developing practical skills (64.52%) and learning domain-specific competencies (51.61%);
- the dominant objectives of 2nd year students are: developing practical skills (65.63%) and developing critical and analytical thinking (62.50%);
- the dominant objectives of 3rd year students are: developing practical skills (61.54%) and learning domain-specific competencies (53.85%);
- the dominant objectives of 4th year students are: developing practical skills (68.18%) and learning domain-specific competencies (59.09%);
- the dominant objectives of 1st year master students are: deepening theoretical knowledge in the studied domain (55.17%) and learning domain-specific competencies (55.17%).

The analysis of the results allows us to state that the main objectives of the students, with minor exceptions, relate to the development of practical skills (62.09%) and learning domain-specific competencies (52.29%).

3. Determining the degree of self-assessment of academic success. In order to determine the degree of self-assessment of academic success, students were asked to assess their academic success according to the following ratings: *excellent, good, average, below average, poor*. The results obtained are reflected in Table 5.

Table 5

Self-assessment of academic success

Self-assessment of academic success	Frequency of responses, %				
	specialized disciplines	vocational training disciplines	fundamental disciplines	general disciplines	humanitarian disciplines
Excellent	33.99	24.18	14.38	17.65	13.73
Good	50.33	55.56	52.94	54.90	52.94
Average	13.07	19.61	27.45	20.92	23.53
Below average	0.00	0.65	4.58	5.88	7.19
Poor	2.61	0.00	0.65	0.65	2.61
Total	**100**	**100**	**100**	**100**	**100**

From the Table presented, it can be seen that more than half of the students self-assess their academic success in all subjects, regardless of the field, at a good level. Separately by field, the results look as follows: in *specialized subjects* – excellent (33.99%), good (50.33%) and average (13.07%); in *vocational training subjects* – excellent (24.18%), good (55.56%) and average (19.61%); in *fundamental subjects* – excellent (14.38%), good (52.94%) and average (27.45%); in *general subjects* – excellent (17.65%), good (54.90%) and average (20.92%); in *humanitarian subjects* – excellent (13.73%), good (52.94%) and average (23.53%). According to the results obtained, it is found that students self-assess their academic success to be at a higher level in specialized and vocational training subjects.

4. Identification of factors that influence learning success. In order to identify the factors that influence learning success, students were asked to assess to what extent the presented factors influence school success, noting with „+" if it is positive and with „-" if it is negative. The results obtained are presented in Table 6.

Table 6

Factors influencing learning success

Factors influencing learning success	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
The correctness of choosing academic subjects for the individual professional path	80.65	96.88	82.05	81.82	82.76	**84.97**
Teachers' requirements for academic subjects	58.06	75.00	76.92	68.18	65.52	**69.28**
Optimal complexity	74.19	78.13	74.36	63.64	55.17	**69.93**
Teaching forms and methods	70.97	96.88	87.18	81.82	68.97	**81.70**

Continuation Table 6

Teachers' professional training	74.19	84.38	84.62	72.73	79.31	**79.74**
School resources and access to quality education	54.84	87.50	89.74	68.18	75.86	**76.47**
Lesson schedules	54.84	65.63	61.54	40.91	55.17	**56.86**
Family environment	67.74	53.13	64.10	63.64	55.17	**60.78**
Relationships with colleagues	67.74	75.00	71.79	63.64	62.07	**68.63**
Motivation and involvement	74.19	90.63	76.92	63.64	79.31	**77.78**
Stress and stress factors	41.94	68.75	53.85	40.91	31.03	**48.37**

From what is presented in the Table 6, it can be seen that 1st year students highlighted the following factors that influence learning success: correctness of the choice of academic subjects for the individual professional path (80.65%), optimal complexity (74.19%), professional training of teaching staff (74.19%), motivation and personal involvement (74.19%); 2nd year students – correctness of the choice of academic subjects for the individual professional path (96.88%), teaching forms and methods (96.88%), motivation and personal involvement (90.63%), school resources and access to quality education (87.50%); 3rd year students – school resources and access to quality education (89.74%), teaching forms and methods (87.18%), professional training of teachers (84.62%), correctness of choice of academic subjects for the individual professional path (82.05%); 4th year students – correctness of choice of academic subjects for the individual professional path (81.82%), teaching forms and methods (81.82%), professional training of teachers (72.73%); 1st year master students – correctness of choice of academic subjects for the individual professional path (82.76%), professional training of teachers (79.31%), motivation and personal involvement (79.31%), school resources and access to quality education (75.86%).

In general, for all years of study, the following factors that influence learning success are highlighted: the correctness of the choice of academic subjects for the individual professional path (84.97%), teaching forms and methods (81.70%), professional training of teachers (79.74%), motivation and personal involvement (77.78%).

5. The reasons why students learn. In order to identify the reasons why they learn, students were asked to select from the nominated list 5 options that they consider to suit them the most. The results obtained are reflected in Table 7.

Motivation has not only an activating character on behavior, but also one of directing learning behaviors. There is no universal and general motivation, but it is possible to have one oriented more or less precisely towards solving or not solving specific problems. Therefore, what motivates students does not correspond, in all situations, to what the teacher believes about their motivational system.

Table 7

The reasons why students learn

The reasons why students learn	**Frequency of responses, %**					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**1st year of master's degree**	**Total**
To be the best	16.13	18.75	28.21	36.36	41.38	**27.45**
To be recognized and respected by others	29.03	31.25	15.38	36.36	24.14	**26.14**

Continuation Table 7

Because the teacher explains in a way that I understand	29.03	37.50	48.72	50.00	10.34	**35.29**
Because the teacher has an attractive teaching style	19.35	50.00	35.90	27.27	31.03	**33.33**
Because the teacher is close to us	22.58	31.25	12.82	9.09	13.79	**18.30**
Because the teacher is pleasant in physical appearance	3.23	3.13	2.56	0.00	0.00	**1.96**
Because the teacher is calm. does not get angry	19.35	25.00	17.95	40.91	27.59	**24.84**
Because the teacher inspires fear in me	0.00	9.38	0.00	0.00	6.90	**3.27**
Because the teacher inspires respect in me, being a role model for me	25.81	59.38	20.51	13.64	31.03	**30.72**
Because the subject is interesting	70.97	50.00	74.36	86.36	75.86	**70.59**
Because the subjects will be useful to me later	58.06	65.63	79.49	81.82	72.41	**71.24**
Because my parents insist that I learn	9.68	6.25	5.13	4.55	0.00	**5.23**
Because my parents reward me if I learn	0.00	3.13	0.00	0.00	3.45	**1.31**
Because I like to study	25.81	28.13	51.28	27.27	58.62	**39.22**
Because the learning tasks given by the teacher are clear	29.03	12.50	7.69	9.09	20.69	**15.69**
Because the teacher makes a correct assessment	3.23	6.25	5.13	4.55	17.24	**7.19**
To get good grades	9.68	9.38	15.38	0.00	0.00	**7.84**
To not embarrass myself	3.23	3.13	2.56	4.55	3.45	**3.27**
To have a successful career	83.87	46.88	76.92	72.73	55.17	**67.32**
Other	9.68	3.13	0.00	0.00	3.45	**3.27**

A very high percentage of students are motivated to learn by subjects that will be useful to them later (71.24%), by interesting subjects (70.59%) and by the prospect of a successful career (67.32%). An exception are the 2nd year students, who apart from interesting subjects (50.00%) and subjects that will be useful to them later (65.63%) are motivated to learn by the respect that the teacher inspires, being a role model for them (59.38%) and the attractive teaching style (50.00%), while the prospect of a successful career is placed at a lower level (46.88%).

A large portion of students mentioned that they enjoy studying (39.22%), a smaller percentage study to be the best (27.45%), recognized and respected by other colleagues (26.14%).

Teachers are not only holders and transmitters of information, but also educators, mentors and character builders. Teachers assume this role and the function of guiding values, expecting students to follow this model. Teachers are considered a role model and inspire respect by 30.72% of those surveyed. Other reasons why students learn are: the teacher explains in a way that they understand (35.29%), has an attractive teaching style (33.33%), is calm and does not get angry (24.84%), is close to them (18.30%) etc.

6. Students' learning styles. In order to identify their learning styles, students were asked to tick the most appropriate answer corresponding to their learning style for each statement in the proposed list. The results obtained are reflected in Table 8.

From the analysis of the first answer option it appears that 34.46% of students always try to understand what the teacher teaches in class and 50.00% most of the time. This aspect is very important in the learning process. The transmission and acquisition of knowledge must be done logically and be as clear as possible.

In the case of the second response option, students believe that they always (34.94%) and most of the time (47.26%), when studying, they associate new knowledge with what is already known.

To learn better, students (37.16% most of the time and 23.65% always) try to logically retain the information taught. Passive memorization is less used, giving way to active memorization.

In the opinion of students (30.82% sometimes, 26.71% rarely and 13.70% never), the source of information from parents, siblings, grandparents, relatives is not very often requested by students in learning. This can be explained either by the lack of training of family members in certain fields, the existence of a gap between the curriculum studied by the two generations, or by the limitation of the time available to students. The computer and the internet have become a much faster and more efficient source of information search.

Table 8

Student learning styles

Student learning styles	Frequency of responses, %				
	evermore	mostly	sometimes	rarely	never
When I learn, I try to understand what the teacher is teaching in class	34.46	50.00	14.86	0.68	0.00
When I study, I associate new knowledge with what I already know	34.94	47.26	16.44	0.68	0.68
To learn better, I try to logically retain the information taught (in the form of diagrams, tables, formulas etc.)	23.65	37.16	31.08	8.11	0.00
I appeal to the information that I believe my parents, siblings, grandparents, other people, other sources of information have	8.90	19.87	30.82	26.71	13.70
When I learn, I try to find the usefulness of the information in everyday life	29.93	42.18	24.49	2.72	0.68
I tend to learn by heart	3.40	9.52	26.53	44.22	16.33

The purely pedagogical teaching style in which the student listens or takes notes is not exactly suitable for today's students. 42.18% of students try, most of the time and 29.93% always, to find the usefulness of information in everyday life when learning. The role of teachers consists in helping students find the usefulness of information in everyday life and in developing in them the ability to correlate the theoretical world with the practical one.

The vast majority of students tend to learn by heart rarely (44.22%), sometimes (26.53%) and never (16.33%).

7. Time allocated to various activities in a day. To determine how much time they allocate to various activities in a day, students were asked to indicate the approximate time allocated to each activity in the list. The results obtained are reflected in Table 9.

Analyzing the time students spend on various activities, it is found that students spend the least time watching TV: none (69.66%) and less than an hour (20.69%); playing computer

games: none (50.34%), less than an hour (19.31%) and 1-2 hours (16.55%); reading: none (21.23%), less than an hour (41.10%) and 1-2 hours (25.34%); organized courses: none (33.10%), less than an hour (17.24%) and 1-2 hours (35.86%). Students spend more than an hour on family activities: 1-2 hours (30.82%), 2-4 hours (25.34%) and more than 4 hours (13.70%); activities with friends: 1-2 hours (48.25%), 2-4 hours (21.68%) and more than 4 hours (13.70%). Students allocate less than half an hour (36.81%) and 1-2 hours (29.17%) to outdoor recreational activities, and less than half an hour (26.03%), 1-2 hours (39.04%) and 2-4 hours (23.29%) to the learning process.

Table 9

Time allocated in a day to various activities

Activities	Frequency of responses, %				
	not at all	**less than an hour**	**1-2 hours**	**2-4 hours**	**more than 4 hours**
Watching TV	69.66	20.69	6.21	2.76	0.69
Playing on the computer	50.34	19.31	16.55	8.97	4.83
Family activities	9.59	20.55	30.82	25.34	13.70
Activities with friends	8.39	13.99	48.25	21.68	7.69
Organized courses: dance, musical instrument, foreign languages, sports etc.	33.10	17.24	35.86	8.97	4.83
Outdoor recreational activities	13.19	36.81	29.17	12.50	8.33
Reading	21.23	41.10	25.34	10.27	2.05
Learning	2.74	26.03	39.04	23.29	8.90
Other	6.77	21.05	23.31	21.80	27.07

8. Extracurricular activities in which students are involved. In order to know the extracurricular activities in which they are involved, students were asked to select from a nominated list the activities in which they are involved. The results obtained are reflected in Table 10.

The extracurricular activities in which students are involved are:

- year 1: sports (74.19%), watching shows/movies/concerts (32.26%) and volunteering (29.03%);
- year 2: sports (50.00%), volunteering (37.50%), museum visits (31.25%) and educational programs/projects (31.25%);
- year 3: sports (64.10%), watching shows/movies/concerts (41.03%) and excursions (33.33%);
- year 4: sports (54.55%) and watching shows/movies/concerts (45.45%);
- 1st year of master's degree: sports (75.86%) and excursions (37.93%).

Table 10

Extracurricular activities in which students are involved

Extracurricular activities in which students are involved	Frequency of responses, %					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**1st year of master's degree**	**Total**
Sports	74.19	50.00	64.10	54.55	75.86	**64.05**
Art (painting, drawing, modeling)	12.90	18.75	5.13	4.55	20.69	**12.42**
Dance	6.45	6.25	12.82	4.55	3.45	**7.19**

Continuation Table 10

Watching shows/movies/concerts	32.26	21.88	41.03	45.45	24.14	**32.68**
Museum visits	16.13	31.25	23.08	4.55	10.34	**18.30**
Excursions	22.58	25.00	33.33	13.64	37.93	**27.45**
Volunteering	29.03	37.50	12.82	4.55	24.14	**22.22**
Educational programs/projects at university	9.68	31.25	12.82	9.09	24.14	**17.65**
Other	12.90	12.50	17.95	9.09	13.79	**13.73**

According to students, the extracurricular activities they engage in are sports (64.05%), watching shows/movies/concerts (32.68%) and excursions (27.45%). These are the activities that students probably engage in the easiest, being more attractive and entertaining. However, sports are seen by students as a hobby, which is not related to school, and is not as accessible as extracurricular activities. Not all students have sports skills. Therefore, only about 2/3 of students get involved in sports activities. A satisfactory percentage of students chose volunteering (22.22%).

9. The extent to which extracurricular activities help the student in learning. To determine the extent to which extracurricular activities help in learning, students were asked to select according to the criteria: *very much, a lot, appropriate, a little, not at all*. The results obtained are reflected in Table 11.

Education through extracurricular activities aims to identify and cultivate the optimal correspondence between skills, talents, cultivate a civilized lifestyle, as well as stimulate creative behavior in different fields. Extracurricular activities are the non-institutionalized way of achieving education. For students, extracurricular activities are a source of relaxation, confidence, recreation, good mood and less of a source of support for the learning process. Therefore, only 10.46% of students believe that the above activities help them very much in learning and 25.49% a lot.

Table 11

The extent to which extracurricular activities help the student in learning

The extent to which extracurricular activities help the student in learning	Frequency of responses, %					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**1st year of master's degree**	**Total**
Very much	9.68	3.13	7.69	9.09	24.14	**10.46**
A lot	32.26	18.75	23.08	18.18	34.48	**25.49**
Appropriate	22.58	50.00	20.51	40.91	24.14	**30.72**
A little	22.58	18.75	23.08	27.27	10.34	**20.26**
Not at all	12.90	9.38	25.64	4.55	6.90	**13.07**
Total	**100**	**100**	**100**	**100**	**100**	**100**

10. The existence of other ways to succeed in life besides studying at university. In order to find out their opinion, students were asked to answer *yes* or *no* if there are other ways to succeed in life besides studying at university. The results obtained are reflected in Table 12.

The vast majority of students (86.93%) believe that there are other ways to succeed in life besides studying at university. Succeeding in life does not only mean proving initial performances, but also winning or having a mental mode of functioning characterized by performance and competitiveness. Success in life can have multiple definitions, it can be

achieved, depending on each person's needs, on one or more levels. That is why the percentage of people who answered „*yes*" is quite high.

Table 12

The existence of other ways to succeed in life besides studying at university

Answer option	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
Yes	93.55	90.63	94.87	72.73	75.86	**86.93**
No	6.45	9.37	5.13	27.27	24.14	**13.07**

4th year and 1st year master's students, practically all of whom are employed, have a slightly different opinion regarding the existence of other ways to succeed in life besides studying at university, but anyway the percentage of those who answered „*yes*" is quite high.

11. The level of motivation for learning of students. To determine the level of motivation for learning, students were asked to rate their personal level of motivation for learning on a scale from 1 to 10. The results obtained are reflected in Table 13.

Table 13

The level of motivation for learning of students

Year of study	Frequency of responses, %									
	1	2	3	4	5	6	7	8	9	10
Year 1	0.00	0.00	0.00	3.23	12.90	6.45	32.26	25.80	16.13	3.23
Year 2	0.00	0.00	0.00	6.25	3.13	6.25	18.75	31.25	28.12	6.25
Year 3	2.57	2.57	5.13	5.13	7.69	7.69	25.64	20.51	20.51	2.56
Year 4	4.55	0.00	0.00	0.00	9.09	0.00	27.27	45.45	9.09	4.55
1st year of master's degree	0.00	0.00	3.45	0.00	6.90	10.35	20.69	31.03	13.79	13.79
Total	**1.31**	**0.65**	**1.96**	**3.27**	**7.84**	**6.54**	**24.84**	**29.41**	**18.30**	**5.88**

Analyzing the level of motivation for learning appreciated by students, it is found that only 5.88% of students attribute a grade of 10 and 18.30% a grade of 9. Grade 8 is assumed by 29.41% of students and grade 7 by 24.84%. Year 1 students appreciated their level of motivation for learning on average by 7.26 points, year 2 – by 7.75 points, year 3 – by 6.82 points, year 4 – by 7.32 points, year 1 master – by 7.62 points, and the total average – by 7.33 points.

The conclusion of the analysis shows that the level of motivation for learning of students is moderate. The low percentage of students who evaluate themselves with maximum grades (10 and 9) reflects a general tendency of realistic or modest self-appraisal in relation to motivation for learning.

12. Factors that help students learn the most. In order to identify the factors that help them learn the most, students were asked to select from the nominated list the factors that they consider to be most suitable for them. The results obtained are reflected in Table 14.

The hierarchy established according to the students' choices is as follows:

✔ the information taught is useful to me (79.74%);

✔ to practically apply what I have learned (70.59%);

✔ the atmosphere during the classes (45.10%);

✔ the classes are engaging (24.18%);
✔ my opinion is taken into account by the teachers (20.26%);
✔ reward through gifts, money, other advantages received (18.25%);
✔ reward through praise, positive appreciation, encouragement, prizes (11.11%).

Table 14

Factors that help students learn the most

Factors that help students learn the most	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
The information taught should be useful	70.97	84.38	87.18	77.27	75.86	**79.74**
The atmosphere during the lessons	45.16	50.00	53.85	36.36	34.48	**45.10**
Reward through praise, positive appreciation, encouragement, awards	12.90	21.88	5.13	9.09	6.90	**11.11**
Reward through gifts, money, other benefits received	16.13	25.00	15.38	13.64	24.14	**18.95**
The lessons should be engaging	29.03	21.88	20.51	22.73	27.59	**24.18**
My opinion should be taken into account by the teachers	12.90	28.13	15.38	27.27	20.69	**20.26**
To practically apply what I have learned	67.74	46.88	89.74	81.82	65.52	**70.59**
Other	3.23	0.00	7.69	0.00	3.45	**3.27**

It is observed from the hierarchy of the answer options that most students believe that it would help them learn more if the information taught is useful to them, in second and third place being the practical applicability of what has been learned and, however, the atmosphere during the classes is also particularly important. Rewards through gifts, money, other benefits received and rewards through praise, positive appreciation, encouragement, prizes are positioned in the penultimate and last place respectively.

13. Success in life. To find out what success in life means, students were asked to rate the nominated statements on a scale from 1 to 5. The results obtained are reflected in Table 15.

Table 15

Success in life

Possible factors of success in life	Frequency of responses, %					Average grade
	1	2	3	4	5	
Starting a family	8.78	4.73	14.86	22.30	49.32	3.99
Social prestige	4.73	10.14	27.70	35.81	21.62	3.59
Successful career	2.03	2.70	10.14	32.43	52.70	4.31
Money	1.35	4.05	13.51	35.14	45.95	4.20
Harmonious relationships with others	2.70	6.08	16.22	27.70	47.30	4.11

Analyzing the data presented in the table, it is observed that success in life represents for students a successful career (average score 4.31), money (4.20), but also harmonious relationships with others (4.11). In fourth place is the founding of a family (3.99), and in last place, in the opinion of students, is social prestige (3.59).

14. The extent to which a successful career is important in the student's life. To determine the extent to which a successful career is important in life, students were asked to respond with the following ratings: *very high, high, moderate, low and very low*. The results obtained are reflected in Table 16.

Table 16

The extent to which a successful career is important in the student's life

The extent to which a successful career is important in the student's life	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
Very high	38.71	28.13	53.85	31.82	44.83	**40.52**
High	48.39	40.63	35.90	54.55	37.93	**42.48**
Moderate	12.90	31.25	10.26	13.64	17.24	**16.99**
Low	0.00	0.00	0.00	0.00	0.00	**0.00**
Very low	0.00	0.00	0.00	0.00	0.00	**0.00**

For 42.48% of students, a successful career in life is of great importance and 40.52% very important. Changes in the labor market, unemployment, the continuous increase in information about jobs in the socio-economic context of our country create confusion, indecision and misinformation for young people in terms of choosing their own career path. They want to obtain a career that will bring them material and financial satisfaction, in a very short time, without pursuing a suitable or enjoyable activity. A successful career is a way to overcome certain problems.

In conclusion, it can be noted that for students, a successful career is very important, which once again confirms the hierarchy in *item 14*.

15. Elements that contribute to building a successful career. To determine the main elements that contribute to building a successful career, students were asked to list three factors that they consider most important.

The elements that contribute to building a successful career in the opinion of students are: motivation, determination and perseverance (37 nominations), knowledge and skills (36), studies and education (27), the desire to learn something new and continuous study (21), active involvement in the work process (18), harmonious relationships with others (15), family and close people (15) etc.

Other elements that contribute to building a successful career were also listed: learning ability, goal setting and planning, faith in God, correct decision-making and decision-making skills, computerization, honesty and kindness, work-life balance, teamwork, etc. and 29 other responses.

16. Things considered important in university. In order to assess what things are considered important in university, students were asked to list the options that they consider most appropriate. The results obtained are reflected in Table 17.

It is found that 84.97% of students state that practical activities are carried out in laboratories/cabinets at the university, 50.00% claim that it is important to be good friends.

Table 17

Things considered important in university

Things considered important in university	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
Practical activities are carried out in laboratories/offices	87.10	78.13	89.74	95.45	75.86	**84.97**

Continuation Table 17

Competition is encouraged	12.90	18.75	15.38	4.55	31.03	**16.99**
Collaboration, cooperation are encouraged	58.06	46.88	46.15	40.91	37.93	**46.41**
In my group it is important to have good results	16.13	21.88	2.56	9.09	17.24	**13.07**
In my group it is important to be good friends	54.84	56.25	56.41	54.55	27.59	**50.33**
Other	3.23	0.00	5.13	0.00	0.00	**1.96**

in their group and 46.41% believe that collaboration and cooperation are encouraged at their university. In the opinion of students, only 16.99% of them believe that competition is encouraged at the university and 13.07% – in their group it is important to achieve good results.

17. Reasons for poor student achievement. In order to identify the reasons for poor achievement, students were asked to list the factors that demotivate them from a nominated list. The results obtained are reflected in Table 18.

Table 18

Reasons for poor student achievement

Reasons for poor student achievement	Frequency of responses, %					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**1st year of master's degree**	**Total**
I don't have the conditions	0.00	0.00	2.56	4.55	0.00	**1.31**
I don't have the will	22.58	15.63	28.21	9.09	10.34	**18.30**
That's all I can do	12.90	18.75	28.21	31.82	20.69	**22.22**
I don't have time	16.13	12.50	25.64	27.27	48.28	**25.49**
I don't care what I do at university	6.45	3.13	7.69	0.00	3.45	**4.58**
I don't want	3.23	3.13	2.56	4.55	3.45	**3.27**
I don't want to be considered a nerd	0.00	0.00	2.56	0.00	0.00	**0.65**
It doesn't matter to my family	0.00	0.00	0.00	0.00	0.00	**0.00**
I don't understand anything that is taught	16.13	3.13	10.26	4.55	3.45	**7.84**
The teacher doesn't appreciate/value me	6.45	6.25	10.26	18.18	10.34	**9.80**
It doesn't help me in what I plan to do later	19.35	6.25	35.90	31.82	13.79	**21.57**
Other	35.48	40.63	28.21	31.82	13.79	**30.07**

The main reasons why they do not learn, according to students, are: they do not have time (25.49%), they can only do (22.22%), it is of no use to them in what they intend to do later (21.57%), they do not have the will (18.30%) and others (30.07%), where most said. There are also some exceptions such as: in the 1st year – 16.13% and the 3rd year – 10.26% of students claim that they do not understand anything of what is taught to them, which raises serious questions; in the 3rd year – 10.26%, the 4th year – 18.18% and the 1st year of the master – 10.34% of students believe that the teacher does not appreciate them.

18. The environment that determines success in life. In order to identify the environment that determines success in life, students were asked to rank the nominated environments from 1 to 7 in descending order of importance. The results obtained are reflected in Table 19.

Table 19

The environment that determines success in life

The environment that determines success in life	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
School	17.76	17.66	16.03	15.85	18.33	17.12
Family	18.71	20.70	19.75	21.08	19.68	19.92
Friend group	16.57	16.99	17.48	16.83	16.97	17.01
Mass media	12.40	11.25	11.05	13.56	12.18	11.93
Extracurricular activities	15.61	11.92	13.22	16.01	13.41	13.86
Educational programs/projects	13.71	16.31	15.04	11.60	13.53	14.26
Other	5.24	5.17	7.43	5.07	5.90	5.90
Total	**100**	**100**	**100**	**100**	**100**	**100**

The environment that determines success in life for students is in first place the family (19.92%), followed by school (17.12%) and the group of friends (17.01%). In last place are the mass media with 11.93% and other media (5.90%).

19. The contribution of success in university to increasing the chances of success in life. To assess the extent to which success in university contributes to increasing the chances of success in life, students were asked to select according to the criteria: *very high, high, moderate, low and very low*. The results obtained are reflected in Table 20.

Approximately 39.22% of students believe that university contributes to increasing the chances of success in life to an appropriate extent and 26.14% to a large extent, and 15.03% believe that university contributes to a small extent and 9.80% to a very small extent to success in life.

Table 20

The extent to which success in university contributes to increasing the chances of success in life

The extent to which success in university contributes to increasing the chances of success in life	Frequency of responses, %					
	Year 1	Year 2	Year 3	Year 4	1st year of master's degree	Total
Very high	6.45	6.25	10.26	4.55	17.24	**9.15**
High	25.81	28.13	25.64	18.18	31.03	**26.14**
Moderate	45.16	53.13	23.08	45.45	34.48	**39.22**
Low	12.90	3.13	28.21	18.18	10.34	**15.03**
Very low	6.45	9.38	12.82	13.64	6.90	**9.80**
Don't know	3.23	0.00	0.00	0.00	0.00	**0.65**

5. Conclusion

The ascertaining experiment of learning motivation among students at the Faculty of Mechanical, Industrial and Transport Engineering of the Technical University of Moldova demonstrated that there are certain differences in the manifestation of learning motivation depending on the year and study program followed. By organizing the research and applying specific instruments, it was possible to identify the dominant learning motives and attitudes towards academic subjects, as well as determine the peculiarities of learning motivation among students.

The analysis of the results showed that the dominant reasons for learning for most students are cognitive and professional, regardless of the year or study program followed. These reasons include the desire to gain new knowledge, develop their intellectual skills and prepare for their future career. Also, reasons related to personal and professional development were considered important by the majority of students. As for the reasons considered less important, such as external and communicative ones, the results showed that these are mainly related to the desire to avoid reprimands or receive praise, as well as a lack of interest in socializing with peers or in self-education.

The average values of the appreciation of academic subjects indicate that students generally consider the subjects to be interesting (with an average of 3.88 points), important (with an average of 4.04 points) and easy to understand (with an average of 3.87 points). This positive attitude reflects the fact that they determine their priorities and interests and are engaged in the learning process. However, a more detailed analysis of the data reveals some differences in the appreciation of subjects depending on the field and year of study. For example, vocational and specialized training subjects are generally rated better than fundamental or humanitarian ones. It is also observed that in general, with advancing in years of study, students give greater importance and appreciation to the subjects, which suggests an increase in involvement and interest in the subject matter as they progress in their academic program. At the same time, identifying attitudes towards academic subjects can provide useful information for adapting the learning process to the specific needs and interests of students, thus contributing to improving their performance and involvement in the educational process.

Overall, the responses provided by students provide a detailed picture of their motivation, goals and learning methods, as well as the role that extracurricular activities play in their academic and personal lives. These responses suggest that, in the students' view, success in life is influenced by several factors, including education, motivation, interpersonal relationships and family environment, and that university education plays an important role in preparing them for future success.

Thus, the experiment constitutes an important starting point for optimizing the educational process and for supporting students' motivation and commitment in their academic and professional careers.

6. Recommendations

Based on the *conclusions* that reveal the theoretical, applied results and values of the research, the following *recommendations* are put forward in order to develop and stimulate learning motivation among students of the Faculty of Mechanical, Industrial and Transport Engineering of the Technical University of Moldova.

6.1. Recommendations for teachers

Given that student motivation is influenced by the teacher's level of competition, his involvement in teaching, and the enthusiasm and passion with which he does his job, the teacher must analyze his own motivation and the way in which he carries out his teaching-learning-evaluation activities. In this context, a complex of strategies (factors) for stimulating and developing learning motivation is recommended, the essence of which is summarized in the following:

- *Creating a stimulating and positive learning environment*. The teacher builds a classroom atmosphere in which students feel comfortable and encouraged to express their ideas and questions. A positive and encouraging attitude from teachers can increase students' motivation and self-confidence.
- *Ensuring relevance and applicability*. The teacher ensures that the material taught is relevant to students and that they understand how what they are learning can be applied in practice or in their future professional lives. They make connections between the course content and real-life problems or contexts that they may face.
- *Engaging students in the learning process*. The teacher promotes the active participation of students in the teaching-learning process. They use active teaching methods, such as group discussions, case studies or projects, that involve students in practical activities and problem solving.
- *Providing constructive feedback and recognizing performance*. The teacher provides regular and specific feedback on students' performance and recognizes their efforts and achievements. Constructive feedback can help guide students toward continuous improvement and maintain their motivation.
- *Using instructional technology effectively*. Integrating modern technology into the teaching process can be an effective way to stimulate student interest and engagement. The teacher uses digital tools, online learning platforms, and other technological resources to diversify teaching methods and provide access to relevant and up-to-date educational materials.
- *Creating opportunities for individualized learning*. The teacher understands the individual needs and interests of students and adapts the teaching process to support their personal and professional development. Provides flexible and personalized learning options that allow students to explore and develop their passions and skills.
- *Positive role model*. As a teacher, the teacher demonstrates passion and commitment to the subject taught and shows students the importance and benefits of continuous learning and personal development. Being a positive role model, inspires and motivates students to follow their own aspirations and push their limits etc.

Special attention should be paid to weak and unmotivated students, encouraging them to work. Towards them, the teacher can adopt the following behaviors: expressing confidence in the ability to succeed; giving them attention as if they were stronger students; avoiding competitive situations with good students; excluding remarks in front of colleagues; avoiding expressing contempt when they fail; showing interest in their successes. At the same time, it can be specified that the problems of learning motivation being extremely diverse, the teacher's intervention cannot be reduced to recipes, but must be adapted to each individual situation.

6.2. Recommendations for students

Committing to the learning process with determination and courage can maximize the potential and achieve success in studies and in the student's personal and professional life. In this context, the following recommendations are proposed:

- *Setting clearly defined goals*. The student identifies personal and academic goals and sets priorities based on them. Well-defined and achievable goals can provide direction and motivation in the learning process.
- *Identifying passion*. The student explores areas that interest him/her and tries to choose courses and activities that stimulate his/her interest and curiosity. Studying a subject that he/she is passionate about can make the learning process more enjoyable and motivating.
- *Effective time management*. The student creates a structured and efficient learning schedule that allows balancing academic tasks with other activities and responsibilities. Prioritizes tasks according to importance and deadlines and tries to avoid procrastination.
- *Adopting a positive mindset*. The student approaches learning with an open and positive mindset and believes in the ability to learn and grow. Avoids negative and self-limiting thinking and focuses on solutions and overcoming obstacles.
- *Actively engaging in the learning process*. The student actively participates in classes, discussions, and practical activities and asks questions when he/she needs clarification or additional help. Collaborates with colleagues and gets involved in projects and extracurricular activities that can expand knowledge and skills.
- *Seeking additional resources and support*. The student uses available resources, such as books, online materials, tutorials, and academic counseling services, to consolidate understanding and overcome difficulties. Does not hesitate to ask for help when needed and gets involved in tutoring or mentoring programs.
- *Celebrating progress and rewards*. The student recognizes efforts and achievements and celebrates each success, no matter how small. Sets rewards or motivates himself/herself with small rewards for achieving goals and for maintaining learning motivation etc.

The recommendations outlined above lead to the development of autonomous, independent, self-directed, self-regulated learning skills. As students acquire these skills, their dependence on external influence and control over their learning decreases.

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References

1. Student Motivation and Learning. Institute of Educational Sciences. Educational Theory Laboratory, 2015. Available online: https://www.ise.ro/wp-content/uploads/2015/08/Brosura-Motivatia-pentru-invatare.pdf (accessed on 28.02.2024) [in Romanian].
2. Asla, I. Psychopedagogical landmarks of the development of learning motivation in Arab high school students from Israel. Ph.D. thesis in educational sciences, Chisinau, 2021, 163 p. [in Romanian].
3. Antoci, D.; Mafteuța, D. Motivation for learning in educational contexts, 2019. Available online: https://ibn.idsi.md/sites/default/files/ imag_file/19-25_15.pdf (accessed on 28.02.2024) [in Romanian].
4. Cebanu, C. *Educational Psychology*. UAICI, Iași, Romania, 2006, 79 p. [in Romanian].
5. Motivation. Available online: https://www.anahana.com/ro/mental-health/motivation (accessed on 28.02.2024) [in Romanian].
6. Tudosan, V.; Suslenco, A. Modern motivation systems: successful examples. Available online: https://ibn.idsi.md/sites/default/files/imag_ file/140-151_3.pdf (accessed on 28.02.2024) [in Romanian].
7. Staricov, E. Psychopedagogical conditions for the formation of learning motivation in students in the pedagogical field. Ph.D. thesis in pedagogy, Chisinau, 2015, 174 p. [in Romanian].

8. Ilciuc, C. Managerial implications on staff motivation in organizations in the Republic of Moldova. Ph.D. thesis in economic sciences, Chisinau, 2018, 192 p. [in Romanian].
9. Stimulating students' motivation for learning and interpersonal relationships. © 2024 MyShared Inc. Available online: http://www.myshared.ru/slide/1375099/ (accessed on 28.02.2024) [in Romanian].
10. Motivation – general characterization of motivation. © SCRIGROUP 2024. Available online: https:// www.scrigroup.com/educatie/psihologie-psihiatrie/ MOTIVATIA - CARACTERIZAREA-GENER74526.php (accessed on 28.02.2024) [in Romanian].
11. Micle, M.I. Motivation – classical and integrative models. Available online: https:// neuroaugmentare.ro/motivatie-modele-clasice-si-integrative-i/ (accessed on 28.02.2024) [in Romanian].
12. Motivation – defining motivation. Available online: https://www.creeaza.com/ referate/psihologie-psihiatrie/MOTIVATIA-Definirea-motivatiei722.php (accessed on 28.02.2024) [in Romanian].
13. Davidescu, E. Motivating students and teachers: findings, challenges and solutions. PAIDEIA Debate Club differently for teachers – new challenges in the online learning environment. Available online: http://red.prodidactica.md/wp-content/uploads/sites/5/2021/02/Davidescu-PPT.pdf (accessed on 29.02.2024) [in Romanian].
14. Şchiopu, U. *Dictionary of Psychology*. Babel Publishing House, Bucharest, Romania, 1997, 740 p. ISBN 973-48-1027-8 [in Romanian].
15. Dumitrescu, A. Strategies to stimulate students' motivation for learning. Available online: https://www.didactic.ro/materiale-didactice/strategii-de-stimulare-a-motivatiei-elevilor-pentru-invatare (accessed on 29.02.2024) [in Romanian].
16. Atkinson, R.K. *Human memory and the learning process*. Progress, Moscow, 1980, 528 p. [in Russian].
17. Vroom, V.H. *Work and Motivation*. Wiley, NJ, USA, 1994, 397 p.
18. Vroom, V.H.; Deci, E.L. *Management and Motivation*. Penguin Uk, London, UK, 1999, 512 p.
19. Guilane-Nachez, E. Luck is on your side! Methods and techniques of self-knowledge. Polirom, Iasi, Romania, 2003, 296 p. ISBN 973-681-276-6 [in Romanian].
20. Motivation – general characterization of motivation. Available online: https://www.scrigroup.com/educatie/psihologie-psihiatrie/MOTIVATIA-CARACTERIZAREA-GENER74526.php (accessed on 28.02.2024) [in Romanian].
21. Golu, P. *Motivation, a basic concept in psychology*. Didactic and Pedagogical Publishing House, Bucharest, Romania, 2006, 128 p. [in Romanian].
22. Neacsu, I. *Motivation and learning*. Didactic and Pedagogical Publishing House, Bucharest, Romania, 1978, 271 p. [in Romanian].
23. Vintilescu, D. *Motivation for school learning*. Facla, Timişoara, Romania, 1977, 63 p. [in Romanian].
24. Fadeneva, S.N. Motivation of students to professional activity. Graduation qualification job. Ekaterinburg, 2018, 90 p. [in Russian].
25. Borisova, E.M. Professional self-determination: personal aspect. Dis. Dr. of psychology, Moscow, 1995, 73 p. [in Russian].
26. Il`in, E.P. *Motivation and motives*. Piter Publishing House, Sankt Petersburg, 2002, 512 p. ISBN 5-272-00028-5 [in Russian].
27. Plămădeală, V. Psychopedagogical landmarks of the development of learning motivation of students in vocational technical education. Master's thesis, Chisinau UTM, 2024, 165 p. [in Romanian].
28. Curriculum for higher education, bachelor's degree, cycle I (level 6 according to ISCED). Study program: 0716.1 Road transport engineering, Technical University of Moldova, Chisinau, 2022. Available online: https://utm.md/wp-content/uploads/2023/06/ ing. -trans.-auto-modificat-21.06.2022.pdf (accessed on 15.02.2024) [in Romanian].
29. Curriculum for higher education, bachelor's degree, cycle I (level 6 according to ISCED). Study program: 0710.1 Engineering and management in transport, Technical University of Moldova, Chisinau, 2022. Available online https://utm.md/wp-content/uploads/2023/06/ing.-si-man.-in-trans.-modificat-21.06.2022.pdf (accessed on 15.02.2024) [in Romanian].
30. Motivation for learning. March 2011. Questionnaire addressed to students. Bucharest Municipality Center for Educational Resources and Assistance (BMCERA), Bucharest Municipality Center for Psychopedagogical Assistance (BMCPA), Interschool Logopedic Center – Bucharest (ILC), Bucharest, 2011. 6 p. [in Romanian].
31. Study on „Motivation in Learning". Bucharest Municipality Center for Educational Resources and Assistance (BMCERA), Bucharest Municipality Center for Psychopedagogical Assistance (BMCPA), Interschool Logopedic Center – Bucharest (ILC), Bucharest, 2011. 63 p. [in Romanian].

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WORK PERFORMANCE OF EMPLOYEES IN A CONGOLESE PUBLIC ESTABLISHMENT AND ITS DETERMINANTS

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Abstract. The aim of this study was to evaluate the work performance of employees of a Congolese public institution (in this case, the Caisse Nationale de Sécurité Sociale), and to assess the factors that might explain this performance. It was based on the following three hypotheses: (1) Caisse Nationale de Sécurité Sociale employees would perform well at work; (2) sociodemographic variables and career characteristics would significantly explain the performance of these employees; (3) career characteristics would be more decisive in the performance of these employees than sociodemographic factors. To test these hypotheses, an individual work performance scale was administered to a non-probabilistic sample of 93 general management employees at the above-mentioned establishment. Overall, the results confirmed our hypotheses. In other words, employees of this establishment perform well at work, and their performance is explained by both sociodemographic and career factors. In terms of socio-demographic factors, only the variables gender and age influenced one of the five dimensions of job performance.

Keywords: *career characteristics, determinants, employees, job performance, sociodemographic factors.*

Rezumat. Acest studiu și-a propus să evalueze performanța în muncă a angajaților unei instituții publice congoleze - Fondul Național de Securitate Socială și să evalueze factorii care ar putea explica nivelul de performanță al agenților. S-a bazat pe trei ipoteze: (1) angajații Fondului Național de Asigurări Sociale s-ar dovedi a fi eficienți la locul de muncă; (2) variabilele socio-demografice și caracteristicile carierei ar explica semnificativ performanța acestor angajați; (3) caracteristicile carierei ar fi mai decisive în performanța acestor angajați în comparație cu factorii socio-demografici. Pentru a testa aceste ipoteze, s-a administrat o scară de performanță individuală în muncă unui eșantion non-probabil de 93 de angajați ai conducerii generale a unității menționate anterior. Rezultatele obținute au făcut posibilă confirmarea globală a ipotezelor noastre. Cu alte cuvinte, angajații acestei unități sunt eficienți la locul de muncă, iar performanța lor se explică atât prin factori socio-demografici, cât și pe cei de carieră. La nivelul factorilor socio-demografici, doar variabilele sex și vârstă au influențat una dintre cele cinci dimensiuni ale performanței în muncă.

Cuvinte cheie: *caracteristici ale carierei, determinanți, factori socio-demografici, performanță la locul de muncă, angajați.*

1. Introduction

En Gestion des Ressources Humaines, la recherche d'une forte performance individuelle et organisationnelle fait partie des objectifs prioritaires de toute entreprise. En effet, aucune entreprise ne peut pérenniser ses activités si elle ne dispose des salariés performants au travail. Ce souci de la performance est dicté par le contexte économique actuel marqué une forte concurrence. Dans un tel contexte, la compétitivité des organisations est plus en plus fonction de la performance de leur capital humain. En effet, la performance d'une organisation est fortement corrélée à la performance individuelle de son personnel car c'est ce dernier qui met en œuvre la stratégie organisationnelle et fournit des efforts immenses pour atteindre les objectifs organisationnels [1]. Ainsi, du point de vue professionnel, la performance d'un salarié peut être considérée comme une activité dans laquelle ce dernier est capable d'accomplir avec succès la tâche qui lui est assignée, sous réserve des contraintes normales de l'utilisation raisonnable des ressources disponibles [2]. Cette performance n'est pas seulement importante pour l'organisation. Elle est également cruciale pour les salariés dans la mesure où l'accomplissement des tâches et une haute performance peuvent être une source de satisfaction, de sentiments de maîtrise et de fierté. Par contre, une faible performance et l'incapacité de contribuer à l'atteinte des objectifs peuvent être perçus par les salariés comme une situation insatisfaisante ou même comme un échec personnel [3]. C'est pour cette raison que la performance au travail fait partie des variables de management les plus étudiées au cours de ces dernières décennies [2]. En effet, ces différentes recherches se proposent de comprendre les antécédents de ce phénomène et ses répercussions tant sur l'environnement de travail que sur la santé organisationnelle. S'agissant des antécédents, plusieurs études ont démontré que la performance au travail est affectée par plusieurs facteurs ou déterminants.

Ces déterminants peuvent être regroupés en trois groupes: les caractéristiques sociodémographiques, les caractéristiques de la carrière et les caractéristiques organisationnelles [4-6]. Dans la liste des caractéristiques sociodémographiques, quatre variables sont identifiées comme ayant une grande influence sur la performance au travail (le sexe, l'âge, l'état-civil et le niveau d'études). En ce qui concerne le sexe, Kossek et Ozeki [7] avancent que les femmes seraient globalement moins performantes que les hommes au travail en raison d'attentes plus faibles que celles du sexe opposé. Cette étude trouve des éléments de réponse dans celle de Pailhé et Solaz [8] selon laquelle les femmes accordent au fil des années aux enfants et/ou à la famille de plus en plus de place alors que les hommes, durant les mêmes périodes, se rapprochent davantage de leur activité professionnelle. S'agissant de l'âge, il a été démontré que la performance au travail est plus élevée chez les sujets plus âgés [4]. En effet, à partir de 25 ans, les éléments de satisfaction liés à la performance commencent à émerger, notamment en raison du premier emploi et de la découverte du monde professionnel [9,10]. Le statut marital (en couple ou situation monoparentale) conditionnerait le niveau de performance au travail [7,11]. Les célibataires seraient, dans cette optique, plus performants au travail que les mariés. Ces études ont également démontré que les sujets ayant un niveau d'études élevé tendent à être plus performants au travail que ceux qui ont un faible niveau d'études. Les études couplant les caractéristiques de la carrière avec la performance au travail ont pu démontrer le rôle primordial qu'exercent l'ancienneté au travail et le grade sur cette dernière. En effet, l'ancienneté et le statut professionnel (grade) favorisent un accroissement de la performance au travail à mesure que ces variables augmentent dans le temps [4-6]. Au niveau des

caractéristiques organisationnelles, les conditions du travail en général et en particulier la rémunération semblent avoir un effet très positif sur la performance au travail. Dans une étude menée auprès des enseignants aux États-Unis par le National Center for Education Statistics, que citent Gaziel et Wasserstein-Waret [4], il a été démontré que les sujets sont plus performants au travail lorsque leurs conditions de travail sont plus favorables. Ces conditions comprenaient des données relatives au soutien de l'administration à leur égard, au leadership et à une autonomie suffisante. Sans grande surprise, Saltzstein et al. [12] ont constaté qu'un niveau de rémunération élevé donnerait davantage lieu à une forte performance au travail qu'un niveau faible de rémunération et un leadership autoritaire.

De ces trois catégories des déterminants, plusieurs études [4,13,14] ont révélé que les variables sociodémographiques et les caractéristiques de la carrière influencent de manière particulière la performance au travail. La présente étude se propose de vérifier si la forte influence des variables sociodémographiques et des caractéristiques de la carrière sur la performance au travail constatée dans les études antérieures se vérifie dans le contexte des entreprises congolaises. Cette étude se justifie par le fait qu'il a toujours été démontré que la nature de l'effet des variables sociodémographiques et des caractéristiques de la carrière sur la performance au travail varie d'un pays à un autre, et cela, en fonction du contexte socioéconomique et organisationnel. En plus, dans le contexte organisationnel congolais, les études sur les déterminants de la performance au travail des employés sont très rares. La présente étude se propose de palier ce déficit en ciblant la Caisse Nationale de Sécurité Sociale (CNSS en sigle) comme champ d'investigation. Cette étude se propose de vérifier les hypothèses ci-après: (1) les salariés de la Caisse Nationale de Sécurité Sociale se révèleraient performants au travail; (2) les variables sociodémographiques et les caractéristiques de la carrière expliqueraient significativement la performance de ces salariés; (3) les caractéristiques de la carrière seraient plus déterminantes dans la performance de ces salariés comparativement aux facteurs sociodémographiques.

2. Méthodologie

2.1. Milieu d'investigation de l'étude

La Caisse Nationale de la Sécurité Sociale est le champ d'investigation de la présente recherche. Sa direction générale est située à Kinshasa sur le boulevard du 30 juin n°95 dans la commune de la Gombe. Elle a pour objectif de: (1) réparer les conséquences de l'invalidité, de la vieillesse, du décès, de l'accident du travail ainsi que des maladies professionnelles connus par les travailleurs et (2) faire face aux charges de la famille en attendant que d'autres branches de prestations soient instituées.

2.2. Participants à l'étude

La population de cette recherche est constituée de tous les salariés de la direction générale de la Caisse Nationale de la Sécurité Sociale, dont l'effectif total s'élève à 811 agents. De cette population, un échantillon non-probabiliste de 93 sujets a été extrait en tenant compte de leur consentement à participer à l'étude. Cet échantillon varie en fonction des caractéristiques suivantes : (1) le sexe, (2) la tranche d'âge, (3) le niveau d'études, (4) l'état-civil, (5) l'ancienneté au travail et (6) la catégorie socioprofessionnelle. Au niveau du sexe, on retrouve 58 hommes contre 35 femmes. En ce qui concerne la tranche d'âge, nous avons 10 sujets âgés de moins de 30 ans, 39 de 30-39 ans, 33 de 40-49 ans et 11 de 50 ans et plus. S'agissant du niveau d'études, nous avons 9 diplômés d'État (bac), 29 gradués (bac+3) et 55 licenciés (bac+5). L'échantillon compte 63 mariés, 27 célibataires et 3 divorcés. Selon

l'ancienneté au travail, on retrouve 10 sujets ayant moins de 10 ans d'ancienneté, 43 de 10-19 ans et 10 de 20-29 ans. Concernant la catégorie socioprofessionnelle, nous avons 44 agents d'exécution, 47 cadres de collaboration et 2 cadres de direction.

2.3. Technique de récolte des données

Pour évaluer la performance au travail des salariés, nous avons administré l'échelle de la performance individuelle au travail. Cette échelle a été tirée de l'adaptation de Charbonnier et Roussel [15] de l'échelle de Pulakos et al [16] (dans sa dimension adaptative). Globalement, elle est constituée de 21 items évaluant cinq dimensions de la performance adaptative au travail: (1) la créativité, (2) la réactivité face aux urgences et aux imprévus, (3) l'adaptabilité interpersonnelle, (4) les efforts d'apprentissage et (5) la gestion du stress. Le salarié exprime son point de vue en tenant compte de quatre modalités de réponses: (1) totalement en désaccord (TD), (2) en désaccord (D), (3) en accord (A) et (4) totalement en accord (TA). Cet instrument a une bonne cohérence interne avec une valeur globale de l'alpha de Cronbach supérieure à 0,70 (0,80).

3. Résultats de l'étude

3.1. Résultats globaux

Les résultats de l'étude sont présentés de façon globale sans tenir compte des spécificités des facteurs sociodémographiques de l'étude. Cette présentation, quoi que globale, se fait question par question, et cela, en fonction des dimensions de l'échelle de la performance au travail.

3.1.1. Première dimension: Créativité

La première dimension de notre échelle est constituée de quatre questions (1, 2, 3 et 4). Les réactions de nos sujets à ces questions sont présentées dans le tableau suivant.

Tableau 1

Réactions des sujets aux items liés à la créativité

Items	Degré d'appréciation				Total
	TD	D	A	TA	
1. Je n'hésite pas à aller contre certaines idées bien établies pour proposer une solution novatrice	4 (4,3%)	4 (4,3%)	32 (34,4%)	53 (57%)	93 (100%)
2. Dans mon service, on compte sur moi pour proposer des solutions nouvelles	4 (4,3%)	12 (12,9%)	24 (25,8%)	53 (57 %)	93 (100%)
3. J'intègre des informations très variées pour trouver une solution innovante	6 (6,5%)	32 (34,4%)	0 (0%)	55 (59,1%)	93 (100%)
4. Je développe de nouveaux outils et méthodes pour résoudre ces problèmes inédits	13 (14%)	25 (26,9%)	0 (0%)	55 (59,1%)	93 (100%)

Légende: TD - totalement en désaccord; D – en désaccord; A - en accord; TA **-** totalement en accord.

Le Tableau 1 montre que 91,4% des salariés affirment, à divers degrés, ne pas hésiter à aller à l'encontre de certaines idées bien établies pour proposer des solutions innovantes, tandis que 8,6% ont un avis contraire. S'agissant de la tendance du service à compter sur les travailleurs pour avoir de nouvelles idées, 82,8% des salariés approuvent cette tendance contre 17,2% des salariés qui la désapprouvent. Du même tableau, on constate que 59,1% des salariés affirment intégrer des informations très variées pour trouver des solutions

innovantes contre 40,9% des sujets qui ont un point de vue contraire. Enfin, 59,1% des salariés affirment développer de nouveaux outils et méthodes pour résoudre les problèmes professionnels contre 40,9% qui ont un avis contraire.

3.1.2. Deuxième dimension: Réactivité face aux urgences et imprévus

La deuxième dimension de notre échelle est constituée de quatre items (5, 6, 7 et 8). Les réactions de nos sujets à ces items sont présentées dans le tableau suivant.

Tableau 2

Réactions des sujets aux items liés à la réactivité face aux urgences

Items	Degré d'appréciation				Total
	TD	D	A	TA	
5. Je parviens à orienter toute mon attention sur la situation pour agir rapidement	2 (2,2%)	5 (5,4%)	17 (18,3%)	69 (74,1%)	93 (100%)
6. Je décide vite des actions à entreprendre pour résoudre le problème	5 (5,4%)	7 (7,5%)	22 (23,7%)	59 (63,4%)	93 (100%)
7. J'analyse très vite les solutions possibles et leurs implications pour choisir la plus appropriée d'entre elles	4 (4,3%)	11 (11,8%)	22 (23,7%)	56 (60,2%)	93 (100%)
8. Je réorganise facilement mon travail pour m'adapter à la nouvelle situation	8 (8,6%)	14 (14%)	18 (19,4%)	54 (58,0%)	93 (100%)

Légende: TD - totalement en désaccord; D – en désaccord; A - en accord; TA **-** totalement en accord.

Des résultats consignés dans le Tableau 2, il ressort que 92,4% des salariés affirment parvenir à orienter leur attention sur les situations-problèmes en vue d'agir rapidement contre 7,6% des sujets qui n'arrivent pas à le faire. On constate aussi de ce même tableau que 87,1% des salariés, à des degrés variables, affirment décider vite des actions à entreprendre afin de résoudre les problèmes contre 12,9% des sujets qui ont un avis contraire. En ce qui concerne la rapide analyse des solutions et de leurs implications dans le souci de choisir la meilleure solution, 83,9% des salariés affirment faire cette analyse contre 16,1% des sujets qui n'arrivent pas à la faire. Enfin, 77,4% des salariés arrivent à réorganiser facilement leur travail dans le but de s'adapter aux nouvelles situations. Par contre, 22,6% des sujets ont un avis contraire.

3.1.3. Troisième dimension: Adaptabilité interpersonnelle

La troisième dimension de notre échelle est constituée de quatre items (9, 10, 11 et 12). Les réactions de nos sujets à ces items sont présentées dans le tableau suivant.

Tableau 3

Réactions des sujets aux items liés à l'adaptabilité interpersonnelle

Items	Degré d'appréciation				Total
	TD	D	A	TA	
9. Je développe de bonnes relations avec tous mes interlocuteurs car c'est un élément important de mon efficacité	3 (3,2%)	6 (6,5%)	18 (19,3%)	66 (71%)	93 (100%)
10. Je cherche à comprendre les points de vue de mes interlocuteurs pour pouvoir mieux échanger avec eux	5 (5,4%)	10 (10,8%)	21 (22,5%)	51 (61,3%)	93 (100%)

Continuation Tableau 3

11. Pour mieux collaborer avec ces personnes, j'apprends de nouvelles manières de faire mon travail	5 (5,4%)	13 (13,9%)	22 (23,7%)	53 (57%)	93 (100%)
12. J'ajuste volontiers mon comportement lorsqu'il s'agit de travailler avec ces personnes	5 (5,4%)	20 (21,5%)	16 (17,2%)	52 (55,9%)	93 (100%)

Légende: TD - totalement en désaccord; D – en désaccord; A - en accord; TA **-** totalement en accord.

La lecture du Tableau 3 révèle que les salariés enquêtés savent s'adapter aux autres dans leurs relations professionnelles. En plus, 90,3% des salariés, à des degrés différents, savent développer de bonnes relations avec leurs collègues de service. On constate également que 83,8% des salariés, à des intensités variables, cherchent à comprendre les points de vue des autres dans leurs échanges. Du même tableau, il ressort que 80,7% des salariés, à des degrés variables, apprennent de nouvelles manières de travailler pour bien collaborer avec leurs collègues de service. Enfin, 73,1% des salariés, à des degrés différents, affirment ajuster volontiers leurs comportements lorsqu'ils travaillent en groupe.

3.1.4. Quatrième dimension: Efforts d'apprentissage

La quatrième dimension de notre échelle est constituée de cinq items (13, 14, 15, 16 et 17). Les réactions de nos sujets à ces items sont présentées dans le tableau suivant.

Tableau 4

Réactions des sujets aux items liés aux efforts d'apprentissage

Items	Degré d'appréciation				Total
	TD	D	A	TA	
13. Je me forme régulièrement, dans ou en dehors de l'entreprise, pour maintenir mes compétences à jour	3 (3,2%)	21 (22,6%)	26 (28%)	43 (46,2%)	93 (100%)
14. Je suis à l'affût de dernières innovations dans mon domaine professionnel pour améliorer ma manière de travailler	4 (4,3%)	9 (9,7%)	27 (29%)	53 (57%)	93 (100%)
15. Je recherche toutes les opportunités qui me permettent de développer mes performances (formation, groupes de travail, échanges avec les collègues, etc.)	6 (6,5%)	11 (11,8%)	12 (12,9%)	64 (68,8%)	93 (100%)
16. Je me prépare au changement en participant à tout projet ou mission qui le permet.	6 (6,5%)	18 (19,4%)	18 (19,4%)	51 (54,7%)	93 (100%)
17. J'attends que les nouveautés touchant mon travail soient bien diffusées dans l'entreprise avant de me lancer dans leur apprentissage	6 (6,5%)	11 (11,8%)	22 (23,7%)	54 (58,0%)	93 (100%)

Légende: TD - totalement en désaccord; D – en désaccord; A - en accord; TA **-** totalement en accord.

Il ressort du Tableau 4 que 74,2% des salariés se forment régulièrement pour actualiser leurs compétences professionnelles contre 25,8% des sujets qui n'arrivent pas à se former. Dans cette même logique, 86% des salariés sont à l'affût de dernières innovations pour améliorer leur manière de travailler. Du même tableau, on constate que 81,7% des salariés, à des degrés variables, sont à la recherche des opportunités qui facilitent le développement de leurs compétences. De plus, 74,1% des salariés se préparent au changement en participant aux projets qui le facilitent. Enfin, 81,7% des salariés affirment, à des degrés différents, attendre la diffusion des nouveautés touchant leur travail avant de pouvoir se lancer dans leur apprentissage.

3.1.5. Cinquième dimension: Gestion du stress

La cinquième dimension de notre échelle est constituée de quatre items (18, 19, 20 et 21). Les réactions de nos sujets à ces items sont présentées dans le Tableau suivant.

Tableau 5

Réactions des sujets aux items liés à la gestion du stress

Items	Degré d'appréciation				Total
	TD	D	A	TA	
18. Je conserve mon calme dans des situations où j'ai à prendre de nombreuses décisions	6 (6,5%)	15 (16,1%)	18 (19,3%)	54 (58,1%)	93 (100%)
19. Je cherche des solutions en discutant calmement avec mes collègues	9 (9,7%)	14 (15,1%)	17 (18,2%)	53 (57%)	93 (100%)
20. Par mes conseils et mon comportement, j'aide mes collègues à maîtriser leur stress	8 (8,6%)	13 (14%)	16 (17,2%)	56 (60,2%)	93 (100%)
21. Je me sens à l'aise même si mes tâches changent et s'enchainent rapidement	10 (10,8%)	15 (16,1%)	17 (18,3%)	51 (54,8%)	93 (100%)

Légende: TD - totalement en désaccord; D – en désaccord; A - en accord; TA **-** totalement en accord.

La lecture du Tableau 5 indique que 77,4% des salariés, à des degrés variables, conservent leur calme dans des situations qui exigent la prise de nombreuses décisions. Dans ce même tableau, on constate que 75,2% des salariés cherchent des solutions en discutant calmement avec leurs collègues de service. De plus, 77,4% des salariés aident, par leurs conseils et comportements, les autres à maîtriser leurs stress. Enfin, 73,1% des salariés se sentent à l'aise en dépit du changement et de l'enchainement de leurs tâches professionnelles, et cela à des degrés différents.

3.2. Analyse différentielle des résultats

L'objectif de la présente analyse différentielle est de déterminer l'effet des variables sociodémographiques (sexe, tranche d'âge, niveau d'études, état civil) et des caractéristiques de la carrière (ancienneté au travail et catégorie socio-professionnelle) sur la performance au travail des salariés enquêtés. Pour ce faire, nous avons recouru au test de chi-carré dont les résultats sont présentés dans les tableaux suivants. Cinq items en raison d'un item par dimension ont été ciblés pour la présente analyse. Il s'agit des items : 1, 7, 10, 15 et 21. (Créativité : Item n°1 ; réactivité face aux urgences et imprévus : Item n°7 ; adaptabilité interpersonnelle : Item n°10 ; efforts d'apprentissage : Item n°15 ; gestion de stress : Item n°21).

Tableau 6

Influence du sexe sur les résultats

Dimensions	Statistiques de χ^2					Statistiques de V de Cramer	
	Items	χ^2	ddl	Sig.	Déc	V	Sig.
Créativité	1	3,58	3	0,31	NS	0,19	0,31
Réactivité face aux urgences et imprévus	7	0,65	3	0,88	NS	0,08	0,88
Adaptabilité interpersonnelle	10	9,28	3	0,03	S	0,31	0,03
Efforts d'apprentissage	15	3,55	3	0,08	NS	0,19	0,08
Gestion de stress	21	7,45	3	0,06	NS	0,28	0,06

Légende: χ^2 - Chi-carré, Sig. - Signification, ddl - degré de liberté, Déc - décision, NS - non-significative, S - significative, V - V de Cramer, intervalle de confiance 95 %, p<0,05.

La lecture du Tableau 6 révèle que la variable sexe n'a influencé que l'adaptabilité interpersonnelle des salariés (p< 0,05). L'effet de cette variable sur l'adaptabilité est modéré comme le démontre le résultat du test V de Cramer (0,2 < V ⩽ 0,6).

Tableau 7

Influence de la tranche d'âge sur les résultats

Dimensions	Statistiques de χ^2					Statistiques de V de Cramer	
	Items	χ^2	ddl	Sig.	Déc	V	Sig.
Créativité	1	16,76	9	0,06	NS	0,25	0,06
Réactivité face aux urgences et imprévus	7	12,39	9	0,19	NS	0,21	0,19
Adaptabilité interpersonnelle	10	6,87	9	0,65	NS	0,15	0,65
Efforts d'apprentissage	15	20,50	9	0,02	S	0,27	0,02
Gestion de stress	21	11,20	9	0,26	NS	0,20	0,26

Légende: χ^2 - Chi-carré, Sig. - Signification, ddl - degré de liberté, Déc - décision, NS - non-significative, S - significative, V - V de Cramer, intervalle de confiance 95 %, p<0,05.

Du Tableau 7, il ressort que la variable tranche d'âge n'a influencé que les efforts d'apprentissage des salariés enquêtés (p<0,05). L'influence de cette variable sur les efforts d'apprentissage est modérée comme le démontre le résultat du test V de Cramer (0,2 < V ⩽ 0,6).

Tableau 8

Influence du niveau d'études sur les résultats de l'étude

Dimensions	Statistiques de χ^2					Statistiques de V de Cramer	
	Items	χ^2	ddl	Sig.	Déc	V	Sig.
Créativité	1	7,55	6	0,27	NS	0,20	0,27
Réactivité face aux urgences et imprévus	7	9,35	6	0,16	NS	0,22	0,16
Adaptabilité interpersonnelle	10	7,94	6	0,24	NS	0,21	0,24

Continuation Tableau 8

Efforts d'apprentissage	15	10,19	6	0,12	NS	0,33	0,12
Gestion de stress	21	8,02	6	0,24	NS	0,29	0,24

Légende: χ^2 - Chi-carré, Sig. - Signification, ddl - degré de liberté, Déc - décision, NS - non-significative, V - V de Cramer, intervalle de confiance 95 %, p<0,05.

La lecture du Tableau 8 révèle que la variable niveau d'études n'a pas affecté significativement la performance au travail des sujets enquêtés (p<0,05).

Tableau 9

Influence de l'état-civil sur les résultats de l'étude

Dimensions	**Statistiques de χ^2**					**Statistiques de V de Cramer**	
	Items	**χ^2**	**ddl**	**Sig.**	**Déc**	**V**	**Sig.**
Créativité	1	3,51	6	0,74	NS	0,13	0,74
Réactivité face aux urgences et imprévus	7	8,93	6	0,18	NS	0,21	0,18
Adaptabilité interpersonnelle	10	1,43	6	0,96	NS	0,08	0,96
Efforts d'apprentissage	15	2,34	6	0,88	NS	0,11	0,88
Gestion de stress	21	2,73	6	0,84	NS	0,12	0,84

Légende: χ^2 - Chi-carré, Sig. - Signification, ddl - degré de liberté, Déc - décision, NS - non-significative, V - V de Cramer, intervalle de confiance 95 %, p<0,05.

Du Tableau 9, il ressort que la variable état-civil n'a pas influencé la performance au travail des salariés enquêtés (p<0,05).

Tableau 10

Influence de l'ancienneté sur les résultats

Dimensions	**Statistiques de χ^2**					**Statistiques de V de Cramer**	
	Items	**χ^2**	**ddl**	**Sig.**	**Déc**	**V**	**Sig.**
Créativité	1	13,28	6	0,04	S	0,26	0,04
Réactivité face aux urgences et imprévus	7	3,60	6	0,73	NS	0,14	0,73
Adaptabilité interpersonnelle	10	18,71	6	0,01	S	0,32	0,01
Efforts d'apprentissage	15	12,52	6	0,04	S	0,26	0,04
Gestion de stress	21	37,95	6	0,00	S	0,45	0,00

Légende: χ^2 - Chi-carré, Sig. - Signification, ddl - degré de liberté, Déc - décision, NS - non-significative, S - significative, V - V de Cramer, intervalle de confiance 95 %, p<0,05.

La lecture du Tableau 10 indique que la variable ancienneté au travail a permis de différencier les réactions des salariés à quatre dimensions sur les cinq de l'échelle de la performance au travail (créativité, adaptabilité interpersonnelle, efforts d'apprentissage et

gestion du stress) car les probabilités y associées sont toutes inférieures à la probabilité critique (p<0,05). Ces associations entre la variable ancienneté et les quatre dimensions de la performance au travail sont modérées conformément aux résultats du V de Cramer (0,2 < V ⩽ 0,6).

Tableau 11

Influence de la catégorie socio-professionnelle sur les résultats

Dimensions	Statistiques de χ^2					Statistiques de V de Cramer	
	Items	χ^2	ddl	Sig.	Décision	V	Sig.
Créativité	1	13,62	6	0,03	S	0,38	0,03
Réactivité face aux urgences et imprévus	7	6,73	6	0,35	NS	0,27	0,35
Adaptabilité interpersonnelle	10	6,04	6	0,42	NS	0,18	0,42
Efforts d'apprentissage	15	14,54	6	0,02	S	0,28	0,02
Gestion de stress	21	4,39	6	0,62	NS	0,22	0,62

Légende: χ^2 - Chi-carré, Sig. - Signification, ddl - degré de liberté, Déc - décision, NS - non-significative, S - significative, V - V de Cramer, intervalle de confiance 95 %, p<0,05.

Du Tableau 11, il ressort que la variable catégorie socio-professionnelle n'a influencé que deux dimensions sur les cinq de l'échelle de la performance individuelle au travail (créativité et efforts d'apprentissage). Cette conclusion est dictée par le fait que les probabilités y associées sont inférieures à la probabilité critique (p<0,05). Ces associations entre la variable catégorie socioprofessionnelle et les deux dimensions de la performance au travail sont modérées conformément aux résultats du V de Cramer (0,2 < V ⩽ 0,6).

4. Discussion des résultats

Les résultats de cette recherche révèlent que tous les indicateurs de la performance au travail sont évalués positivement par les sujets enquêtés. Ainsi, on peut conclure que les salariés enquêtés sont performants au travail. Cette performance au travail se manifeste par cinq aptitudes: (1) la créativité, (2) la réactivité face aux urgences et imprévus, (3) l'adaptabilité interpersonnelle, (4) les efforts d'apprentissage et (5) la gestion du stress. En ce qui concerne la créativité, les résultats indiquent que les salariés de la CNSS sont créatifs dans leurs tâches professionnelles. Tous les quatre indicateurs de cette dimension sont évalués positivement par les salariés enquêtés. Il s'agit de: (1) la tendance à ne pas hésiter à aller à l'encontre de certaines idées bien établies pour proposer des solutions novatrices; (2) la tendance à être une ressource pour le service en matière des propositions des solutions nouvelles; (3) l'intégration des informations variées pour trouver des solutions innovantes et (4) la possibilité de développer de nouveaux outils et méthodes de résolution des problèmes. S'agissant de la réactivité face aux urgences et imprévus, tous les quatre indicateurs sont évalués positivement par les salariés enquêtés. Il s'agit de: (1) l'aptitude à orienter l'attention sur les situations-problèmes en vue d'agir rapidement; (2) de la tendance à décider rapidement des actions à entreprendre dans la résolution des problèmes, (3) l'analyse rapide des solutions et de leurs implications dans le travail et (4) la tendance de réorganiser facilement le travail dans le but de s'adapter aux nouvelles situations.

En matière d'adaptabilité interpersonnelle, les résultats indiquent que nos salariés savent s'adapter dans leurs relations face aux autres. En effet, tous les quatre indicateurs de

cette dimension sont évalués positivement par les salariés enquêtés. Il s'agit de: (1) la capacité à développer de bonnes relations avec les collègues de service; (2) la capacité à chercher à comprendre les autres dans les échanges; (3) la possibilité à apprendre de nouvelles manières de travailler pour faciliter les collaborations avec les collègues de service et (4) la possibilité à ajuster volontiers les comportements dans le groupe de travail. Au niveau des efforts d'apprentissage, les cinq indicateurs ont été évalués positivement par les salariés enquêtés. Il s'agit de: (1) la tendance à se former régulièrement pour actualiser les compétences professionnelles; (2) la tendance d'être à l'affût de dernières innovations pour améliorer les manières de travailler; (3) la recherche des opportunités qui facilitent le développement des compétences; (4) la préparation au changement en participant aux projets le facilitant et (5) la tendance à attendre la diffusion des nouveautés touchant le travail avant de pouvoir se lancer dans leur apprentissage. Enfin, en ce qui concerne la gestion de stress, tous les quatre indicateurs sont évalués positivement par les sujets enquêtés. Il s'agit de: (1) l'aptitude à garder son calme dans les situations qui exigent des prises de décision; (2) la tendance à explorer les solutions en discutant calmement avec les collègues de service; (3) la capacité à aider les collègues à maîtriser leurs stress par les conseils et comportements et (4) la capacité à se sentir à l'aise en dépit du changement et de l'enchainement des tâches professionnelles. Ces différentes aptitudes évaluées positivement par les salariés constituent ainsi le gage de leur efficacité au travail. En effet, Enguta, Ngoy et Bayenga [3] considèrent ces aptitudes comme étant des ressources indispensables pour la forte performance de l'organisation. Concrètement, on peut conclure que les salariés enquêtés sont très créatifs, très réactifs face aux urgences, très adaptables sous l'angle individuel et très disposés à apprendre au travail. Ils savent aussi gérer de manière efficace les situations stressantes liées à l'exercice de leur travail. Ces résultats peuvent être dus aux efforts d'amélioration des conditions de travail dans ses différents aspects fournis par les autorités actuelles de la Caisse Nationale de Sécurité Sociale. Ces efforts ayant apporté des changements dans les conditions quotidiennes de travail, il est tout à fait normal que les travailleurs puissent être performants car les études ont démontré que les conditions de travail impactent de manière considérable la performance au travail. Ces résultats nous poussent à confirmer notre première hypothèse selon laquelle les salariés de la Caisse Nationale de Sécurité Sociale seraient performants au travail.

S'agissant des déterminants de la performance au travail, deux groupes de facteurs ont été explorés dans ce travail. Il s'agit des variables sociodémographiques et des caractéristiques de la carrière. Au niveau des variables sociodémographiques, seules deux variables sur les quatre ont influencé modérément quelques dimensions de la performance au travail. En d'autres termes, le sexe a influencé l'adaptabilité interpersonnelle des salariés enquêtés alors que la tranche d'âge a influencé les efforts d'apprentissage de ces derniers. S'agissant du sexe, il a été constaté que les femmes font preuve d'une forte adaptabilité interpersonnelle que les hommes. Ces résultats peuvent se justifier par le fait qu'il a été démontré que les femmes sont plus sociables et ouvertes au monde que les hommes. Dans ce contexte, elles n'ont pas assez de difficultés pour pouvoir s'insérer au travail en ayant de bonnes relations. Nos résultats, à ce niveau, remettent en question ceux de Kossek et Ozeki [7] où il a été constaté que les femmes seraient globalement moins performantes que les hommes au travail en raison d'attentes plus faibles que celles du sexe opposé. Au niveau de la tranche d'âge, nos résultats révèlent que les sujets moins âgés fournissent plus d'efforts que les sujets plus âgés. Ces résultats peuvent se justifier par la théorie de la période sensible

des apprentissages où il a été constaté que les moins âgés ont plus de périodes sensibles que les plus âgés [17]. Ces périodes sensibles facilitent ainsi l'apprentissage. Signalons que les périodes sensibles sont des phases du développement durant lesquelles l'homme fait preuve d'une attention particulière dans le processus d'apprentissage. Au niveau des caractéristiques de la carrière, il a été constaté que toutes les deux caractéristiques ont influencé modérément quelques dimensions de la performance au travail. L'ancienneté a influencé quatre sur les cinq dimensions de la performance au travail (créativité, adaptabilité interpersonnelle, efforts d'apprentissage et gestion du stress). Il a été constaté que les sujets ayant une ancienneté importante sont plus créatifs, plus adaptables, fournissent plus d'efforts au travail et gèrent mieux le stress au travail. Ces résultats réconfortent la conclusion de plusieurs auteurs [4-6] selon laquelle l'ancienneté favorise un accroissement de la performance au travail à mesure que ces variables augmentent dans le temps.

S'agissant de la catégorie socio-professionnelle, il a été constaté qu'elle a influencé significativement deux dimensions sur les cinq de la performance au travail (créativité et efforts d'apprentissage). Concrètement, les cadres de direction sont plus créatifs et fournissent plus d'efforts au travail que les autres. Ces résultats peuvent se justifier par le fait que l'accès au poste des responsabilités dans une entreprise oblige le travailleur à contribuer de manière significative à l'atteinte des objectifs organisationnels. Cette contribution peut passer par de fortes tendances créatives et des efforts immenses au travail. Tous ces résultats de l'analyse des déterminants de la performance au travail nous poussent à confirmer partiellement notre deuxième hypothèse selon laquelle les variables sociodémographiques et les caractéristiques de la carrière influenceraient significativement la performance au travail des agents de la Caisse Nationale de Sécurité Sociale. Cette conclusion est dictée par le fait que deux variables sociodémographiques et toutes les caractéristiques de la carrière ont influencé quelques dimensions de la performance au travail. Lorsqu'on compare l'influence de deux types de variables de l'étude (facteurs sociodémographiques et caractéristiques de la carrière), on constate que toutes les caractéristiques de la carrière ont influencé au moins deux dimensions de la performance au travail. Cependant, au niveau des facteurs sociodémographiques, seuls deux facteurs ont influencé chacun une dimension sur les cinq de la performance au travail. Au regard de ces résultats, on ne peut que confirmer notre troisième hypothèse selon laquelle les caractéristiques de la carrière influenceraient de manière significative la performance au travail des salariés de la Caisse Nationale de Sécurité Sociale comparativement aux variables sociodémographiques.

5. Conclusion

Ce travail avait pour objectif d'évaluer la performance au travail des salariés de la Caisse Nationale de Sécurité Sociale. Pour y arriver, une échelle d'évaluation de la performance a été administrée à 93 salariés de la direction générale de l'établissement susmentionné. Les résultats ont montré que les agents de la CNSS sont performants au travail. Cette performance se manifeste par: (1) la créativité, (2) la réactivité face aux urgences, (3) l'adaptabilité interpersonnelle, (4) les efforts d'apprentissage et (5) la gestion du stress. Deux variables sociodémographiques et toutes les caractéristiques de la carrière ont influencé modérément quelques dimensions de la performance au travail. Enfin, les caractéristiques de la carrière ont plus influencé la performance au travail comparativement aux facteurs sociodémographiques.

Conflits d'intérêt: Il n'y a aucun conflit d'intérêt.

Références

1. Enguta Mwenzi, J.; Mayala Basinsa, L.; Kutunga Nijikap, F.R. Climat organisationnel et créativité au travail des salariés congolais. *REMSES* 2023, 8(1), pp. 140-154.
2. Jamal, M. Job. Stress and Job Performance Relationship in Challenge Hindrance Model of Stress: An Empirical Examination in the Middle East. *Pakistan Journal of Commerce and Social Sciences* 2016, 10(3), pp. 404-4018.
3. Enguta Mwenzi, J.; Ngoy Amba, A.C.; Bayenga Ndibeyeng, J. Climat organisationnel et performance individuelle au travail des salariés : Cas de l'Institut National de Préparation Professionnelle à Kinshasa. *Revue Repères et Perspectives Economiques* 2022, pp. 267-288.
4. Gaziel, H.; Wasserstein-Warnet, M.M. Les facteurs infuançant la satisfaction du travail des enseigants dans les contextes organisationnels et socio-culturels differents. *Les sciences de l'éducation pour l'ère nouvelle* 2005, 38(4), pp. 111-131.
5. Comeau, E. *Les facteurs de satisfaction au travail chez les guides du musée canadien de des civilisations*. Mémoire de maitrise, Trois-Rivières, Université du Québec à Trois-Rivières, 2005, p. 83.
6. Garner, P. Les effets de l'équilibre travail/famille sur la satisfaction au travail et l'intention de départ des cadres : une investigation du rôle modérateur du sentiment d'efficacité personnelle. Doctorat dissertation, Université de Lorraine, 2015, 80 p.
7. Kossek, E.; Ozeki, C. Work-famaly conflict, policies, and the job-life satisfaction relationship: A review and directions for organisational behavior-human ressources reasearch. *Journal of Applied Psychology* 1998, 83(2), pp. 139-149.
8. Pailhé, A.; Solaz A. *Entre famille et travail*. La decouverte, Paris, France, 2009, 499 p.
9. Trancart, D.; Georges, N.; Méda, D. Horaire de travail des couples, satisfaction et conciliation entre vie de familiale et vie professionnelle. *Entre famille et travail* 2009, pp. 55-78.
10. Eydoux, A.; Béraud, M. Activation des chômeurs et modernisation du service public de l'emploi. *Travail et emploi* 2009, pp. 9-21.
11. Mathieu, J.E.; Farr, J.L. Further evidence for the discriminant validity of measures of organisational commitment, job involvement, and job satisfacttion. *Journal applied psychology* 1991, pp. 127-133.
12. Saltzstein, A.L.; Ting, Y.; Saltzstein, G.H. Work-famaly balance and job satisfaction: The impact of famaly-friendly policies on attitudes of federal government Employees. *Public administation review* 2001, 61(4), pp. 452-467.
13. Lewis, B. Aspects socio-économiques de la fécondité dans un cadre urbain africain: Abidjan. *CIRES* 1981, 28-29, pp. 1-35.
14. Spector, P.E. The role of frustration in antisocial behavior at Work. *Antisocial behavior in organizations* 1997, pp. 1-17.
15. Charbonnier-Voirin, A.; Roussel, P. La performance adaptative : une nouvelle approche de la mesure de la performance individuelle dans les organisations. *Revue Canadienne des Sciences de l'Administration* 2012, 29, pp. 280-293.
16. Pulakos, E.; Arad, S.; Donavan, M.; Plamondon, K. Adaptability in the work place: Development of taxonomy of adaptive performance. *Journal of Applied Psychology* 2000, 85(4), pp. 612–624.
17. Ngub'usim Mpey-Nka, R. *Manuel de Psychologie Générale*. U-Psycom, Kinshasa, République Démocratique du Congo, 2013, 203 p.

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A RETROSPECTIVE ANALYSIS OF NUTRITIONAL SECURITY IN THE REPUBLIC OF MOLDOVA

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Abstract. Nutritional security is crucial for public health in Moldova, a country facing a dual burden of malnutrition - undernutrition alongside rising obesity and non-communicable diseases (NCDs). Despite progress in food availability, challenges in dietary quality and health outcomes remain. This study evaluates Moldova's nutritional profile using national and international data. The main goal is to assess the current state of nutritional security in Moldova, identify policy and data gaps, and propose recommendations to improve dietary quality and combat NCDs through effective policies and data-driven actions. A systematic review of reports from international organizations, such as the Global Nutrition Report (GNR) and The State of Food Security and Nutrition in the World (SOFI), as well as national policy documents, was conducted for the period 2015–2024. Key indicators such as food insecurity, obesity, anemia, and micronutrient deficiencies were analyzed. The effectiveness of national programs like the National Program in the Field of Food and Nutrition (2014–2020) was also assessed. Moldova shows high rates of food insecurity (24.7%), anemia in women (26.1%), and obesity (23.0% in 2022). Fragmented data and the lack of a centralized monitoring system hinder progress. Addressing Moldova's nutritional challenges requires a centralized monitoring system, improved data collection, and a comprehensive national nutrition strategy aligned with global standards.

Keywords: *anemia, food insecurity, national nutrition strategy, non-communicable diseases, obesity, public health.*

Rezumat. Securitatea nutrițională este esențială pentru sănătatea publică în Republica Moldova, o țară care se confruntă cu o dublă povară a malnutriției - subnutriție, alături de creșterea obezității și a bolilor netransmisibile (BNT). În ciuda progreselor în disponibilitatea alimentelor, persistă provocări legate de calitatea alimentației și rezultatele în materie de sănătate. Acest studiu evaluează profilul nutrițional al Moldovei, utilizând date naționale și internaționale. Scopul principal este de a evalua starea actuală a securității nutriționale în Moldova, identificând lacunele din politici și date, și de a propune recomandări pentru îmbunătățirea calității alimentației și combaterea BNT prin politici eficiente și acțiuni bazate

pe date concrete. A fost realizată o revizuire sistematică a rapoartelor organizațiilor internaționale, precum *Global Nutrition Report* (GNR) și *The State of Food Security and Nutrition in the World* (SOFI), precum și a documentelor de politici naționale, pentru perioada 2015–2024. Au fost analizați indicatori-cheie precum insecuritatea alimentară, obezitatea, anemia și deficiențele de micronutrimente. Eficiența programelor naționale, cum ar fi Programul Național în Domeniul Alimentației și Nutriției (2014–2020), a fost de asemenea evaluată. Moldova prezintă rate ridicate de insecuritate alimentară (24,7%), anemie la femei (26,1%) și obezitate (23,0% în 2022). Fragmentarea datelor și lipsa unui sistem centralizat de monitorizare împiedică progresul. Abordarea provocărilor nutriționale ale Moldovei necesită un sistem centralizat de monitorizare, îmbunătățirea colectării datelor și o strategie națională cuprinzătoare în domeniul nutriției, aliniată la standardele globale.

Cuvinte cheie: *anemie, insecuritate alimentară, strategie nutrițională națională, boli netransmisibile, obezitate, sănătate publică.*

1. Introduction

Nutritional insecurity is increasingly recognized as a key determinant of human development, affecting public health and societal well-being globally development [1,2]. The ongoing global nutrition crisis has brought to light the fragility of food systems and the increasing prevalence of all forms of malnutrition, including hunger, micronutrient deficiencies, and obesity [3,4]. These issues are exacerbated by inequities in access to nutritious food, particularly in developing and transition economies like the Republic of Moldova, where the challenges of ensuring nutritional security are multifaceted and deeply rooted in systemic economic, social, and political factors.

Globally, various strategies and interventions have been implemented to address food insecurity and malnutrition, with an emphasis on promoting sustainable agri-food systems, enhancing policy frameworks, and improving public health through nutrition [5–7]. However, the Republic of Moldova has seen limited progress in aligning its national policies with international goals, such as the Sustainable Development Goals (SDGs), particularly SDG 2 (Zero Hunger) and SDG 3 (Good Health and Well-being). The country's inclusion in a few international food security reports reveals fragmented data and inconsistent progress in addressing key nutrition indicators [8].

Despite some improvements in food availability and access, the double burden of malnutrition in Moldova - where undernutrition and obesity coexist - reflects deeper issues in diet quality and public health. Moldova's food security is often evaluated in terms of caloric intake rather than nutritional quality, leading to a lack of focus on addressing micronutrient deficiencies and chronic diseases associated with poor dietary habits. Recent data from international reports indicate high rates of anemia in women, rising obesity prevalence, and continued food insecurity in significant portions of the population [8,9].

The purpose of this study is to conduct a comprehensive evaluation of the nutritional profile of the Republic of Moldova, using both national and international sources. By assessing the nutritional security landscape through a systematic review of reports and policy frameworks, this research aims to identify the gaps, challenges, and opportunities for improving diet quality, food security, and public health outcomes in Moldova.

This research is particularly relevant in the context of Moldova's ongoing struggles with nutritional security, as the country faces a growing public health burden related to both malnutrition and non-communicable diseases (NCDs). Although some progress has been

made in food availability and caloric intake, there has been limited attention paid to improving the nutritional quality of diets. Furthermore, the lack of a centralized, coordinated entity responsible for monitoring and evaluating food and nutrition security hinders the country's ability to address these challenges effectively.

The novelty of this study lies in its comprehensive approach to analyzing both national and international data sources, combining a detailed review of international food security assessments with an in-depth evaluation of Moldova's national policies and programs. By doing so, this research provides a holistic view of the nutritional challenges facing Moldova and offers recommendations for policy improvements. The study also highlights the need for improved data collection and monitoring systems to ensure that future interventions are informed by accurate, up-to-date information on dietary trends and nutritional outcomes.

In light of the global focus on achieving food security and improving public health, this study aims to contribute to the understanding of Moldova's unique nutritional challenges. The findings are expected to inform policy recommendations and contribute to the development of more effective national strategies for addressing nutritional insecurity. Furthermore, the research highlights the critical need for coordinated action at the national level to align Moldova's food security goals with global targets.

2. Research methodology

This study aimed to evaluate the nutritional profile of the Republic of Moldova, utilizing a systematic review of reports and data from both global and national platforms. The review focused on food and nutritional security indicators, assessing their representation in international and national reports. The review was conducted between March 2022 and May 2024.

Data Sources. Data was gathered from the official websites of relevant international organizations, including Food and Agriculture Organization (FAO), United Nations International Children's Emergency Fund (UNICEF), International Fund for Agricultural Development (IFAD), World Food Programme (WFP), World Health Organization (WHO), the Global Food Security Index (GFSI) [10], and other national entities. A comprehensive review of available reports and platforms was conducted, as outlined in Table 1. These included notable reports such as The State of Food Security and Nutrition in the World (SOFI), the Global Nutrition Report (GNR), and the Global Report on Food Crises (GRFC). These sources were chosen for their authoritative standing in assessing food and nutritional security, with particular attention to the Republic of Moldova's inclusion in their evaluations.

Table 1

International organizations that assess food and nutritional security

	Reports and platform	Managing entity	Last update	Number of countries evaluated	Targets
1.	The State of Food Security and Nutrition in the World (SOFI) [11].	FAO, UNICEF, IFAD, WFP, WHO etc.	2024	119	Food and nutrition security. Nutrition targets: prevalence of undernourishment; moderate or severe food insecurity, selected forms of malnutrition, exclusive breastfeeding and low birthweight.

Continuation Table 1

2.	Global Nutrition Report (GNR) [12].	The government of Japan, the SUN Movement, the WHO, UNICEF, USAID etc.	2022	195	A platform for registering SMART nutrition commitments and monitoring nutrition action. Nutritional security: Chilldhood stunting; Anaemia; Low birth weight; Childhood overweight; Exclusive breastfeeding; Childhood wasting; Sodium intake, Raised blood pressure, Obesity, Diabet (women and men).
3.	Global Report on Food Crises (GRFC) [13].	FAO, IFPRI, WFP, UNICEF Food Security Cluster etc.		46 (from 2023)	Food security and malnutrition in countries/territories identified as being in a food crisis in 2023. Moldova was selected for inclusion in the GRFC 2024 but did not have data that met GRFC technical requirements.
4.	European Health Information Gateway [14].	WHO	2015	53	The indicators explorer contains indicators from WHO Europe's Health for All family of databases. WHO Europe collects the data in collaboration with the Member States in the WHO European region, and from other relevant international data sources.

Note: FAO-Food and Agriculture Organisation of the United Nation; IFPRI- International Food policy Research Institute; GNR- Global, Nutrition Report; WFP- World Food Programme; UNICEF - The United Nations International Children's Emergency Fund; IFAD - International Fund for Agricultural Development; SUN - Scale Up Nutrition Framework; USAID - United States Agency for International Development.

National Policy Review. In parallel, we conducted a thorough review of national policies, strategies, and programs aimed at addressing food and nutritional security in Moldova (Table 2). Key documents included the National Program in the Field of Food and Nutrition, the National Development Plan for 2023-2025, and the Food Security Strategy of Moldova for 2023-2030. These documents were analyzed to identify key policy measures, strategic objectives, and the overall approach of Moldova toward ensuring food security and improving public health outcomes.

Table 2

National normative acts analyzed to identify the state of nutritional security in the Republic of Moldova

No.	Normative acts, strategies	Sources
1.	World Bank and World Food Program (WFP) report, 2015	[15]
2.	Voluntary National Progress Report on the Implementation of the 2030 Agenda	[16]
3.	Food Security Strategy in the Republic of Moldova 2023-2030	[17]
4.	National program in the field of food and nutrition	[18]
5.	The national development plan for the years 2023-2025	[19]
6.	Government activity program "Prosperous, safe, European Moldova"	[20]
7.	Moldova 2030 national development strategy	[21,22]
8.	National health policies	[23]
9.	"One fruit a day" program	[17]
10.	STEP 2014 and 2021 reports	[24,25]23/04/2025 10:16:00

Evaluation Criteria. The evaluation focused on key nutrition security indicators such as food availability, accessibility, and utilization, alongside specific health outcomes like malnutrition, obesity, and anemia. The study also considered Moldova's progress in meeting international nutrition targets, including those set forth in the SDGs related to food security and health (SDG 2 and SDG 3).

Time Frame. The data reviewed spanned the years 2015 to 2024, with particular emphasis on data updated as of 2023 and 2024. Data gaps and inconsistencies were noted, particularly where information on Moldova was limited or fragmented.

3. Results

3.1. The nutritional profile of the Republic of Moldova through the lens of international organizations

The Republic of Moldova is featured in a limited number of international reports concerning food and nutritional security. However, several key reports and platforms do provide valuable insights. These include the GNR, the SOFI, and the Global Report on Food Crises (GRFC) (Table 1) [7,11,12].

In the 2024 SOFI Report, the Republic of Moldova exhibited a moderate or severe food insecurity rate of 24.7%, a value that places it among the most food-insecure countries in Eastern Europe. Among 10 Eastern European nations, only Ukraine surpasses Moldova's food insecurity rate (31.0%). Additionally, the report highlights Moldova's alarmingly high anemia prevalence among women, which stands at 26.1%, the highest in the region [13].

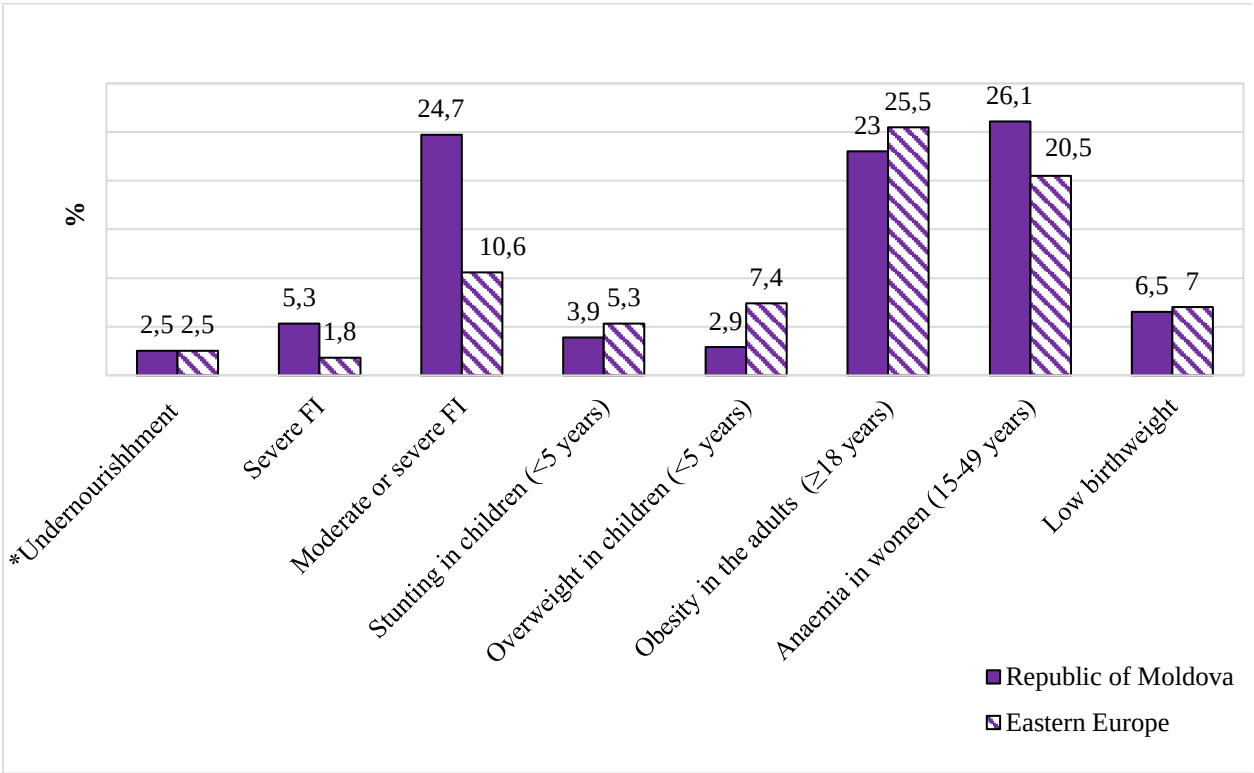

Figure 1. The prevalence of food and nutritional security indicators in the Republic of Moldova (Global Network Against Food crises, 2024).

Prevalence of undernourishment, prevalence of severe and moderate FI - average values for the years 2021-2023. Prevalence of wasting, stunting, overweight in children - values for the year 2022; prevalence of obesity in the adults - values for the year 2022; prevalence of anemia in the women - values for the year 2022; prevalence of low birth weight; FI - food insecurity.

The incidence of obesity among adults in Moldova has also seen a significant rise. Data from 2022 shows that the obesity rate increased from 18.9% in 2021 to 23.0%, surpassing the European average of 21.4%, though still lower than the Eastern European average of 25.5%. This trend underscores a growing public health challenge concerning lifestyle-related diseases such as obesity and the associated risk of non-communicable diseases (NCDs) (Figure 1).

Despite this, international organizations working with Moldova frequently operate with outdated data. For example, current global reports often rely on data from 2016 for obesity and overweight metrics due to the unavailability of updated national data. For subsequent years (2021–2022), estimates were made using predictive models, further emphasizing the need for more accurate and updated data collection systems.

The GNR, which serves as an independent assessment of global nutrition progress, indicates that Moldova is "on track" to meet several targets in maternal nutrition, as well as infant and young child nutrition [12,26]. Nevertheless, significant disparities remain in various nutrition-related indicators, particularly regarding malnutrition and micronutrient deficiencies [12,26,27].

Data gaps and limitations. One major limitation identified in this review is the fragmented nature of data pertaining to Moldova's nutrition and health indicators. Data collected by UNICEF, WHO, and other international entities is often incomplete, and many important indicators, such as childhood obesity and stunting, have not been systematically updated since 2015. This lack of updated, robust data complicates efforts to monitor Moldova's progress toward global nutrition and food security targets.

3.2. The nutritional profile of the Republic of Moldova through the lens of national organizations

Within the Republic of Moldova, there is no singular entity responsible for the comprehensive evaluation and monitoring of nutritional security. Data concerning various nutritional indicators is fragmented, and in several instances, lacks the robustness necessary for informed decision-making. Several national policies, strategies, and programs have been established to address food and nutritional security; however, their implementation remains inconsistent (Table 2).

A notable example is the 2015 report by the World Bank and WFP, which provides one of the most comprehensive assessments of Moldova's food security at the national level [15]. This report highlighted Moldova's progress in reducing malnutrition, particularly in ensuring adequate intake of proteins, carbohydrates, and overall caloric intake. Despite these advancements, the report also raised concerns about the excessive intake of fats, which remains a critical risk factor for chronic diseases in the population [8].

More recently, the 2021 population study (WHO STEPS) conducted by the Ministry of Health in collaboration with the World Health Organization (WHO) and with financial support from the World Bank, focused on non-communicable disease (NCD) risk factors among adults aged 18-69 years. The study reported that 63.4% of the population consumed fewer than five servings of fruits and vegetables per day, significantly below the WHO recommendations. This dietary pattern places the population at increased risk for NCDs such as hypertension, diabetes, and obesity [24,28].

In addition to these reports, the Voluntary National Progress Report on the Implementation of the 2030 Agenda (2021) noted that while Moldova's national political agenda partially aligns with the SDGs, the specific goals related to nutrition (SDG 2: Zero Hunger and SDG 3: Good Health and Well-being) have seen only moderate progress [16]. Notably, the report indicates that reforms and interventions related to SDG 2 (nutrition) were not thoroughly addressed.

The Food Security Strategy for 2023-2030, while making some mention of nutrition, focuses primarily on strategic food security aspects, particularly those related to food availability and access. The specific nutrition-related objective concerning the "utilization of food" is not comprehensively covered. This omission leaves significant gaps in Moldova's efforts to address the broader dimensions of nutritional security, including food quality and dietary health [17].

Among the programs targeting population-level nutritional improvements is the "One Fruit a Day" program, designed to improve dietary diversity and support local agricultural producers. This program aimed at ensuring combined benefits for vulnerable groups by promoting the consumption of local, nutritious produce. While well-intentioned, evaluations show that Moldova's nutritional policies are not sufficiently aligned to promote healthy diets at a national level. In some cases, these policies may even undermine nutritional security efforts (Figure 1), as they fail to address the broader issues of dietary quality and food consumption patterns.

3.3. National Policies and Strategic Frameworks

National Program in the Field of Food and Nutrition (2014-2020): This program was introduced to enhance strategic planning in the areas of food safety and nutrition. The program aimed to reduce the consumption of saturated fats by 3%, added sugars by 5%, and salt by 30%, with expected outcomes such as lowering systolic blood pressure (SBP) by 2-3 mmHg, cholesterol by 5%, and blood glucose by 5%. However, the program's targets were not fully achieved by the end of the period, and no clear updates or new initiatives have been introduced to extend or replace it since its conclusion (Table 3).

Table 3

The dynamics of some indicators - risk factors of NCDs in the Republic of Moldova

Indicators	2013 year	2021 year	Reference values
DBP	85.0 mm/Hg	84.2 mm/Hg	80 mm/Hg
SBP	132.8 mm/Hg	129.2 mm/Hg	120 mm/Hg
Blood glucose	5.2 mmol/L	5.3 mmol/L	5.6 mmol/L
Total cholesterol	4.5 mmol/L	4.4 mmol/L	5.0 mmol/L

Note: DBP- diastolic blood pressure; SBP- systolic blood pressure. Sources: [24,25]

National Development Plan for 2023-2025. This plan focuses on key development priorities, including public health and food security, yet nutrition is mentioned only tangentially. The emphasis is placed on creating an inclusive social protection system that addresses malnutrition among children in kindergartens and nursery schools. Although the plan touches upon nutrition, it lacks a comprehensive strategy for addressing broader issues of nutritional security (Table 2) [19].

The government activity program "Prosperous, safe, European Moldova". Approved in 2023, this program outlines the Government's vision for improving Moldova's overall prosperity and security. Despite its broad scope, the program does not set any explicit targets

for nutritional improvement. Instead, its focus remains on economic modernization and infrastructure development, which are indirectly linked to food security and health. The absence of specific nutritional goals reveals a gap in the program's ability to address malnutrition and dietary quality in a targeted manner [20].

The Moldova 2030 national development strategy. This strategy includes ten dimensions aimed at improving the quality of life for Moldovans, but it does not include a separate objective regarding nutrition. However, it indirectly touches upon nutrition within the dimension of physical and mental health, emphasizing the prevention of diseases related to unhealthy eating and promoting healthy behaviors. This lack of direct focus on nutrition suggests that while the strategy aims to improve health, it falls short in addressing specific nutritional challenges [8,21].

National health policies. First established in 2007, the National Health Policy of Moldova highlights nutrition as a critical factor in public health. The policy prioritizes the nutrition of vulnerable groups, including infants, preschoolers, and adolescents, by encouraging balanced diets in educational institutions and public awareness campaigns on healthy eating. The promotion of rational nutrition is outlined through various initiatives, such as the creation of a national food pyramid. However, many of these objectives remain outdated and in need of revision to reflect current global dietary guidelines [23].

4. Discussions

The nutritional profile of the Republic of Moldova, as evaluated through both national and international lenses, reveals significant challenges and gaps in the country's approach to achieving food and nutritional security. While various national programs and international assessments highlight certain progress in areas such as food availability and caloric intake, deeper issues persist related to dietary quality, malnutrition, and non-communicable diseases (NCDs).

One of the key findings from both national and international reports is the persistent issue of malnutrition, particularly regarding micronutrient deficiencies and the high prevalence of anemia among women. This problem is compounded by the country's rising rates of obesity and diet-related NCDs, which suggests a dual burden of malnutrition where undernutrition and overnutrition coexist. The SOFI Report (2024) and the Global Nutrition Report (GNR) underscore Moldova's struggles with food insecurity, as evidenced by the 24.7% moderate or severe food insecurity rate and the alarming anemia rates, which are among the highest in Eastern Europe. These trends indicate that despite improvements in food availability, the quality of diets remains poor.

National efforts, such as the National Program in the Field of Food and Nutrition (2014-2020), were intended to address these dietary imbalances. However, the program's results fell short of expectations, and its termination without clear continuity indicates a lack of sustained commitment to addressing nutritional health in the country. The absence of updated or extended programs since 2020 leaves a critical policy gap that needs to be addressed. Although the program aimed to reduce the intake of unhealthy nutrients like fats, sugars, and salt, its impact on actual dietary changes appears limited, as evidenced by the continued rise in obesity rates.

Additionally, the fragmented nature of data collection regarding nutrition in Moldova presents a significant barrier to assessing the full extent of the problem. Reports from international organizations often rely on outdated data, with some key indicators, such as

childhood obesity and stunting, lacking updates since 2015. This data fragmentation complicates efforts to monitor progress and limits the ability of national policymakers to develop effective interventions based on current trends. Improving data collection systems and ensuring more frequent updates is essential for effective policymaking.

The national strategies that address food security, such as the Food Security Strategy for 2023-2030 and the National Development Plan for 2023-2025, reflect the government's focus on broader food security goals. However, these strategies often neglect the utilization dimension of food security, which pertains to the nutritional quality and health impacts of the food consumed. While there is some mention of improving food access, the absence of specific, measurable targets related to nutrition highlights a critical gap in the current strategic approach. The government's "One Fruit a Day" program, although aimed at improving dietary diversity and supporting local agriculture, remains insufficient in addressing the broader challenges of dietary quality at a national level.

Furthermore, the National Health Policy, which promotes rational nutrition and targets vulnerable populations such as children and adolescents, also requires modernization. Many of the policy's objectives, established in 2007, are now outdated and do not fully align with current global dietary guidelines. This misalignment suggests that Moldova's public health efforts are not adequately addressing the emerging trends in diet-related diseases or the growing burden of NCDs.

5. Conclusions

This study provides a comprehensive evaluation of the nutritional profile of the Republic of Moldova through both national and international assessments. The findings reveal that while Moldova has made strides in improving food availability and caloric intake, significant challenges persist in ensuring nutritional security. The double burden of malnutrition - the coexistence of undernutrition and obesity - remains a critical issue, driven by poor dietary quality and a fragmented approach to nutritional policy.

One of the key insights from this analysis is the urgent need for coordinated national efforts to improve data collection and monitoring systems. Current data on nutrition in Moldova is often outdated or incomplete, hindering the development of effective, evidence-based policies. Establishing a centralized body responsible for overseeing nutrition-related programs and tracking national progress is essential to addressing these challenges.

Moreover, the study highlights the gaps in national policies, such as the National Program in the Field of Food and Nutrition (2014-2020), which, although well-intentioned, has not fully achieved its goals. The lack of subsequent initiatives to replace or extend this program leaves Moldova vulnerable to the continued rise of non-communicable diseases (NCDs) such as obesity, hypertension, and diabetes.

This research underscores the importance of addressing diet quality, particularly focusing on micronutrient deficiencies and promoting healthy eating habits. Current government strategies, including the National Development Plan for 2023-2025 and the Food Security Strategy for 2023-2030, do not sufficiently prioritize nutrition, which leaves significant gaps in tackling malnutrition and improving public health outcomes.

To achieve its national and international nutrition targets, Moldova must adopt a multisectoral approach that involves all relevant stakeholders, from government and civil society to international organizations. The development of a comprehensive national nutrition strategy, coupled with robust data systems and targeted interventions, is critical to

ensuring food and nutritional security for all Moldovans. Only through sustained, coordinated efforts can the country successfully address the complex and growing challenges of malnutrition and enhance the overall well-being of its population.

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References

1. Cuenca, M.H.; Proaño, G.V.; McDermid, J.M.; Badreldin El Shikieri, A.; Steeves, E.A.; Carrillo-Alvarez, E.; Fracassi, P.; Garelick, D.S.; Brewer, J.; Kazimierczuk, F.K.; et al. Advancing Nutrition and Dietetics Research in Global Food and Nutrition Security: A Roundtable Meeting Report. *Journal of the Academy of Nutrition and Dietetics* 2024, 124, pp. 102–122, doi:10.1016/j.jand.2023.09.022.
2. Drewnowski, A. Food Insecurity Has Economic Root Causes. *Nat Food* 2022, 3, pp. 555–556, doi:10.1038/s43016-022-00577-w.
3. Fanzo, J. Achieving Food Security Through a Food Systems Lens. In: *Resilience and Food Security in a Food Systems Context*; Béné, C., Devereux, S., Eds.; Palgrave Studies in Agricultural Economics and Food Policy; Springer International Publishing, Cham, 2023; pp. 31–52 ISBN 978-3-031-23534-4.
4. Popkin, B.M.; Corvalan, C.; Grummer-Strawn, L.M. Dynamics of the Double Burden of Malnutrition and the Changing Nutrition Reality. *The Lancet* 2020, 395, pp. 65–74, doi:10.1016/S0140-6736(19)32497-3.
5. Pinto-Sanchez, M.I.; Silvester, J.A.; Lebwohl, B.; Leffler, D.A.; Anderson, R.P.; Therrien, A.; Kelly, C.P.; Verdu, E.F. Society for the Study of Celiac Disease Position Statement on Gaps and Opportunities in Coeliac Disease. *Nat Rev Gastroenterol Hepatol* 2021, 18, pp. 875–884, doi:10.1038/s41575-021-00511-8.
6. Grosso, G.; Di Cesare, M. Dietary Factors and Non-Communicable Disease Risk in Europe: Evidence for European Nutritional Guidelines? *European Journal of Public Health* 2021, 31, ckab164.185, doi:10.1093/eurpub/ckab164.185.
7. *The State of Food Security and Nutrition in the World 2023.* Available online: https://openknowledge.fao.org/server/api/core/bitstreams/1f66b67b-1e45-45d1-b003-86162fd35dab/content (accessed on 01.02.2025).
8. Siminiuc, R. Analiza exploratorie a securității nutriționale în Republica Moldova. Teza de doctor habilitat în științe inginerești, Universitatea Tehnică a Moldovei, 2024.
9. Siminiuc, R.; Țurcanu, D. *Provocări și tendințe în dezvoltarea produselor fără gluten.* Echim ART SRL, Chisinau, Republic of Moldova, 2023, 160 p. ISBN 978-9975-3595-3-5.
10. Global Food Security Index 2022. Available online: https://impact.economist.com/sustainability/project/food-security-index/reports/Economist_Impact_GFSI_2022_Global_Report_Sep_2022.pdf (accessed on 01.02.2025).
11. The State of Food Security and Nutrition in the World 2024. Available online: https://openknowledge.fao.org/items/ebe19244-9611-443c-a2a6-25cec697b361 (accessed on 11.01.2025).
12. Global Nutrition Report 2022. Available online: https://globalnutritionreport.org/reports/2022-global-nutrition-report/ (accessed on 01.02.2025).
13. Global Network Against Food Crises 2024. Available online: https://www.fsinplatform.org/sites/default/files/resources/files/GRFC2024-full.pdf (accessed on 03.02.2025).
14. World Health Organisation. European region European Health Information Gateway. Available online: https://gateway.euro.who.int/en/ (accessed on 01.02.2025).
15. Banca Mondială și Programul Alimentar Mondial *Evaluarea Securității Alimentare. Analiza Situației Curente și Următorii Pași*. 2015. Available online: https://documents1.worldbank.org/curated/en/192371468000282307/pdf/ACS13175-ROMANIAN-WP-PUBLIC-Box391449B-Moldova-Food-Security-Assessment-ROM.pdf (accessed on 01.02.2025).
16. Guvernul Republicii Moldova Raportul de Evaluare Națională Voluntară a Progresului Privind Implementarea Agendei 2030 2021. Available online: https://statistica.gov.md/public/files/SDG/docs/VNR_rom.pdf (accessed on 10.01.2025).

17. Guvernul Republicii Moldova HG. cu privire la aprobarea Strategiei securității alimentare a Republicii Moldova pentru anii 2023-2030 2022. Available online: https://cancelaria.gov.md/sites/default/files/document/attachments/531_0.pdf (accessed on 11.02.2025).
18. Guvernul Republicii Moldova HG Nr. 730 Cu privire la Aprobarea Regulamentului Național în Domeniul Alimentației și Nutriției pentru anii 2014-2020 și Planurilor de Acțiuni Privind Implementarea Acestuia 2018. Available online: https://www.legis.md/cautare/getResults?doc_id=110305&lang=ro (accessed on 01.02.2025).
19. HG Planul național de dezvoltare pentru anii 2023-2025 2022. Available online: https://gov.md/sites/default/files/document/attachments/subiect-03-nu-907-cs-site.pdf (accessed on 01.02.2025).
20. Parlamentul Republicii Moldova HP Nr. 28. Programul de Activitate al Guvernului „Moldova Prosperă, Sigură, Europeană" 2023. Available online: https://gov.md/sites/default/files/document/attachments/program_de_guv-final_ro.pdf (accessed on 01.02.2025).
21. Guvernul Republicii Moldova Strategia Națională de Dezvoltare Moldova Europeană 2030. Obiectivul 5. 2023. Available online: https://gov.md/sites/default/files/document/attachments/snd2030_obiectiv5.pdf (accessed on 10.01.2025).
22. Guvernul Republicii Moldova HG nr. 377 cu privire la aprobarea proiectului de lege pentru aprobarea Strategiei naționale de dezvoltare Moldova 2030. Available online: https://cancelaria.gov.md/sites/default/files/strategia_nationale_de_dezvoltare_moldova_2030-t.pdf (accessed on 03.02.2025).
23. Guvernul Republicii Moldova HG nr. 886 cu privire la aprobarea politicii Naționale de Sănătate 2007. Available online: https://www.legis.md/cautare/getResults?doc_id=31871&lang=ro (accessed on 03.01.2025).
24. WHO; Ministerul Sănătății al Republicii Moldova. STEPS Prevalence of Noncomunicable Disease Risk Factors in the Republic of Moldova. Doc. Nr.2022-6785-46551-67555, 2021. Available online: https://www.who.int/europe/publications/i/item/WHO-EURO-2022-6788-46554-67558 (accessed on 07.02.2025).
25. WHO, R.O. for E. *STEP 2013. Prelalence on Noncommunicable Disease Risk Factors in the Republic of Moldova*. 2014. p. 221. Available online: https://documents1.worldbank.org/curated/en/099021524131542357/pdf/P1711301de895904d1b0ab13bba70353fd3.pdf (accessed on 02.02.2025).
26. Global Nutrition Report *Global Nutrition Report. The state of global nutrition 2021*. 107 p. Available online: https://media.globalnutritionreport.org/documents/2021_Global_Nutrition_Report_aUfTRv0.pdf (accessed on 01.02.2025).
27. Conceptual Framework and Method for National and Territorial Assessments; FAO; CIRAD; European Union. 2022. ISBN 978-92-5-136885-5.
28. Obreja, G.; Raevschi, E.; Penina, O. Mediul alimentar și politicile de sănătate în Republica Moldova. *Sănătate publică, economie și management în medicină*. 2019, pp. 43–49. Available online: https://repository.usmf.md/bitstream/20.500.12710/9123/1/Mediul_alimentar_si_politicile_de_sanatate.pdf (accessed on 05.01.2025).

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BEYOND THE MOUNTAINS: UNVEILING THE EASE OF LIVING IN THE HIMALAYAN STATE OF UTTARAKHAND IN INDIA

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Abstract. This paper challenges the conventional equation of economic prosperity with human well-being and explores alternative parameters for assessing the ease of living in the Himalayan state of Uttarakhand in India. Recognizing the limitations of relying solely on economic indicators like GDP, the study examines access to basic amenities and public services across different districts of the state. Contrary to the prevailing narrative of "lack of facilities" driving out-migration from the mountainous districts, the analysis reveals that these regions may offer a comparable, if not superior, quality of life in certain aspects, particularly concerning healthcare and infant mortality rates. This finding underscores the need for a more holistic approach to development that prioritizes human well-being in its entirety, encompassing access to healthcare, education, transportation, and essential infrastructure. By examining well-being indicators beyond economic metrics, this research aims to unveil a more nuanced understanding of the ease of living in Uttarakhand and inform policy decisions that promote sustainable development, reduce out-migration pressures, and improve the quality of life for all residents, ultimately contributing to a more balanced and equitable society.

Keywords: *Himalaya, Uttarakhand, Human well-being, Ease of living.*

Rezumat. Această lucrare abordează ecuația convențională a prosperității economice cu bunăstarea umană și explorează parametrii alternativi pentru evaluarea ușurinței de a trăi în statul Himalayan Uttarakhand din India. Recunoscând limitările de a se baza exclusiv pe indicatori economici precum PIB-ul, studiul examinează accesul la facilități de bază și servicii publice în diferite districte ale statului. Spre deosebire de narațiunea predominantă despre „lipsa facilităților" care provoacă emigrarea din raioanele muntoase, analiza arată că aceste regiuni pot oferi o calitate a vieții comparabilă, dacă nu superioară, în anumite aspecte, în special în ceea ce privește asistența medicală și ratele mortalității infantile. Această constatare subliniază necesitatea unei abordări mai holistice a dezvoltării, care să acorde prioritate bunăstării umane în întregime, cuprinzând accesul la asistență medicală, educație,

transport și infrastructură esențială. Prin examinarea indicatorilor de bunăstare dincolo de metricile economice, această cercetare își propune să dezvăluie o înțelegere mai nuanțată a ușurinței de a trăi în Uttarakhand și să informeze deciziile politice care promovează dezvoltarea durabilă, reduc presiunile de migrație și îmbunătățesc calitatea vieții pentru toți rezidenții, contribuind în cele din urmă la o societate mai echilibrată și mai echitabilă.

Cuvinte cheie: *Himalaya, Uttarakhand, bunăstare umană, ușurință de a trăi.*

1. Introduction

Growth and development are often considered synonymous with human well-being, leading to the acclaim of materialistic achievements as contributors to human satisfaction and happiness. Consequently, assessments of human well-being often prioritize economic data, with decisions frequently based on GDP or the size of the economy.

However, this approach may not accurately reflect the overall quality of life or well-being of the population. This paper challenges the notion that economic prosperity alone equates to human well-being and explores alternative parameters for assessing the ease of living or well-being of the masses in the Himalayan state of Uttarakhand in India that shares international boundary with China to the north and Nepal to the east (Figure 1).

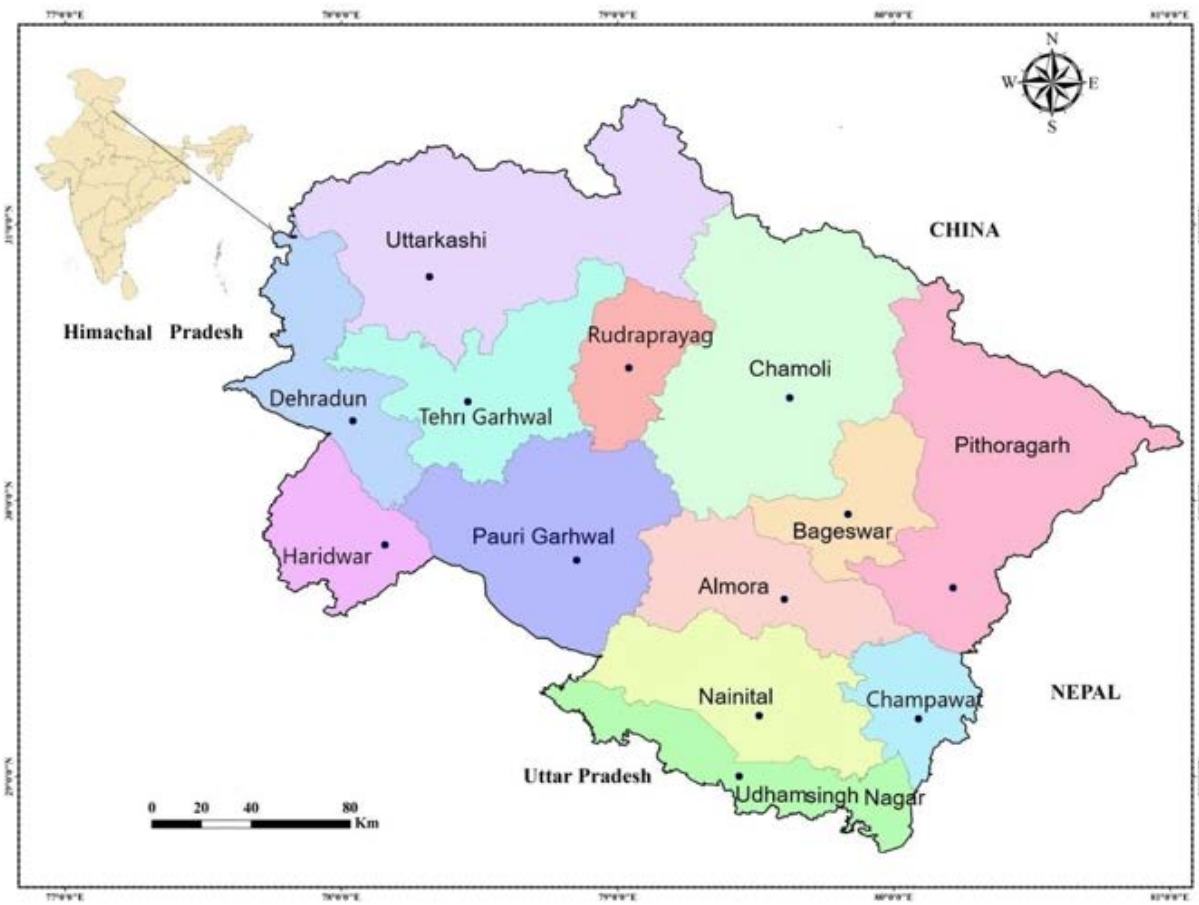

Figure 1. Location map of Uttarakhand depicting district boundaries.

Except for Udhamsingh Nagar and Haridwar all other districts of Uttarakhand have mountainous topography. The state faces high rates of out-migration, particularly from its mountainous districts. This exodus is a cause for concern, as many frontier villages along the

Sino-Indian border are becoming vacated and this trend is evidenced by the negative population growth rate observed in Almora and Pauri Garhwal districts [1]. While this out-migration is often attributed to a lack of employment opportunities and limited access to public services, particularly in healthcare and education, this simplification overlooks the complexities of the issue [2].

This paper argues that the perception of the plains as more prosperous, fuelled by economic indicators and the allure of modern amenities, significantly contributes to this migration. However, a closer look at the well-being indicators in the mountainous districts reveals a different picture. For instance, despite the challenging terrain, the hilly districts of Rudraprayag, Pithoragarh, and Almora have lower infant mortality rates compared to the more developed Haridwar district [3]. This suggests that factors beyond economic prosperity and access to specialized healthcare contribute to human well-being in these regions [4].

By examining data on access to basic amenities and public services, this study aims to unveil the true picture of human well-being in the districts of Uttarakhand and counter the narrative of "lack of facilities" that overshadows the region's quality of life. This analysis considers various factors, including access to healthcare, education, transport, electricity, and water and sanitation, to provide a comprehensive assessment of the ease of living in each district. Ultimately, this research aims to contribute to a more nuanced understanding of human well-being in Uttarakhand and inform policy decisions that promote sustainable development and improve the quality of life for all residents.

2. Methodology and Data Constraints

This study assesses the 'Ease of Living' across the districts of Uttarakhand by analyzing access to fundamental public services and amenities. Recognizing that human well-being transcends purely economic measures, this paper adopts a multi-dimensional approach, focusing on five critical components: healthcare, education, transport infrastructure, electricity availability, and water & sanitation facilities. These parameters were selected as essential indicators reflecting the basic quality of life accessible to the general population within each district.

The analysis relies exclusively on publicly available data sourced from governmental records pertaining to civic amenities and infrastructure within Uttarakhand [1,5]. To enable meaningful comparison and analysis across districts with varying characteristics, the raw data for the selected indicators was systematically normalized. This process standardizes the data, allowing for a comparative assessment of relative access to these essential services.

It is crucial to acknowledge the inherent limitations associated with the data utilized in this study. Primarily, the available datasets predominantly reflect resources and services provided by state-run entities. Consequently, the significant contribution of private sector service providers, particularly prevalent in the more densely populated and economically active plain districts (such as Haridwar, Dehradun, and Udhamsingh Nagar), may not be fully captured in this assessment. The higher population density and greater economic incentives in these areas often attract substantial private investment in sectors like healthcare and education, potentially creating a disparity between the data reflecting public provisions and the actual lived experience of residents who utilize private services. This constraint might influence the comparative 'Ease of Living' index, particularly when contrasting plain districts with the mountainous regions where private sector presence is typically less pronounced.

Furthermore, this study did not involve primary data collection through field surveys to validate the secondary data or gather nuanced, qualitative insights into the lived realities across different districts. The assessment is therefore based on the available quantitative indicators within the public domain.

Despite these constraints, this paper serves an important purpose. By systematically analyzing and comparing existing data on access to basic amenities, it aims to provide a preliminary but valuable perspective on the relative ease of living across Uttarakhand's diverse districts. The findings are intended to stimulate critical discussion, inform policy dialogue, and encourage further, more detailed research into the multifaceted nature of human well-being within the state, particularly addressing the dynamics influencing migration patterns and regional development disparities.

3. Economic Prosperity in Uttarakhand

While assessing the economic prosperity of Uttarakhand's districts, it's crucial to acknowledge that traditional metrics like Gross Domestic Product (GDP) and per capita income can provide a limited perspective. These indicators, while valuable, primarily focus on economic output and may not fully capture the distribution of wealth or the overall well-being of the population. In this analysis, the available district-wise data relating to Gross Domestic Product (GDP) and per capita income [5] are normalized by dividing each value by the maximum value to scale all values between 0 and 1 to allow for comparison across districts and then integrated and averaged to provide a comparative overview of the economic status of the districts.

Table 1

Comparative overview of economic development of the districts of Uttarakhand in India

Sl. No.	District	Normalised GDP (A)	Normalised per Capita Income (B)	Economic Prosperity Score (A+B)/2	Rank
1.	Uttarkashi	0.05	0.30	0.17	11
2.	Chamoli	0.07	0.35	0.21	5
3.	Tehri Garhwal	0.10	0.28	0.19	8
4.	Dehradun	0.59	0.65	0.62	3
5.	Pauri Garhwal	0.11	0.30	0.21	6
6.	Rudraprayag	0.03	0.26	0.15	13
7.	Pithoragarh	0.08	0.33	0.21	7
8.	Almora	0.10	0.28	0.19	9
9.	Nainital	0.27	0.53	0.40	4
10.	Bageshwar	0.04	0.27	0.15	12
11.	Champawat	0.04	0.32	0.18	10
12.	Haridwar	1.00	1.00	1.00	1
13.	Udhamsingh Nagar	0.67	0.74	0.71	2

As expected, the plain districts, particularly Haridwar, Udhamsingh Nagar, and Dehradun, emerge as economically more prosperous (Table 1). This is largely attributed to their advantageous geographical location and better connectivity, which facilitate industrial activities, commercialized agriculture, and the efficient movement of manpower and goods. However, relying solely on GDP and per capita income can be misleading. These metrics may

not accurately reflect the well-being of the masses, as these can be skewed by the presence of a few affluent individuals or organizations. Furthermore, the concentration of industrial activities in the plain districts, facilitated by rail and air connectivity, contributes to their higher GDP. The commercialized agriculture in these districts, supported by well-developed irrigation and other related facilities, also plays a significant role in their economic prosperity. However, this economic activity may not necessarily translate to equitable distribution of wealth or improved well-being for all residents.

Therefore, while acknowledging the economic advantages of the plain districts, it is crucial to consider other factors that contribute to human well-being, such as access to essential services, infrastructure, and a healthy environment. A more holistic approach to development, one that goes beyond economic indicators, is necessary to ensure the well-being of all residents of Uttarakhand, regardless of their geographic location or economic status.

4. Human Well-being: Beyond Economic Indicators

This paper is based on the basic premise that economic data does not project the real picture relating to human well-being [4] and is an attempt to ascertain and compare data related to human well-being or ease of living for the districts of Uttarakhand.

Detailed studies do exist on the subject relating to the analysis and assessment of human well-being [4]. These are, however, founded on detailed surveys and data collection pertaining to various aspects relating to well-being. This can be challenging in areas with limited resources or where data collection is not prioritized.

This study assesses human well-being in Uttarakhand from the perspective of access to five basic amenities: water, electricity, education, healthcare, and transport. While comprehensive data on all aspects of well-being is not available, this approach provides a valuable overview and encourages further investigation into these crucial areas. The data used for this analysis is sourced from the Directorate of Statistics and Economic Studies, Government of Uttarakhand [5].

4.1 Access to Healthcare

Health is a fundamental human right and a critical component of well-being [6]. However, access to healthcare, particularly specialized services, is often cited as a reason for out-migration from mountainous districts of Uttarakhand. This is understandable, as specialized healthcare facilities tend to concentrate in urban centers with larger populations and better infrastructure, making these economically challenging to operate in sparsely populated mountainous regions.

However, it is crucial to recognize that access to healthcare is a multifaceted issue, and the concentration of specialized facilities in urban areas doesn't necessarily guarantee better healthcare access for all. Factors such as the distribution of healthcare facilities, availability of qualified medical professionals, affordability of services, and proximity to healthcare providers all play a significant role in determining access.

This study, constrained by the lack of detailed data on medical staff and facility specifics, to ascertain healthcare access across Uttarakhand's districts used the available data pertaining to (i) the number of allopathic hospitals and PHCs which provides a general measure of the availability of healthcare facilities in each district, (ii) the bed availability in allopathic hospitals and PHCs which indicates the capacity of the healthcare system to accommodate patients requiring hospitalization and (iii) the number of PHCs which reflects

the availability of primary healthcare services that are crucial for preventive care and early intervention [5].

To create a comparable index, these parameters were normalized for each district by dividing by the highest value, resulting in a range between 0 and 1. The three normalized values were then averaged to create the 'Access to Healthcare Index' (Table 2).

Table 2

Asses to healthcare statistics for various districts of Uttarakhand

Sl. No.	District	Normalised Allopathic Hospitals and PHCs (A)	Normalised Bed Availability in Allopathic Hospitals and PHCs (B)	Normalised PHC Numbers (C)	Access to Healthcare Index (A+B+C/3)	Rank
1.	Uttarkashi	0.30	0.38	0.23	0.31	10
2.	Chamoli	0.50	0.43	0.64	0.52	6
3.	Tehri Garhwal	0.30	0.31	0.05	0.22	13
4.	Dehradun	0.20	0.29	0.18	0.22	12
5.	Pauri Garhwal	0.61	0.72	0.27	0.53	4
6.	Rudraprayag	0.93	0.34	1.00	0.75	1
7.	Pithoragarh	0.46	0.43	0.22	0.37	9
8.	Almora	0.39	0.46	0.27	0.37	8
9.	Nainital	1.00	0.55	0.33	0.63	2
10.	Bageshwar	0.38	0.47	0.37	0.41	7
11.	Champawat	0.27	0.35	0.07	0.23	11
12.	Haridwar	0.61	1.00	0.09	0.57	3
13.	Udhamsingh Nagar	0.67	0.79	0.12	0.53	5

Nainital district had the highest number of allopathic hospitals and PHCs. Haridwar led in bed availability while Rudraprayag had the highest number of PHCs. Surprisingly, Dehradun, generally considered the most developed district and capital of the state, ranked low in the Access to Healthcare Index. This suggests that factors beyond the sheer number of hospitals and beds influence healthcare access.

This is attributed to uneven distribution of facilities; concentration of healthcare facilities in Dehradun city, leaving rural areas with limited access. It is worth adding that the cost of healthcare services in Dehradun is prohibitive for large proportion of residents. Further research is needed to investigate these factors and identify strategies to improve healthcare access in Dehradun and other districts with lower rankings. This could involve (i) decentralizing healthcare facilities by establishing more healthcare centers in rural areas of low ranking districts, (ii) incentivizing medical professionals so as to attract and retain qualified healthcare workers in underserved areas, (iii) improving affordability by implementing policies to make healthcare services more affordable, (iv) enhancing transportation infrastructure and improving road connectivity and public transportation to facilitate access to healthcare facilities. By addressing these issues, Uttarakhand can ensure equitable access to healthcare for all its residents, regardless of their location or economic status.

4.2 Access to Education

Uttarakhand boasts a rich educational heritage dating back to the British Raj, with Dehradun, Mussoorie, and Nainital renowned for hosting world-class institutions [7]. However, evaluating educational access requires a multifaceted approach, considering not just the presence of prestigious schools but also factors like teacher quality, student-teacher ratios, academic performance, infrastructure, and overall learning environment.

Due to limitations in data availability, this study focused on four key parameters sourced from the Directorate of Statistics and Economic Studies [5] to assess access to education based on (i) Junior Basic Schools per lakh population, (ii) Senior Basic Schools per lakh population, (iii) Higher Secondary Schools per lakh population and (iv) the literacy rate which provides an overall indicator of the population's educational attainment.

To create a balanced 'Access to Education Index', these parameters were normalized by dividing by the highest value to confine the range between 0 and 1, and weighted to reflect their relative importance. Access to primary education and literacy rate were given higher weightage of 1.5 and 2.0, respectively acknowledging their crucial role in overall educational development. The other two parameters were assigned weightages of 1.25 and 1.0, respectively (Table 3).

Table 3

Asses to Education statistics for the state of Uttarakhand

Sl. No.	District	Normalised Junior Basic Schools per Lakh Population; A (Weightage = 1.5)	Normalised Senior Basic Schools per Lakh Population; B (Weightage = 1.25)	Normalised Higher Secondary Schools per Lakh Population; C (Weightage = 1)	Normalised Literacy Rate; D (Weightage = 2)	Access to Education Index (1.5A+ 1.25B+ C+2D)/4	Rank
1.	Uttarkashi	0.83	0.99	0.77	0.90	1.26	6
2.	Chamoli	0.92	0.98	0.99	0.98	1.39	2
3.	Tehri Garhwal	0.94	0.99	0.89	0.91	1.34	3
4.	Dehradun	0.28	0.56	0.52	1.00	0.91	11
5.	Pauri Garhwal	0.91	0.92	0.70	0.97	1.29	4
6.	Rudraprayag	1.00	1.00	1.00	0.97	1.42	1
7.	Pithoragarh	0.86	0.70	0.89	0.98	1.25	7
8.	Almora	0.91	0.68	0.88	0.96	1.25	8
9.	Nainital	0.58	0.43	0.52	1.00	0.98	10
10.	Bageshwar	0.93	0.81	0.79	0.95	1.27	5
11.	Champawat	0.79	0.68	0.89	0.95	1.20	9
12.	Haridwar	0.23	0.60	0.30	0.87	0.78	13
13.	Udhamsingh Nagar	0.29	0.53	0.47	0.87	0.82	12

Rudraprayag district demonstrated the highest availability of schools at all levels; Junior Basic, Senior Basic, and Higher Secondary per lakh population while Dehradun district had the highest literacy rate.

Interestingly, despite having renowned schools, Nainital and Dehradun districts ranked relatively low in the overall Access to Education Index with 10th and 11th place, respectively. This unexpected outcome is attributed to several factors that result in less number of state run schools in these districts and thus having negative impact on districts' performance. The factors associated with state run schools include: (i) High concentration of private schools in these districts, (ii) Public perception of lower quality in state-run schools might lead to lower enrolment, (iii) Factors like low enrolment ratios, high dropout rates, poor academic results, and inadequate staffing or facilities, and (iv) Social status linked with private schools influences parents to opt for private education, even if state-run schools are accessible.

Despite these complexities, the data suggests that access to education in hilly districts is better than commonly perceived. This contradicts the notion that lack of educational opportunities is a primary driver of out-migration. Further research is however needed to investigate the quality of education in both state-run and private schools and understand the factors influencing parental choices.

4.3 Access to Transport

Access to transport is fundamental for development and significantly influences the quality of life. It connects people to essential services, markets, education, and healthcare, fostering economic growth and social inclusion. While the plains of Uttarakhand benefit from rail and air connectivity, this study focuses on road infrastructure, recognizing its critical role in connecting mountainous regions [8].

To assess the 'Transport Access Index', this study utilized two key parameters; (i) Metalled Road length (km) per 1000 km^2 area that measures the density of road networks across districts, and (ii) Metalled road length (km) per lakh population which measures road availability relative to population density [5]. The latter recognises that mountainous districts often have large uninhabited or forested areas.

Table 4

Asses to transport statistics for various districts of Uttarakhand

Sl. No.	District	Normalised Metalled Road Length (km) per 1000 km^2 Area; A (Weightage = 1)	Normalised Metalled Road Length (km) per Lakh Population; B (Weightage = 2)	Transport Access Index (A+2B)/2	Rank
1.	Chamoli	0.09	0.42	4.64	8
2.	Almora	0.24	1.00	11.12	1
3.	Tehri Garhwal	0.62	0.63	7.28	3
4.	Champawat	0.98	0.26	3.35	11
5.	Bageshwar	0.48	0.49	5.58	6
6.	Pauri Garhwal	0.57	0.29	3.52	10
7.	Nainital	0.12	0.34	3.78	9
8.	Uttarkashi	0.79	0.85	9.74	2
9.	Pithoragarh	0.60	0.44	5.09	7
10.	Rudraprayag	0.29	0.55	6.21	5
11.	Dehradun	0.48	0.54	6.21	4
12.	Haridwar	0.93	0.11	1.63	13
13.	Udhamsingh Nagar	1.00	0.17	2.34	12

These parameters were normalized by dividing by the highest value to confine the range between 0 and 1, and the latter parameter was assigned a higher weightage of 2 compared to the former (1). This adjustment ensures a fairer comparison by accounting for the varying population densities and terrain challenges in different districts (Table 4).

Udhamsingh Nagar had the highest metalled road length per 1000 km^2 area while Almora led in metalled road length per lakh population. The integrated 'Transport Access Index', considering both parameters and their weightages, placed Almora at the top, followed by Uttarkashi and Tehri while Haridwar and Udhamsingh Nagar ranked at the bottom.

These findings underscore the critical importance of road connectivity in mountainous regions. In these districts, well-maintained road networks are essential for: (i) Access to essential services as roads ensure timely access to healthcare, education, and other vital services, (ii) Economic opportunities as roads facilitate movement of goods and people, promoting trade and economic activities, and (iii) Social inclusion as roads connect remote communities to the wider region, fostering social cohesion and reducing isolation.

Investing in road infrastructure in mountainous districts is crucial for promoting equitable development and enhancing the overall quality of life for residents. This includes not only constructing new roads but also maintaining existing ones to ensure all-weather accessibility and safe travel conditions.

4.4 Access to Electricity

Access to electricity is a fundamental indicator of development and significantly impacts the quality of life for individuals and communities. It powers homes, businesses, and essential services, enabling economic activity, educational opportunities, and improved healthcare [9, 10].

In this study, electrification data, specifically the percentage of families having electricity [5], was used to assess the 'Electricity Availability Index' across the districts of Uttarakhand (Table 5).

The analysis revealed that Haridwar district has the highest electricity availability, followed by Almora and Uttarkashi. This is noteworthy, as Haridwar is a relatively developed district with a significant urban population, while Almora and Uttarkashi are predominantly rural and mountainous.

Surprisingly, Dehradun and Nainital, despite considered relatively developed districts, trail behind in the index. This suggests potential disparities in electricity access across districts, which are attributed to various factors, which include (i) Infrastructure limitations: The mountainous terrain of some districts, such as Rudraprayag and Nainital, poses challenges for extending the electricity grid and ensuring reliable supply, particularly to remote areas, (ii) Economic factors: The cost of electricity infrastructure and connection fees is often a barrier to access for some households, particularly in districts with lower per capita income, and (iii) Population density: Sparsely populated districts face challenges in achieving economies of scale for electricity infrastructure development, potentially leading to higher costs and limited access.

Further investigation is needed to understand the specific factors contributing to these disparities and to identify targeted interventions to improve electricity access for all residents of Uttarakhand.

Ensuring equitable access to electricity is crucial for promoting inclusive development and enhancing the overall well-being of the state's population. Proposed interventions to

improve electricity access include (i) Investment in grid expansion and modernization: Extend the electricity grid to remote and underserved areas, and upgrade existing infrastructure to improve reliability and capacity, (ii) Promote off-grid solutions: Explore and incentivize the use of off-grid renewable energy sources, such as solar and micro-hydro, to provide electricity to remote communities where grid extension is challenging or cost-prohibitive, (iii) Address affordability barriers: Implement targeted subsidies or financing mechanisms to help low-income households connect to the grid and afford electricity services, (iv) Strengthen local capacity: Capacity building of local governments and communities to plan, manage, and maintain electricity infrastructure, and (v) Improve policy and regulatory frameworks: Develop clear and transparent policies and regulations that encourage investment in electricity infrastructure and promote equitable access.

Table 5

Asses to electricity statistics for various districts of Uttarakhand

Sl. No.	District	Total Families	% of Families Having electricity	Electricity Availability Index	Rank
1.	Uttarkashi	66558	79.06	0.82	3
2.	Chamoli	85765	83.40	0.87	5
3.	Tehri Garhwal	133494	87.82	0.91	9
4.	Dehradun	322700	96.29	1.00	13
5.	Pauri Garhwal	161688	89.04	0.92	10
6.	Rudraprayag	53492	91.94	0.95	12
7.	Pithoragarh	111542	85.55	0.89	7
8.	Almora	139257	78.90	0.82	2
9.	Nainital	187108	90.32	0.94	11
10.	Bageshwar	57712	81.58	0.85	4
11.	Champawat	52356	72.05	0.75	1
12.	Haridwar	325344	85.76	0.89	8
13.	Udhamsingh Nagar	300052	84.92	0.88	6

By addressing these issues and implementing targeted interventions, Uttarakhand can ensure that all its residents have access to reliable and affordable electricity, contributing to improved quality of life and sustainable development across the state.

4.5 Access to Water and Sanitation

Access to clean drinking water and proper sanitation is not just a matter of convenience; it is fundamental to public health and profoundly impacts the overall well-being of a community [11-13]. The World Health Organization emphasizes that access to safe water, sanitation, and hygiene (WASH) as being critical for preventing and controlling infectious diseases, promoting healthy environments, and ensuring dignity [14].

This study uses data on "Families with Water Available in Premises" and "Families with Toilet Facility" to construct a ‘Water and Sanitation Index’ for the districts of Uttarakhand [5]. This index reflects the proportion of households with access to these essential services within their homes (Table 6).

Dehradun, Udhamsingh Nagar, and Haridwar lead in the Water and Sanitation Index, indicating better access to clean water and toilet facilities while Bageshwar, Almora, and Rudraprayag lag behind, suggesting potential challenges in water and sanitation access.

Table 6

Asses to Water and Sanitation statistics for various districts of Uttarakhand

Sl. No.	District	Total Families	Normalised Families with Water Available in Premises	Normalised Families with Toilet Facility	Water and Sanitation Index	Rank
1.	Uttarkashi	66558	0.53	0.51	0.52	9
2.	Chamoli	85765	0.46	0.61	0.54	7
3.	Tehri Garhwal	133494	0.40	0.65	0.52	8
4.	Dehradun	322700	1.00	1.00	1.00	1
5.	Pauri Garhwal	161688	0.45	0.64	0.54	6
6.	Rudraprayag	53492	0.37	0.61	0.49	11
7.	Pithoragarh	111542	0.52	0.64	0.58	5
8.	Almora	139257	0.32	0.64	0.48	12
9.	Nainital	187108	0.78	0.92	0.85	4
10.	Bageshwar	57712	0.31	0.63	0.47	13
11.	Champawat	52356	0.45	0.54	0.49	10
12.	Haridwar	325344	0.94	0.77	0.85	3
13.	Udhamsingh Nagar	300052	1.00	0.80	0.90	2

Several factors contribute to these disparities: (i) Geographical challenges: Mountainous terrain and remote locations in districts like Bageshwar, Almora, and Rudraprayag pose significant challenges for infrastructure development and service delivery. Laying pipelines and constructing sanitation facilities in such areas is costly and complex, (ii) Infrastructure limitations: Inadequate water supply networks and sanitation facilities, including treatment plants and sewage systems, restrict access to these essential services, particularly in less developed districts, and (iii) Socioeconomic factors: Poverty, limits awareness about the importance of sanitation, and cultural norms often hinder the adoption of toilet facilities and hygiene practices in some communities.

To ensure equitable access to water and sanitation across Uttarakhand, a multi-faceted approach is needed and this includes (i) Targeted investment: Prioritized investment in water supply and sanitation infrastructure in underserved districts, focusing on extending piped water networks, constructing toilets, and improving wastewater management, (ii) Community engagement: Promoting community awareness and behaviour change regarding sanitation and hygiene practices through education campaigns, community-led initiatives, and the involvement of local leaders, (iii) Inclusive interventions: Design interventions that address the specific needs of vulnerable populations, such as women, children, and people with disabilities, ensuring that everyone has access to safe water and sanitation, and (iv) Capacity building: Strengthening local governance and institutional capacity for effective water and sanitation management, including planning, implementation, and monitoring of WASH programs.

Ensuring equitable access to water and sanitation is not only a matter of public health but also a crucial step towards achieving social equity and enhancing the overall quality of life in Uttarakhand.

5. Ease of Living Index

This study takes a holistic approach to assessing the overall ease of living [15] in Uttarakhand's districts. By integrating and averaging indices for access to health, education, transport, electricity, and water and sanitation, it provides a more comprehensive picture of quality of life than relying solely on economic indicators (Table 7).

Table 7

Ease of Living statistics for various districts of Uttarakhand

Sl. No.	District	Access to health index; A	Access to Education Index; B	Transport Access Index; C	Electricity Availability Index; D	Water and Sanitation Index; E	Ease of Living Index; (A+B+C +D+E)/5	Rank
1.	Uttarkashi	0.31	1.26	4.64	0.82	0.52	1.51	8
2.	Chamoli	0.52	1.39	11.12	0.87	0.54	2.89	1
3.	Tehri Garhwal	0.22	1.34	7.28	0.91	0.52	2.05	3
4.	Dehradun	0.22	0.91	3.35	1.00	1.00	1.30	11
5.	Pauri Garhwal	0.53	1.29	5.58	0.92	0.54	1.78	6
6.	Rudraprayag	0.75	1.42	3.52	0.95	0.49	1.43	9
7.	Pithoragarh	0.37	1.25	3.78	0.89	0.58	1.38	10
8.	Almora	0.37	1.25	9.74	0.82	0.48	2.53	2
9.	Nainital	0.63	0.98	5.09	0.94	0.85	1.70	7
10.	Bageshwar	0.41	1.27	6.21	0.85	0.47	1.84	4
11.	Champawat	0.23	1.20	6.21	0.75	0.49	1.78	5
12.	Haridwar	0.57	0.78	1.63	0.89	0.85	0.94	13
13.	Udhamsingh Nagar	0.53	0.82	2.34	0.88	0.90	1.10	12

The analysis reveals that Chamoli district has the highest Ease of Living Index, followed by Almora and Tehri. This finding challenges the common perception that well-being is directly related to economic prosperity, as Haridwar, despite being economically the most prosperous, trails at the end of the index. This discrepancy highlights the importance of considering a broader range of factors that contribute to human well-being, including access to essential services, infrastructure, and a healthy environment.

Furthermore, the results challenge the assumption that plain districts inherently offer a better quality of life. Chamoli, Almora, and Tehri, all mountainous districts, outperform the plain districts in the Ease of Living Index. This suggests that factors such as: (i) Strong social support networks: Mountain communities often have close-knit social structures and strong community bonds, which contribute to well-being, (ii) Lower population density: Lower population density often leads to less stress, reduced competition for resources, and a greater sense of peace and tranquillity, (iii) Access to natural resources: Mountainous regions often have abundant natural resources, including clean air, fresh water, and scenic beauty, which enhance quality of life. These factors contribute to a higher quality of life in these regions, despite potential limitations in economic opportunities or specialized services.

This study emphasizes the need for a more nuanced and comprehensive approach to assessing well-being and making policy decisions. By considering a wider range of factors beyond economic indicators, policymakers can gain a better understanding of the true quality of life in different regions and develop targeted interventions to improve the well-being of all citizens. This includes: (i) Investing in essential services: Ensuring equitable access to healthcare, education, and other essential services across all districts, (ii) Developing infrastructure: Improving transportation networks, water and sanitation systems, and electricity infrastructure, particularly in underserved areas, (iii) Promoting sustainable practices: Encouraging environmentally friendly practices, preserving natural resources, and creating a healthy and sustainable living environment for all residents.

By adopting a more holistic approach to development, Uttarakhand can ensure a high quality of life for all its residents, regardless of their geographic location or economic status.

6. Conclusions

This study challenges the prevailing narrative that equates economic prosperity with human well-being. By analyzing access to basic amenities and public services, it reveals a more nuanced picture of the ease of living in the districts of Uttarakhand. The findings suggest that hilly districts may offer a comparable or even better quality of life in certain aspects, despite the perceived economic advantages of the plains. This challenges the notion that out-migration from the hills is solely driven by a lack of economic opportunities and highlights the importance of considering a broader range of factors that contribute to human well-being.

This research underscores the need for a more holistic approach to development that prioritizes human well-being and considers a wider range of factors beyond GDP and per capita income. Focusing solely on economic growth may not adequately address the needs and aspirations of all citizens, particularly those in marginalized or less developed regions. By considering factors such as access to healthcare, education, transportation, electricity, and water and sanitation, policymakers can gain a more comprehensive understanding of the factors that contribute to a high quality of life.

Policymakers in Uttarakhand should prioritize equitable access to essential services, invest in infrastructure development, and promote community participation to ensure a high quality of life for all residents [16]. This includes (i) Addressing disparities in access to healthcare: This involves establishing specialty centers in the hills, improving referral facilities, and increasing the availability of qualified medical professionals in underserved areas, (ii) Enhancing educational opportunities: This involves improving the quality of education in state-run schools, addressing issues such as low enrolment and high dropout rates, and providing more equitable access to educational resources, (iii) Improving transportation infrastructure: This involves investing in road construction and maintenance, particularly in mountainous districts, to improve connectivity and access to essential services, (iv) Ensuring reliable electricity access: This involves extending the electricity grid to remote areas, improving the reliability of supply, and addressing affordability issues for low-income households, (v) Investing in water and sanitation infrastructure: This involves improving water supply networks, sanitation facilities, and promoting hygiene practices to enhance public health and well-being.

By addressing these areas and adopting a more holistic approach to development, policymakers can create a more balanced and sustainable future for Uttarakhand. This will not only improve the quality of life for all residents but also address the out-migration issue by creating more attractive and fulfilling living conditions in the hills.

Furthermore, this study highlights the following key takeaways: (i) Economic prosperity is not the sole determinant of well-being: Factors such as access to essential services, infrastructure, social support networks, and a healthy environment play a crucial role in determining the quality of life, (ii) Mountainous districts may offer a comparable or even better quality of life in certain aspects: This challenges the perception of the plains as inherently more desirable and highlights the unique advantages of mountain living, (iii) A holistic approach to development is essential: Policymakers need to consider a wider range of factors beyond economic indicators to ensure the well-being of all citizens and promote sustainable development.

By incorporating these insights into policy decisions, Uttarakhand can create a more equitable and prosperous future for all its residents, regardless of their geographic location or economic status.

7. The Way Forward

Promoting healthy living in the mountains is key to countering out-migration. The state should promote the hills not just as tourist destinations but as places to live for longevity and well-being. This requires a shift in perspective, emphasizing the unique advantages of mountain living and addressing the perceived shortcomings through targeted interventions.

Key strategies for promoting healthy living in the mountains include (i) Promote data collection and analysis with public dissemination of results: This will raise awareness about the true picture of human well-being in the region, countering the narrative of "lack of facilities" and highlighting the positive aspects of mountain living., (ii) Establish specialty centers in the hills or ensure quick referral facilities: This will address healthcare access challenges and alleviate concerns about the availability of specialized medical care in remote areas, (iii) Highlight the positive aspects of living in the mountains: This includes emphasizing the cleaner air, healthier environment, and lower stress levels often associated with mountain living. Promoting eco-tourism and sustainable practices can further enhance the appeal of the region, (iv) Invest in infrastructure development: Improving road connectivity, communication networks, and basic amenities will enhance the quality of life in the mountains and make them more attractive for residents and potential returnees, (v) Promote sustainable economic opportunities: Developing sustainable tourism, agriculture, and small-scale industries will create employment opportunities and reduce the economic pressure to migrate to the plains, (vi) Empower local communities: Involving local communities in decision-making processes and promoting their traditional knowledge and practices will foster a sense of ownership and contribute to sustainable development.

Additional considerations to achieve holistic development of Uttarakhand and improving well-being of the masses include (i) Promote cultural heritage and traditional practices: Highlighting the rich cultural heritage and traditional practices of the mountain communities can foster a sense of pride and identity, making the region more attractive for residents, (ii) Encourage youth engagement and leadership: Empowering young people to participate in community development and leadership roles can create a more vibrant and sustainable future for the mountains, (iii) Address climate change impacts: Implement

strategies to mitigate the impacts of climate change on mountain ecosystems and communities, ensuring the long-term sustainability of the region.

Formulating and implementing strategies focused on these aspects, and fostering a holistic approach to development, Uttarakhand can create a thriving and sustainable mountain region that attracts and retains its residents, contributing to the well-being of both the people and the environment. This will not only counter out-migration but also promote social equity, environmental conservation, and a more fulfilling quality of life for all.

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References

1. Census of India. National Population Register & Socio Economic and Caste Census, Registrar General & Census Commissioner, India, 2011. Available online: https://censusindia.gov.in (accessed on 19 October 2024).
2. Joshi, B. Recent trends of rural out-migration and its socio-economic and environmental impacts in Uttarakhand Himalaya. *Journal of Urban and Regional Studies on Contemporary India* 2018, 4(2), pp. 1-14.
3. Singh, U. B. An Assessment of the effectiveness of National Rural Health Mission in Uttarakhand. *International Journal of Development Studies* 2016, 8(1), pp. 173-184.
4. King, M. F.; Renó, V. F.; Novo, E. M. The concept, dimensions and methods of assessment of human well-being within a socioecological context: A literature review. *Social indicators research* 2014, 116, pp. 681-698.
5. Uttarakhand Statistical Diary 2022-23, Directorate of Economics and Statistics, Planning Department, Government of Uttarakhand 2024. Available online: https://des.uk.gov.in/department6/library_file/file-10-05-2024-07-49-15.pdf (accessed on 19 October 2024).
6. Raphael, D.; Rioux, M. H.; Bryant, T. Staying alive: Critical perspectives on health, illness, and health care. *Healthcare Policy* 2007, 3(1), pp. 55–57.
7. Bhatt, V. A Study of the Development of Education Sector in Uttarakhand and Its Challenges. *Journal of Arts, Humanities and Social Sciences* 2020, 3 (6), pp. 37-42.
8. Ahmed, R. A Study of Public Transport Accessibility in Pauri Garhwal District of Uttrakhand, India. *International Journal of Innovative Research in Computer and Communication Engineering* 2020, 5(2), pp. 749-754.
9. *Liang, M.; Chen, M.; Li, Y.; Xu, X.; Niu, D. Research on electric power development and economic growth in Hebei Province based on business cycle analysis. In: E3S Web of Conferences, 248 2021. DOI:10.1051/e3sconf/202124802033*
10. *Bajpai, M.; Awasthi, N.; Singh, L. Electrical Power Scenario in Uttarakhand. International Journal of Scientific & Engineering Research 2017, 8 (10), pp. 96-98.*
11. *Rumana, H.S.; Sharma, R.C. Water, Sanitation and its Impact on Environment and Human Being – A Case Study. Transylvanian Review of Systematical and Ecological Research 2019, 21(3), pp. 11-26.*
12. Vij, S.; Sharma, S.K.; Kothari, V. Water, Sanitation and Human Rights: A Case of Participatory Approach for Water Augmentation of Uttarakhand. In: *Human Rights and Socio-Economic Challenges in the state of Uttarakhand: Sagas and Surveys*, National Press Associates, New Delhi, 2021, pp. 58-69.
13. Pundir, S; Singh, R.; Singh, P.; Kandari, V. Risk assessment and water safety planning for rural water supply in Uttarakhand, India. *Environmental Monitoring and Assessment* 2021, 193 (21), 795. DOI: 10.1007/s10661-021-09609-7.
14. Kishore, S.; Venkatesh, U.; Verma, S.K.; Verma, S.K.; Walia, P. Water, Sanitation, and Hygiene: A Global Imperative for Health. *Indian Journal of Community Health* 2023, 35 (03), pp. 367-371. DOI: 10.47203/IJCH.2023.v35i03.022
15. Srivastava, A. K.; Bagauli, S.; Sharma, S. Issues and innovation in rrban India to make cities sustainable, resilient, and liveable 2024. In: *Administration in India*, Routledge, London, UK, 2023, pp. 134-147.

16. NITI Aayog, Sustainable tourism in the Indian Himalayan region 2018. Report of Working Group II, NITI Aayog, Government of India. Available online: https://library.niti.gov.in/cgi-bin/koha/opac-retrieve-file.pl?id=590800ca82413427e3ba16f1447e9a54 (accessed on 19 October 2024).

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CLIMATE CHANGE-RELATED DISASTERS AND RISK REDUCTION THROUGH INDIGENOUS KNOWLEDGE APPROACHES IN OSUN STATE, NIGERIA

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Abstract. This study focuses on people's risk reduction techniques in response to emerging disasters due to the constantly changing climatic conditions. Library and Archival data on disaster episodes in Osun State were sourced from selected libraries in Tertiary Institutions in the State. The study focused on communities with unique indigenous techniques and a history of consistent use for disaster management and risk reduction within the State. The study utilized an interviewing technique to gather and record participants' past experiences, followed by content analysis and an ethnographic summary of the gathered data. The study identified the type of disasters experienced in the study settings within the state. This included those originating from solid earth (geophysical), those caused by the occurrence, movement, and distribution of water on earth (hydrological), climate inclined like droughts and wildfires, weather conditions such as storms (meteorological) as well as those caused by exposure to living organisms and their toxic substances or diseases such as disease epidemics (biological). The study proved that indigenous knowledge systems are effective in helping communities manage and reduce the risk of disasters. This, in turn, explained why it was consistently used to avert calamities and alleviate their effects whenever they did occur.

Keywords: *climate change, disaster, risk reduction, indigenous knowledge techniques.*

Rezumat. Articolul se concentrează pe tehnicile de reducere a riscurilor pentru oameni ca răspuns la dezastrele emergente din cauza condițiilor climatice în continuă schimbare. Datele de arhivă privind episoadele de dezastre din statul Osun au fost obținute din biblioteci selectate din instituțiile terțiare din stat. Studiul s-a concentrat pe comunitățile cu tehnici indigene unice și cu o istorie de utilizare consecventă pentru managementul dezastrelor și reducerea riscurilor în cadrul statului. Studiul a folosit o tehnică de interviu pentru a aduna și a înregistra experiențele anterioare ale participanților, urmată de o analiză de conținut și un rezumat etnografic al datelor colectate. Studiul a identificat tipul de dezastre

experimentate în mediile luate în studiu. Acestea au inclus cele provenite din pământ solid (geofizice), cele cauzate de apariția, mișcarea și distribuția apei pe pământ (hidrologice), seceta și incendiile de vegetație, condițiile meteorologice (furtunile), precum și dezastrele cauzate de expunerea la organisme vii și la substanțele toxice ale acestora, sau boli precum epidemiile (riscuri biologice). Studiul a demonstrat că sistemele de cunoștințe indigene sunt eficiente în a ajuta comunitățile să gestioneze și să reducă riscul de dezastre. Acest lucru a explicat motivul folosirii în mod constant a acestor tehnici indigene pentru a preveni calamitățile și a atenua efectele lor ori de câte ori au apărut.

Cuvinte cheie: *schimbări climatice, dezastre, reducerea riscurilor, tehnici de cunoaștere indigenă.*

1. Introduction

Disasters are frequently featured in the news due to an increasing number of individuals falling prey to various types of disasters. Catastrophic events, such as disasters, have led to severe losses in human, animal, and plant life, as well as injuries, disabilities, and property damage, with a negative impact on the environment. The concept of a disaster has undergone a significant shift in interpretation over time [1]. During the early stages of human and societal growth, numerous cultures worldwide tended to perceive disasters as manifestations of divine intervention [2], or mistakenly associated them with supernatural forces such as celestial bodies, bad fortune, and blind faith [3,4]. As scientific progress continued, these long-held disaster perceptions and realities began to be questioned. Consequently, the shift in knowledge led to a change in the thematic focus and the method of identifying disaster locations. The disaster's physical effects and severity assessment, previously measured by magnitude, have undergone a shift in perspective.

In contemporary academic environments, disasters are regarded as consequences of inadequately managed risk. The identified risks stem from a combination of existing hazards and vulnerabilities [5]. Areas that are prone to low vulnerability but are affected by hazards are generally not considered disaster zones, similar to uninhabited regions. Severe impacts are felt by a community when a hazard strikes an area with restricted resources, resulting in considerable damage, financial losses, and considerable disruption to its routine activities. The financial, physical, and ecological expenses are greatly exceeding the community's budgetary capacity.

Over the past few decades, the number of reported disasters has risen significantly worldwide. For instance, from 1975 to 1999, fewer than 300 disasters occurred annually. However, between 2000 and 2010, the average annual disaster count rose to around 400. As populations expand and societies become more interconnected and complex, the severity of both natural and human-caused disasters has increased substantially [6-8]. Numerous disasters strike with little prior notice, such as tornadoes and landslides, while others develop over a period of time, often preceded by warning signs, as seen with tropical cyclones. Natural disasters can stem from severe weather events and human actions such as bombings. Disasters are generally categorised based on their underlying cause, which can be either naturally occurring or caused by human activities [1]. Natural hazards such as droughts, earthquakes, epidemics, floods, and windstorms are distinct from disasters. Two distinct communities can face the same hazard threat yet vary in their ability to adapt [9-11].

Most natural and human-caused disasters share common outcomes, including extensive physical destruction, loss of life, physical impairment, and population displacement, coupled with interruptions to economic and social functions [12, 13]. Disaster specialists concentrate primarily on two types of susceptibility. The initial point of concern is

people's susceptibility to disasters. This is the level of risk to which people are exposed. Residing on a floodplain may involve issues such as a home being incapable of withstanding flooding, and the degree to which individuals can adapt to its effects through measures like healthcare services and property insurance coverage. Vulnerability to disasters also exists in key institutions or systems such as power supplies, water supplies, hospitals, and emergency response networks.

Over the last forty years, catastrophic occurrences including earthquakes, droughts, floods, storms, fires, and volcanic eruptions have resulted in substantial loss of human life and income; devastation of economic and social infrastructure, and considerable environmental harm. Initiatives aimed at sustainable development and poverty alleviation are vulnerable to disasters caused by hydro-meteorological, geological, and environmental hazards that can be exacerbated by human actions or technological advancements [14]. Gu's study [9] found that natural disasters like earthquakes, floods, and hurricanes can cause significant devastation to urban areas, resulting in the destruction of infrastructure and housing, and resulting in thousands of injuries and fatalities. Disasters have a more significant impact on developing countries, with over 95 percent of fatalities resulting from hazards occurring there, while economic losses from natural hazards represent 20 times a larger percentage of Gross Domestic Product in developing countries than in industrialised nations [1,9,15].

Global disaster and risk awareness have been escalating, yet the formulation of well-coordinated plans for disaster risk reduction initiatives frequently encounters undue postponement. A major destructive event is typically the catalyst for an official strategy to be developed to mitigate its impacts. Studies have demonstrated that local initiatives provide a crucial lifeline, typically acting as the main factor in regulating the frequency of disaster occurrences and reducing associated risks until the delay is resolved [16,17]. Despite the appeal of this information, there remains a need to reveal more about the character and functioning of these initiatives. Comprehending the procedures for identifying vulnerabilities to disasters and evaluating the suitability of measures to mitigate associated risks will be equally beneficial to this study. This research aims to gain insight into the community's awareness and susceptibility to disasters and strategies for mitigating risk in Osun State, Nigeria. The initiative also aims to acknowledge and appreciate existing non-traditional methods being utilised to address the situation.

1.1 Environmental Disasters and Management Approaches

The fragility of humans, which is worsened by inadequate planning or ineffective emergency management, results in financial, environmental, or human losses [18, 19]. In the view of Uddin et al. [20], the resulting loss depends on the capacity of the population to support or resist the disaster and its resilience. The implication is that disasters occur when hazards meet vulnerability [21]. Therefore, a natural hazard will hence never result in a natural disaster in areas without vulnerability, e.g., strong earthquakes in uninhabited areas. Many natural hazards are related, for instance, earthquakes can result in tsunamis, and drought can lead directly to famine and diseases. A concrete example of the division between hazard and disaster is the 1906 San Francisco earthquake, which was a disaster [22,23]. Hazards are associated with potential future events, whereas disasters are connected to past or ongoing events. Technological innovations such as aircraft, automobiles, and industrial advancements lead to man-made disasters. Human-made catastrophes often arise from civil unrest such as riots, as well as from unprofessional and reckless actions like fires, burst

pipelines, collapsed buildings, chemical leaks, car accidents, food contamination, industrial epidemics, deforestation, war, pollution, and plane crashes, among other incidents.

Susceptibility to natural disasters is a multifaceted concern influenced by economic infrastructure, the nation's level of development, prevailing social and economic circumstances, existing coping strategies, risk evaluation, disaster recurrence and severity, and other factors. The potential consequences for low-income individuals may include being denied access to essential services, a reversal of gains in physical and human assets, and a rise in child labor and criminal behavior. Research has revealed the importance of identifying the influence and impact factors of natural disasters. [13, 24]. This information is valuable for policymakers as it allows them to understand the necessity for external aid and determine which solutions are most effective; it also enables the identification of specific groups impacted, such as low-income households (etc.), and can be useful for planning disaster relief and anticipating potential outcomes.

One of the key concerns regarding natural disaster effects on communities and residential areas is their potential unpredictability. Yu et al. [25] also explained that when assessing the effects of natural disasters, it is essential to consider other factors, including mitigation strategies, emergency preparedness, and relief efforts. Dutta's [26] study also considered the aftermath of tornadoes in the United States, revealing that the consequences were not entirely unpredictable. This is because various factors, including environmental, organizational, demographic, and technological factors, play a role in determining the impact of such disasters.

1.2 Historical Exploration of Disaster Management in Nigeria

The primary objective of disaster management is to mitigate threats from both existing and impending hazards [24]. These hazards can be categorized into three distinct categories: natural, technological, and complex emergencies. The primary objective of natural and technological hazards planning is risk assessment and mitigation. Initiatives to mitigate and prepare for natural and technological disasters have stemmed from the necessity to safeguard communities from widespread threats that are endemic within a given region of governmental authority [24, 27]. This approach to risk reduction and civil protection was established through legislation, clear definitions of institutional roles and distribution of financial resources from the top down, in conjunction with local responses and community participation.

Establishment of disaster management in Nigeria can be traced back to 1906, when the Police Fire Brigade, now known as the Federal Fire Services, was initially set up to undertake tasks beyond firefighting, including the provision of humanitarian aid and emergency assistance to protect lives and property. The National Emergency Management Agency (NEMA) is a government agency responsible for managing disasters, as well as educating the public to increase their awareness and mitigate the impacts of disasters within the country [28]. The organization is a non-partisan, non-profit organization striving to boost public safety by strengthening the country's capacity to prepare for, respond to and recover from emergencies, disasters and national security risks [29].

In 1990, the United Nations member countries, including Nigeria, established the National Committee for the International Decade for Natural Disaster Reduction (IDNDR). In line with the objectives and goals of the IDNDR, Nigeria's government in 1993 chose to widen the scope of disaster management to encompass all aspects of this field. This includes prevention, mitigation, response, and recovery measures. As a result, Decree 119 of 1993

elevated the agency's status to an independent entity, reporting directly to the Presidency, to develop overarching policies and directives for disaster management in Nigeria and its allied nations. The new agency should encompass various departments, including Search and Rescue, Policy and Strategy, Information, Education and Prevention, Administration, Finance and Logistics, Relief and Rehabilitation and Research and Planning [28,29].

2. Materials and Methods

Files from the National Emergency Management Agency (NEMA) and the Nigeria Security and Civil Defense Corps (NSCDC) were used to identify communities that are at risk of disasters or have a high incidence of disaster. Communities with a history of disaster occurrence were specifically identified. The data show that the disaster nearly affected every Local Government Area in Osun State. This study focused on rural areas within the state that have a history of experiencing disasters.

The recognition of indigenous practices' value for disaster risk assessment and mitigation led to limiting the scope of this study to rural areas. Community Development Association residents and officials within the areas were also used as participants in the study. They were involved in exploring the stories behind disasters, their frequency, and commonly recognized hazards, as well as risk vulnerability and methods used to mitigate such risks. The chosen communities represented four distinct sub-ethnic groups within Osun State: Ife, Ijesha, Oyo, and Igbo. The communities chosen from each of these groups included Gbengbeleku, Orafidiya (Ife), Dagbaja, Fadahunsi-Ogundele (Ijesha), Odeyinka, Omosan-Igbo (Oyo), Abalagemo, and Aworo Ayedaade (Igbomina). Five residents from each selected community participated in in-depth interviews. One participant from each of the selected communities was chosen to participate in the interview sessions of the key informants. Academics from the University of Ibadan, Obafemi Awolowo University in Ile-Ife, and the Federal University of Technology in Akure were chosen based on their expertise in disaster management and indigenous knowledge systems, along with their research experience in Climatology. In this study, the group of participants was categorized as key informants. The study population comprised 53 participants. Data obtained from the participants were documented in accordance with the methods chosen by the participants, reflecting a commitment to ethical principles. The collected data was subjected to content and ethnographic analyses. Some important quotations from participants during IDI and KII sessions were reported verbatim to further illustrate the issues under focus.

3. Results and Discussion

The occupations of the participants comprised trading, civil service, farming, and artisanal work. Among the respondents, the distribution by gender comprised 28 males and 25 females. No participant is younger than 45 years. Almost all participants referred to towns or communities that have faced natural disasters in the past. past. From the viewpoints of the individuals involved, a disaster is perceived as an unexpected, all-encompassing event, encompassing major health issues, fatalities, significant financial or social setbacks within the household, floods, fires, building collapses, loss of livelihoods, outbreaks, or community displacement resulting from conflict, and any other adverse occurrences that individuals affected are unable to manage without external support.

The forms of disaster ever experienced in their lifetime included epidemics like cholera, road accidents, domestic fire outbreaks, forest fires, floods, explosions, and environmental pollution. Some of the participants in the interview sessions classified disaster

into two categories. In the words of one of them, disaster could be natural and manmade and the relationship between the two is that one is caused due to human error, and the other is caused by God **(**Female IDI/Farmer/Abalagemo community/72 years old**)**. Another submission classified disaster into unfavourable social situations that manifested in terms of water, land, or epidemic diseases **(**Male IDI/Farmer/Aworo Ayedaade community/66 years old**).**

3.1 Factors influencing Occurrence of Disasters and their Impacts

At the time when the disasters occurred last, only a handful of the participants could give first-hand accounts of the latest disasters mentioned. The majority relied on subsequent narrations from their parents and their elderly within the communities. The factors causing disaster according to the participants included mismanagement of environmental resources, poor or absence of coping capacity by those affected, poor or absence of resilience when responding to disasters, poor or absence of knowledge of proper environmental management, absence of political will towards prevention of activities that are inimical to positive environmental outcome **(**Male IDI/Farmer/Gbengbeleku community/56 years old**)**. Other factors mentioned by the participants included failure to adapt and adopt the home-grown mechanisms used by the forbearers in the past to prevent or checkmate the occurrence of disasters **(**Female IDI/Farmer/Orafidiya community/61 years old**).**

The impacts of disaster according to the information collected included displacement of the people from their places of primary residence, dislocation of communities' economic activities, psychological trauma which often leads to health challenges, loss of jobs and forced migration, and loss of human and natural resources. The entire study population affirmed their knowledge of authority that could be contacted in the event of disasters. Those to be contacted in this situation included the (a) head of the community, (b) leaders in the community, (c) Security and Civil Defence Corps, (d) National Emergency Management Agencies through State Emergency Management Agency, (e) Federal Road Safety Commission.

3.2 Nature of Disasters Ever Witnessed in the Study Settings

The nature of disasters that have occurred in the communities according to the participants in this study include epidemics, road accidents, domestic fire outbreaks, forest fires, floods, drought, famine, explosions, environmental pollution, landslides, and infestation. Among these, the participants classified road accidents, domestic fire outbreaks, and environmental pollution as man-made while the remaining ones mentioned above were classified as natural. Out of those classified as natural disasters, epidemics, floods, droughts, famine, and landslides were noted to have been in high occurrence in the past. In the history of each of the communities selected as the study settings, epidemics, drought, and famine were noted to have occurred severally. It was however noted by a participant that epidemics like cholera, dysentery, typhoid, and typical ailments are common during natural disasters such as floods.

Meanwhile, an octogenarian who participated in this study revealed an uncommon scenario referred to as 'earth tremor' as having occurred in the mid-1980s with attendant disaster. According to him, the event happened across southwestern Nigeria and his community experienced it as well. The event was sudden and never reoccurred since then. In another submission, another participant noted extreme heat as one of the disasters she had experienced in her lifetime. In her words, at the time when it happened, extreme heat brought with it a situation where one's body could not maintain a normal temperature (Male

IDI/Farmer/Dagbaja community/74 years old). Another submission that corroborated this equally submitted that extreme heat resulted in a monumental number of deaths. In this situation, both the old and the young became sick while the individuals who were overweight easily became vulnerable to the challenges occasioned by the extreme heat (Female IDI/Farmer/Fadahunsi-Ogundele community/77 years old).

In the case of drought and famine, a female participant noted that virtually everyone in her community was traumatized. Everywhere became dried. Survival became difficult for the human populace as well as the animals and the plants. In her words, when I experienced drought, the usual precipitation was fading away gradually, resulting in a water shortage. Everybody became sick, agricultural produce became scanty so also was the harsh nature of the physical environment. The effects of an absence of adequate water further led to improvising to get potable water. It equally led to sourcing for water that is of questionable quality. In the process, all sorts of health challenges emerged leading to pandemonium (Female IDI/Farmer/Gbengbeleku community/77 years old).

Recounting their experience of drought further, the participants traced the aftermath to the emergence of famine. According to one of them, the absence or shortage of water made the survival of plants and crops impossible. The implication of this was inadequate or absence of harvest for human survival. This subsequently led to an extreme lack of food and other basic needs hence starvation, death, and destitution. As people were losing their loved ones, quiet migration was witnessed. Many did not wait for succor from the government before they moved out of the community to distant settlements where life was more bearable (Male IDI/Farmer/Orafidiya community/68 years old).

3.3 Indigenous Approach to Disaster Vulnerability Prediction

Most of the participants averted that constant deliberation among the elders and other stakeholders within the communities were common steps first taken to find lasting solutions to the problem. In the words of one of them, the palace of the traditional rulers became the melting pot where the solutions were perfected (Male IDI/Farmer/Omosan-Igbo community/70 years old). According to another participant, consultations with an oracle for divine guidance were further affirmed as part of the steps (Female IDI/Farmer/Abalagemo community/72 years old). Further phase according to another participant included the monitoring of the progression of hazards with possible advice to govern the behavior of the communities (Male IDI/Farmer/Odeyinka community/72 years old). Manifestation of positive results from the homegrown ideas on the way forward has assisted in assuaging the suffering passed through by the people (Female IDI/Farmer/Abalagemo Community/72 years old). This in the words of another participant has placed the indigenous practices as indispensable assets in the minds of the people. The practices equally allowed many communities to live with the disaster through the ability to identify and prepare for its occurrence (Male IDI/Farmer/Abalagemo Community/55 years old). Recalling what her grandfather told her about the past events of disaster, a participant revealed that the oracle consulted in their community mandated the elders and the King to go back to traditional ways of managing the situation. This included cross-fertilization of indigenous ideas that are cost-effective. Along with this, such deliberations have enabled our people to appreciate that everybody is susceptible to disasters hence the need for protection and safety of the people living in the community (Female IDI/Farmer/Omosan-Igbo Community/57 years old).

Experiences about the devastating effects of disasters have taught people about the reality of individuals being vulnerable to disasters. This equally motivated the people to fully

embrace prevention and mitigation approaches (Male IDI/Farmer/Orafidiya Community/68 years old). From experience, people in vulnerable circumstances were found to be significantly less able to represent their interests, and more likely to suffer harm than the average others (Female IDI/Farmer/Abalagemo Community/72 years old). Given this, virtually everyone in the communities is knowledgeable about what breeds poor resistance or response when a disaster occurs. In the words of an opinion leader in one of the communities, it was established that people who live on plains are more vulnerable to floods than people who do not. Preventive measures against disasters thus assumed high priority due to the establishment that people who are aged, the young, individuals with poor health, the nature of the physical environment and sanitary conditions, as well as the quality and state of local buildings and their location concerning any hazards (Female IDI/Farmer/Omosan-Igbo Community/57 years old). A clear case presented by the participants was that of deforestation. People were noted as engaging in unsustainable usage of forest resources without minding the likely implications. In the words of one of the participants, a high level of poverty, which brought about the inability to make ends meet and the idea that forest resources are gifts of nature informed ravenous exploitation of the resources (Female IDI/Farmer/Fadahunsi-Ogundele Community/71 years old). Further comments pointed out that, as people cut down too many trees at a faster pace than nature can replace them, the situation led to an increase in the vulnerability of many communities to rain. The rain falls on unprotected soil, causing mudslides, landslides, floods, and the like. Thus, the reality of obvious vulnerability in the population helps to build community members' bravery and resilience while also promoting stronger bonds and interactions with others (Female IDI/Farmer/Aworo Ayedaade Community/78 years old).

3.4 Disaster Risk Reduction Processes in Communities

The growing prevalence of disaster risk is a result of people's carefree attitude towards environmental management, according to interactions with study participants. According to one participant, after acknowledging that human factors make disasters inevitable, communities employ prediction and/or potential early warning indicators as a means of improving disaster risk reduction (Female IDI/Farmer/Aworo Ayedaade Community/78 years old). For example, every community that has gone through a crisis has become more knowledgeable and well-organized. Similar to what is happening in our community, we get together to discuss what to do in the event of an emergency and to gauge our degree of readiness. The community is now less susceptible to calamities as a result (Male IDI/Farmer/Dagbaja Community/74 years old). Further disclosure came from another submission, which demonstrated that constructing homes in high-risk areas increases people's vulnerability. This is why it's generally agreed that people shouldn't live too close to a river. Human settlements become more susceptible to flooding when trash is dumped into waterways. Therefore, this technique was completely disapproved of for disaster-free, sustainable living (Female IDI/Farmer/Odeyinka Community/65 years old). According to the participants, the communities often use traditional songs and legends to influence how people respond to the looming tragedies. People's behavior has improved as a result of learning from these legends and songs. Disasters rarely happen when people have this knowledge, confirming the role that traditional belief systems and associated tales play in lowering the likelihood of disasters (Male IDI/Farmer/Orafidiya Community/68 years old).

The way a community responds to a calamity is impacted by its culture and beliefs. Disasters only occurred when people were not at peace with God and the spirits, according

to the traditional religious beliefs of the majority of the sampled research locations' residents. Our stance, according to one of the participants in this study, is that disasters cannot be prevented once they are caused by specific factors, but their impacts can be lessened. According to traditional healers, we think that every incident, whether it be spiritual or bodily, has a reason and that there may be a means to overcome it. Another traditionalist agrees that certain gods and deities create hydrological threats in reaction to the unsanitary use of water resources. Such use could include disposing of trash in rivers, among other things (Male KII/Community Leader, Abalagemo Community/75 years old). To alert the locals to this negligent environmental behavior, numerous persons have perished in the village rivers. The 'deities may pay a warning visit' to the traditional heads of the villages when such incidents become common. In other cases, oracles are consulted regarding how to validate the cause and how to lessen the risks or calamities. To lower the risk, mitigation frequently involves corrective or preventive actions (Female KII/Community Leader, Odeyinka Community/69 years old). In certain cases, determining the number of people afflicted and the prevalence rate of the condition provides early warning and a signal to take action. The majority of communities in this state use traditional knowledge. In this situation, the majority of communities use traditional medical expertise to treat the affected persons by quarantining or curing them (Female KII/Community Leader, Omosan-Igbo Community/65 years old).

3.5 Labyrinths of Early Warning Process and Prediction of Disasters

People get ready for the impending calamity by making reasonable predictions about its coming. According to the study's participants, this is based on their combined experiences with the severity and aftereffects of previous disasters. To foretell upcoming disasters, unusual behavior and restlessness among the 'lower' creatures are typically observed and tested over time. The behaviors of the communities' 'lower animals' typically functioned as warning signs of impending calamities and the necessity of proper planning to prevent their probably disastrous results (Male KII/Academic, University of Ibadan, Nigeria/56 years old). According to another contribution, the disaster scenario will be evaluated to determine ways to limit its devastating impacts in cases when the event could not be completely predicted (Female KII/Academic, Federal University of Technology, Akure, Nigeria/45 years old).

It was discovered that every community has a range of early warning signs and established procedures that allow it to swiftly and effectively use its collective knowledge for disaster response. According to one of the contributing scholars, this innovation in anticipating impending catastrophes required a thorough analysis of the behavior of animals, birds, insects, plants, trees, winds, air and water temperatures, clouds, earth motions, and celestial bodies (Male KII/Academic, Obafemi Awolowo University, Ile-Ife, Nigeria/51 years old). This also acts as an early warning system for impending disasters, much as the ability to forecast disasters was made possible by the meticulous study and interpretation of the actions of living things. This is part of the indigenous knowledge system of nearly every community in this region of the state (Female KII/Academic, University of Ibadan, Nigeria/47 years old).

In the event of an epidemic, early warning usually takes place before the disease is contracted by community members. Any weird events that are observed are interpreted by the community members based on their personal experiences (Male KII/Academic, Federal University of Technology, Akure, Nigeria/50 years old). This thus serves as warning signs to get them prepared for whatever threats might happen. The existence of snakes and other reptiles, along with wild animals, near homesteads in pursuit of food and water, was

emphasized as another evidence of the prevalence and persistence of drought in almost all of the examined communities (Female KII/Academic, Obafemi Awolowo University, Ile-Ife, Nigeria/49 years old). It is believed that the arrival of swallow birds, or '*alápàáǹdẹ̀dẹ̀*' in huge numbers circling the sky is a sign that the rains are coming and that it is time to avoid vulnerable situations.

The screams and shifting melodies of the '*olongo*' (robin) birds are signs that rain is expected that very day. Poor seasonal rainfall was suggested if the birds postponed their journey. When flock '*àsá* (hawk) birds hover and make strange cries around the community, it means people should get prepared for famine. Farmers usually study Akintola plants. The botanical name of this plant is '*siam* weed' or '*chromolaena odorata*'. The plant is used to know when to stop planting seasonal crops like maize, rice, beans, soybeans, etc. Their position is that anytime these plants bring about colored flowers, it is an indication that rain will stop falling within a few weeks. The farmers usually resort to planting crops like cassava rather than engaging in the planting of seasonal ones (Male IDI/Farmer/Abalagemo Community/55 years old).

Bird activity in the neighborhoods is frequently a sign of unfavorable weather conditions. One sign of a protracted drought is the swarming of *ẹ̀gà* bird (sparrow) in the sky as the dry season draws near. In certain cases, the dogs are observed constantly urinating in the neighborhoods. Such a circumstance is an indication that hunger is imminent. It also indicates impending hunger when *ọ̀bọ̀ọ̀nbọọ̀n* (bettle) are observed to be humming around in numbers within the settlements (Male KII/Community Leader, Abalagemo Community/75 years old). Another participant supported this by stating that the Yoruba tree species known as *òpòtó* (Ficus sur Forrsk) is not anticipated to bloom during the dry season. This tree's blooming during the dry season is a hint that the communities will experience drought (Female KII/Community Leader, Odeyinka Community/69 years old).

Extreme tranquility within the environment across the communities indicates that 'measles disease' will be experienced at that material time (Male KII/Academic, Obafemi Awolowo University, Ile-Ife, Nigeria/51 years old). People identify impending 'famine' within the communities where sheep are seen crying about unnecessarily in the communities without anybody disturbing them (Female KII/Academic, Federal University of Technology, Akure, Nigeria/49 years old). A very severe harmattan is an indication of the fruitfulness of palm fruits and plentiful harvest for bountiful palm oil. Where such was not witnessed this portends poor harvest and scarcity of palm for domestic and commercial purposes (Male KII/Academic, University of Ibadan, Nigeria/47 years old).

3.6 Structural and Non-Structural Management Approaches for Disaster Risk Reduction

Many different strategies are being used in communities to reduce the risk of disasters. For landscape protection, some people plant trees as windbreaks. It is typical, according to this group, to plant trees in places designated as shelters for ecological preservation. Our purpose in doing this is to act as a buffer for the maintenance of fertility throughout a wider area of land. This allows the protected land to maintain its fertility and structure. The outcome of this is not just an instant increase in crop yields but also the long-term and ongoing maintenance of the productivity of their land holdings (Male IDI/Farmer/Aworo Ayedaade Community/66 years old). In another instance, sourcing for fuelwood was equally mentioned. In this situation, it was revealed that the existence of shelterbelts across the

communities makes this possible. The shelterbelts were created across the neighborhood within the community. In a situation of this nature, everybody knows where to go at a particular point in time for the harvesting of fuelwood. This has provided an avenue for preventing the haphazard harvest of fuelwood (Male IDI/Farmer/Odeyinka Community/72 years old).

Another strategy that has been used to help reduce the risk of disasters is the planting of crop varieties that mature early. According to one of the study's participants, early-maturing crop varieties with significant resistance to moisture, heat, and severe illnesses were found. These crops are cultivated throughout the rainy season under the proper growth cycles. They are suitable for controlling ecological conditions and disaster mitigation due to their ability to resist brief and sporadic periods of irregular rain (Male IDI/Farmer/Omosan-Igbo Community/70 years old).

Another strategy is the planting of drought-resistant tree species, such as neem trees, as a crop and soil management technique. Helping to increase soil moisture storage and decrease runoff is the main goal of this (Female IDI/Farmer/Dagbaja Community/67 years old). Another participant stated that excavation of drains around buildings to lower the height of flood water, clearing drainage channels, and sand-filling erosion-prone regions were other communal techniques that have been used over the years. To prevent flood water from entering the building, barriers are sometimes built in the front of the structure (Male IDI/Farmer/Orafidiya Community/68 years old). The use of neem cake as a fertilizer for agricultural products is also common. This stems from its recognition as an excellent organic nitrogenous fertilizer. In this region, its application is a standard procedure due to its efficacy in enhancing the soil's physical state and its capacity to restore and maintain the soil's humus status. This will consequently supply the nutrients that the plants need to increase their resistance to hardship. Additionally, neem cake was found to be effective in controlling locusts and other insect pests. Spraying soaked neem cake over crops to deter insect infestations is one of the tactics within this area (Female IDI/Farmer/Fadahunsi-Ogundele Community/71 years old).

4. Conclusion

Integrating indigenous knowledge systems into climate change-induced disaster risk reduction is crucial for building resilient communities. From this study, IKS has offered valuable insights into climate variability and adaptation strategies. The ingenuity of the local communities in terms of unique knowledge and coping mechanisms in the face of disasters. The study emphasized the interconnectedness of traditional lifestyles with the preservation of regional ecological systems, biodiversity conservation, and even enhancement. The foregoing is therefore an indication of the relevance of indigenous knowledge system in every development agenda.

Conflicts of Interest: The authors declare no conflict of interest. The authors declare their lack of financial ties to any organization or institution involved in the topics discussed in this article, which could potentially lead to potential issues.

References

1. Chaudhary, M.T.; Piracha, A. Natural Disasters, Origins, Impacts. *Encyclopedia,* 2021, 1(4), pp. 1101-1131.
2. Leroy, S.A.G. Natural Hazards, Landscapes and Civilizations. *Treatise on Geomorphology* 2022, 9, 620-634.
3. Shea, B. *A* Little More Logical: Reasoning well about Science, Ethics, Religion, and the rest of Life. 2024. Available online: https://philpapers.org/archive/SHEALM.pdf (accessed on 15/11/2024).

4. Vollmer, LJ. The relationality of religion and science: Toward a new discourse-analytical framework. Thesis fully internal (DIV), University of Groningen, 2017.
5. Radeny, M.; Desalegn, A.; Mubiru, D.; Kyazze, F.; Mahoo, H.; Recha, J.; Solomon, D. Indigenous knowledge for seasonal weather and climate forecasting across East Africa. *Climatic Change* 2019, 156, pp. 509-526.
6. Hettige, S. Exploring the Social Effects of Disasters: Causes, Consequences, and Mitigation. In: *International Handbook of Disaster Research,* Singh, A. (ed), Springer, Singapore, 2023, pp. 1637–1645. https://doi.org/10.1007/978-981-19-8388-7_115 (accessed on 15/11/2024).
7. Food and Agriculture Organisation (FAO). The Impact of Disasters and Crises on Agriculture and Food Security, Rome, 2021. Available online: https://openknowledge.fao.org/items/e5a5771a-6127-4e4a-ae1c-9f26fe8aa770 (accessed on 15/11/2024).
8. Vinod, T. Climate Change and Natural Disasters: Transforming Economies and Policies for a Sustainable Future, Routledge, London, 2017. Available online: https://hdl.handle.net/20.500.12657/27682 (accessed on 21/11/2024).
9. Gu, D. Exposure and Vulnerability to Natural Disasters for World's Cities. United Nations Department of Economic and Social Affairs, Population Division Technical Paper No. 2019/4 (December), 2019. Available online: https://www.un.org/en/development/desa/population/publications/pdf/technical/TP2019-4.pdf (accessed on 21/11/2024).
10. Daramola, A.; Timothy, O.; Ogundele, O.; Adesanya, A. Adaptive Capacity and Coping Response Strategies to Natural Disasters: A study in Nigeria. *International Journal of Disaster Risk Reduction* 2016, 15, pp. 132-147.
11. Vinod, T.; Ramón, L. Global Increase in Climate-Related Disasters. ADB Economics Working Paper Series No. 466 (November). Asian Development Bank, 2015. Available online: https://www.adb.org/sites/default/files/publication/176899/ewp-466.pdf (accessed on 15/11/2024).
12. Krichen, M.; Abdalzaher, M.S.; Elwekeil, M.; Fouda, M.M. Managing Natural Disasters: An Analysis of Technological Advancements, Opportunities, and Challenges. *Internet of Things and Cyber-Physical Systems* 2024, 4, pp. 99-109.
13. Botzen, W.W.J.; Deschenes, O.; Sanders, M. The Economic Impacts of Natural Disasters: A Review of Models and Empirical Studies. *Review of Environmental Economics and Policy* 2019, 13, pp. 167-188.
14. Abbass, K.; Qasim, M.Z.; Song, H.; Murshed, M.; Mahmood, H.; Younis, I. A review of the Global Climate Change Impacts, Adaptation, and Sustainable Mitigation Measures. *Environmental Science and Pollution Research* 2022, 29, pp. 42539–42559. https://doi.org/10.1007/s11356-022-19718-6 (accessed on 21/11/2024).
15. World Bank. Reducing Disaster Risk from Natural Hazards: An Evaluation of World Bank Support, 2021, FY10–20 (Approach Paper). Independent Evaluation Group/World Bank Group, IFC-MIGA (August 30, 2021). Available online: https://ieg.worldbankgroup.org/sites/default/files/Data/reports/ap_disasterriskreduction.pdf (accessed on 15/11/2024).
16. Righi, E.; Lauriola, P.; Ghinoi, A.; Giovannetti, E.; Soldati, M. Disaster Risk Reduction and Interdisciplinary Education and Training. *Progress in Disaster Science* 2021, 10, 100165.
17. Wiranata, I.J.; Simbolon, K. Increasing Awareness Capacity of Disaster Potential as a support to achieve Sustainable Development Goal (SDG) 13 in lampung Province. *Jurnal PIR*: *Power in International Relations,* 2021, 5(2), pp. 129–146.
18. Kasperson, J.X.; Kasperson, R.E.; Turner, B.L.; Hsieh, W.; Schiller, A. Vulnerability to global environmental change. In: *Social Contours of Risk*, Routledge, London, UK, 2022, pp. 245-285.
19. Merz, B.; Kuhlicke, C.; Kunz, M.; Pittore, M.; Babeyko, A.; Bresch, D.N.; Domeisen, D.I.; Feser, F.; Koszalka, I.; Kreibich, H.; Pantillon, F. Impact Forecasting to Support Emergency Management of Natural Hazards. *Reviews of Geophysics* 2020, 58(4), e2020RG000704.
20. Uddin, M.S.; Haque, C.E.; Khan, M.N.; Doberstein, B.; Cox, R.S. "Disasters threaten livelihoods, and people cope, adapt and make transformational changes": Community resilience and livelihoods reconstruction in coastal communities of Bangladesh. *International Journal of Disaster Risk Reduction* 2021, 63, 102444.
21. Noy, I.; Yonson, R. Economic Vulnerability and Resilience to Natural Hazards: A Survey of Concepts and Measurements. *Sustainability* 2018, 10(8), 2850.
22. Keller, E.A.; DeVecchio, D.E. *Natural Hazards: Earth's Processes as Hazards, Disasters, and Catastrophes*. Routledge, London, UK, 2019, 664 p.
23. Daniell, J.E.; Schaefer, A.M.; Wenzel, F. Losses associated with Secondary effects in Earthquakes. *Frontiers in Built Environment* 2017, 3, 30.

24. Alexander, D. *Natural Disasters* (eBook). Routledge, London, UK, 2018, 654 p.
25. Yu, M.; Yang, C.; Li, Y. Big data in Natural Disaster Management: A Review. *Geosciences* 2018, 8(5), 165.
26. Dutta, S. Creating in the Crucibles of Nature's Fury: Associational Diversity and Local Social Entrepreneurship after Natural Disasters in California, 1991–2010. *Administrative Science Quarterly* 2017, 62(3), pp. 443-483.
27. Beck, U. From Industrial Society to the Risk Society: Questions of survival, social structure and ecological enlightenment. In: *Risk Management*, Routledge, London, UK, 2020, pp. 17-44.
28. Mbaeze, N.C.; Eneasato, B. National Emergency Management Agency (NEMA) and Disaster Management in South East 2009 – 2016. *Enugu State University of Science and Technology Journal of Social Sciences* 2019, 4(2), pp. 217-235.
29. Okon, E.O. Natural Disasters in Nigeria: An Econometric Model. *American International Journal of Social Science Research* 2018, 2(1), pp. 81-101.

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SOCIAL INTEGRATION ISSUES OF YOUNG PEOPLE LEAVING THE RESIDENTIAL CARE SYSTEM

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Abstract. Annually, hundreds of young people leave the residential care system, and many of them struggle to integrate socially, often becoming part of deviant or marginalized groups. The aim of the study was to identify the difficulties faced by young people when leaving residential care, in order to determine the social services needed to overcome these challenges. The research methods used were sociological surveys based on questionnaires and focus-group discussions with young people who had left the care system. The difficulties mentioned by young people when leaving the residential care system included: lack of housing, limited financial resources, difficulties in continuing their studies, challenges in finding a job, difficulties accessing medical services, lack of residence permits, and lack of emotional support. Facilitating the social integration process for young people from the care system requires intervention on multiple fronts, including: adapting activities in residential institutions with a greater focus on preparing young people for leaving the system; designating support persons for young people, who would facilitate the social integration process; strengthening cooperation between residential institutions and medical, educational, and employment institutions to ease the transition to independent life for young people; and amending the regulatory framework by diversifying social services that would offer support and foster the successful integration of young people.

Keywords: *care system, social issues, social integration, social services, youth.*

Rezumat. Anual sute de tineri părăsesc sistemul rezidențial de îngrijire, iar o bună parte din ei nu reușesc să se integreze social, ajungând să facă parte din grupurile deviante sau marginalizate. Scopul studiului a fost identificarea dificultăților cu care tinerii se confruntă în momentul părăsirii îngrijirii rezidențiale, în vederea determinării serviciilor sociale necesare depășirii lor. Metodele de cercetare utilizate au fost ancheta sociologică pe bază de chestionar și discuțiile de tip focus-grup cu tinerii care au părăsit sistemul de îngrijire. Dificultățile menționate de tineri în momentul părăsirii sistemului rezidențial de îngrijire au fost: lipsa unei locuințe, resurse financiare limitate, dificultăți în continuarea studiilor, dificultăți în identificarea unui loc de muncă, dificultăți în accesarea serviciilor medicale, lipsa vizei de reședință, lipsa sprijinului emoțional. Facilitarea procesului de integrare socială a tinerilor din sistemul de îngrijire necesită intervenția pe mai multe filiere, printre care:

adaptarea activităților din instituțiile rezidențiale cu un accent sporit pe pregătirea tinerilor pentru părăsirea sistemului; desemnarea persoanelor de sprijin pentru tineri, care ar facilita procesul de integrare socială; consolidarea cooperării dintre instituțiile rezidențiale cu instituțiile medicale, de educație, de ocupare pentru facilitarea tranziției la viața independentă a tinerilor; amendarea cadrului normativ prin diversificarea serviciilor sociale care ar oferi suport și favoriza integrarea cu succes a tinerilor.

Cuvinte cheie: *sistem de îngrijire, servicii sociale, probleme sociale, integrare socială, tineri.*

1. Introducere

Copiii/tinerii din Republica Moldova, care din varii motive nu pot fi îngrijiți în familiile lor biologice, sunt ocrotiți în forme de îngrijire de tip familial (tutelă/curatelă, asistența parentală profesionistă, casa de copii de tip familial) sau în forme de îngrijire de tip rezidențial (case comunitare pentru copii în situație de risc, centru de plasament temporar, instituții de tip rezidențial).

Sistemul rezidențial de îngrijire se dezvoltă în Republica Moldova începând cu anul 1936, cu un apogeu în anii 1990, moment în care pe teritoriul țării funcționau 68 de instituții care ocroteau peste 12000 de copii [1, p. 35]. În anul 2024 pe teritoriul Republicii Moldova activau 5 instituții speciale pentru copii cu deficiențe senzoriale, 8 școli internat auxiliare, 28 centre de plasament temporar pentru copii în situație de risc, 11 centre multifuncționale care oferă și servicii pentru copii și tineri în situație de risc și 6 case comunitare pentru copii în situație de risc.

Anual, în jur de 2000 copii de toate vârstele părăsesc sistemul de îngrijire. Cei mai mulți dintre aceștia au fost ocrotiți în instituții de tip rezidențial, unde media lor anuală este de aproximativ 900 copii/tineri anual în ultimii trei ani [2-4]. Unii din ei au reușit să-și continue studiile, să se angajeze în câmpul muncii, să identifice o locuință, să construiască relații sociale și să le mențină, alții din contra ajung să fie excluși social și să facă parte din grupuri deviante sau marginalizate.

Scopul studiului constituie identificarea dificultăților cu care tinerii se confruntă în momentul părăsirii îngrijirii rezidențiale, în vederea determinării serviciilor sociale necesare depășirii lor.

2. Materiale și Metode

Metodele și tehnicile de cercetare utilizate pentru acest studiu sunt: ancheta sociologică pe bază de chestionar aplicată pe un eșantion de 128 de tineri care au părăsit sistemul de îngrijire și discuții de tip focus-grup *(FG_tineri)*. Eșantionul cercetării prin ancheta sociologică are următoarea structură conform principalelor variabile demografice: după gen, eșantionul este în proporție de 64,8% masculin și de 35,2% feminin; după variabila vârstă: circa ¾ dintre tinerii care au participat la cercetare sunt minori, având vârsta cuprinsă între 15-17 ani (15-16 ani – 50% și 17 ani – 27,3%), iar fiecare al 5 tânăr are vârsta de 18 ani sau mai mult (22,7%); dup variabila mediu de reședință 65,6% din respondenți sunt din mediul rural și 34,4% dintre respondenți sunt din mediul urban. Pentru asigurarea triangulării datelor, au fost desfășurate 3 ședințe de focus-grup cu tineri care au fost îngrijiți în diverse forme de protecție (tutelă/curatelă, asistență parentală profesionistă, casă de copii de tip familial, centre de plasament temporar, case comunitare, instituții de tip rezidențial), cu participarea la 24 de tineri. Studiul a fost desfășurat în noiembrie-decembrie 2024.

3. Rezultate

Părăsirea instituțiilor rezidențiale de îngrijire comportă o serie de implicații atât asupra tinerilor, cât și asupra societății în ansamblu. Reușita adaptării acestora la noile condiții sociale și asumarea rolurilor sociale generate de trecerea la un alt statut – fie de angajat, fie de elev/student, sunt determinate de pregătirea tinerilor pentru procesul de tranziție și integrare socială, de gama de servicii disponibile, de intervenția și cooperarea intersectorială, de gradul de acceptare a societății etc. În situația în care se atestă lacune cu referire la aspectele enunțate mai sus, procesul de integrare socială se realizează defectuos.

Complexitatea procesului de integrare socială determină necesitatea înțelegerii și conceptualizării teoretice și praxiologice a acestuia. Termenul de „integrare socială" se referă la gradul în care persoanele participă într-o gamă largă de roluri și relații sociale. Este un concept multidimensional, care include atât o componentă comportamentală, cât și una cognitivă. Aspectul comportamental se referă la implicarea activă a unei persoane într-o varietate de activități și relații sociale, în timp ce aspectul cognitiv se referă la măsura în care o persoană se simte conectată cu comunitatea și își poate asuma rolurile sociale. Integrarea socială nu se referă doar la participarea fizică sau activă într-un grup, ci și la sentimentul de apartenență și la recunoașterea valorii proprii în contextul social mai larg [5].

Conceptul de *integrare socială a tinerilor ieșiți din sistemul de îngrijire* descrie procesul prin care acești tineri sunt ajutați să se adapteze și să participe activ în societate după ce au părăsit instituțiile de îngrijire socială, precum instituțiile de tip rezidențial, centrele de plasament temporar sau, casele comunitare pentru copii în situație de risc. Spre deosebire de alți tineri, cei care ies din sistemul de îngrijire nu beneficiază de suport familial și adesea se confruntă cu dificultăți suplimentare în găsirea unui loc de muncă, obținerea unei locuințe și stabilirea unei rețele de sprijin personal și profesional. Acest proces de integrare este complex și depinde în mare măsură de susținerea oferită prin politici sociale, sprijin comunitar și resurse individuale.

Integrare socială a tinerilor ieșiți din sistemul de îngrijire este un concept central în științele sociale, cu implicații profunde în studiul tranziției tinerilor ieșiți din sistemul de îngrijire rezidențială către o viață independentă. Acest proces presupune adaptarea la norme, valori și relații sociale, dar și accesul la resurse și oportunități esențiale pentru participarea activă la viața comunității. De-a lungul timpului, integrarea socială a fost definită din mai multe perspective, care reflectă multidimensionalitatea conceptului. În continuare, vom analiza câteva definiții, evidențiind relevanța lor în contextul cercetării tinerilor care părăsesc sistemul de îngrijire.

În viziunea clasică, É. Durkheim descrie integrarea socială ca un proces prin care tinerii își găsesc un loc funcțional în structurile sociale, economice și culturale ale unei societăți [6]. Pentru tinerii ieșiți din sistemul de îngrijire rezidențială, aceasta implică participarea lor activă în comunitate, accesul la resurse sociale și economice și construirea unor relații stabile și susținătoare, iar nivelul de coeziune și solidaritate ce leagă membrii unei societăți. Acest concept este puternic legat de funcționarea instituțiilor sociale, cum ar fi familia, educația și piața muncii, care facilitează includerea tinerilor în rețele sociale stabile. În cazul tinerilor din sistemul de îngrijire rezidențială, această perspectivă subliniază importanța relațiilor stabile și sprijinului comunitar în crearea unui sentiment de apartenență. Similar, sociologul american T. Parsons definește integrarea ca „un proces prin care indivizii își asumă roluri sociale specifice, contribuind astfel la stabilitatea societății" [7]. Totodată, sociologul francez P. Bourdieu introduce conceptul de *capital social*, care evidențiază rolul rețelelor sociale în

facilitarea accesului la resurse și oportunități [8, pp. 248-251]. Replicând această concepție la tinerii din sistemul de îngrijire rezidențială, aceștia adesea sunt lipsiți de capital social și întâmpină dificultăți în crearea conexiunilor sociale durabile.

O abordare contemporană este oferită de A. Giddens, care redefinește integrarea ca un proces de incluziune activă, punând accent pe adaptarea mutuală între tineri și societate [9]. Din această perspectivă, nu doar tinerii trebuie să se conformeze normelor sociale, ci și societatea trebuie să-și ajusteze structurile pentru a răspunde nevoilor lor. Această idee este aprofundată de N. Fraser, care privește integrarea prin prisma justiției sociale, subliniind necesitatea accesului egal la resurse și recunoașterea demnității tinerilor din medii vulnerabile [10]. În accepțiunea lui **M. Ungar**, integrarea socială implică construirea rezilienței, adică capacitatea tinerilor de a depăși adversitățile prin sprijin comunitar și politici bine structurate [11]. Această abordare pune accent pe factorii de îngrijire și sprijinul individualizat, fiind esențială în cazul tinerilor care ies din sistemul de îngrijire rezidențială, în situația în care aceștia se confruntă adesea cu traume, lipsa rețelelor de sprijin și excluziunea socială. Cercetătorul A. Portes explorează integrarea socială ca interacțiune între barierele structurale și agenția individuală [12]. Barierele structurale sunt obstacolele instituționale și sistemice care împiedică integrarea socială a tinerilor, iar agenția individuală se referă la capacitatea tinerilor de a acționa și de a-și influența propria viață. În cazul tinerilor care părăsesc sistemul de îngrijire rezidențială, succesul integrării depinde atât de sprijinul sistemic, cât și de capacitatea lor de a naviga prin provocările sociale. Pe de altă parte, Z. Bauman, în conceptul său de „Modernitate Lichidă", descrie natura fragilă și schimbătoare a relațiilor sociale contemporane [13]. Pentru tinerii din sistemul de îngrijire rezidențială, această instabilitate poate crea dificultăți suplimentare în stabilirea unor conexiuni sociale durabile și în integrarea în comunitate. Cercertătorul M. Stein abordează integrarea socială în contextul tranziției la viața adultă, subliniind că aceasta depinde de accesul la locuințe, educație, locuri de muncă și sprijin emoțional [14, pp. 273-279]. Acest proces necesită o abordare holistică, adaptată nevoilor individuale ale tinerilor, pentru a preveni excluziunea socială și a facilita autonomia.

Bazându-ne pe aceste definiții, se poate conchide că integrarea socială a tinerilor ieșiți din sistemul de îngrijire rezidențială poate fi caracterizată drept un proces multidimensional, care include: dimensiunea socială (construirea relațiilor și apartenența la comunitate); dimensiunea economică (accesul la locuri de muncă și independență financiară); dimensiunea emoțională (sprijin psihologic și relații afective stabile); dimensiunea politică (drepturile și oportunitățile de participare egală). Fiecare dintre aceste dimensiuni subliniază aspecte esențiale ale integrării și contribuie la o înțelegere comprehensivă a acestui proces.

Părăsirea sistemul rezidențial de îngrijire aduce în viața tânărului mai multe schimbări, de cele mai multe ori acest moment coincide cu absolvirea studiilor la treapta gimnazială și continuarea studiilor la alte trepte. Conform datelor culese prin metoda de cercetare cantitativă, poate fi observat, în Figura 1, faptul că în momentul părăsirii sistemului rezidențial de îngrijire tinerii sunt preocupați de mai multe aspecte problematice, precum: identificarea unui loc de muncă (50%), de locuință după finisarea studiilor (41,1%) și pe durata studiilor (32,1%), de cum se vor descurca după finalizarea studiilor (39,3%), cum să selecteze o profesie în acord cu potențialul, abilitățile și preferințele lor (25%), care sunt prestațiile sociale de care vor beneficia în continuare (17,9%), cum să se înregistreze la medicul de familie (5,4%).

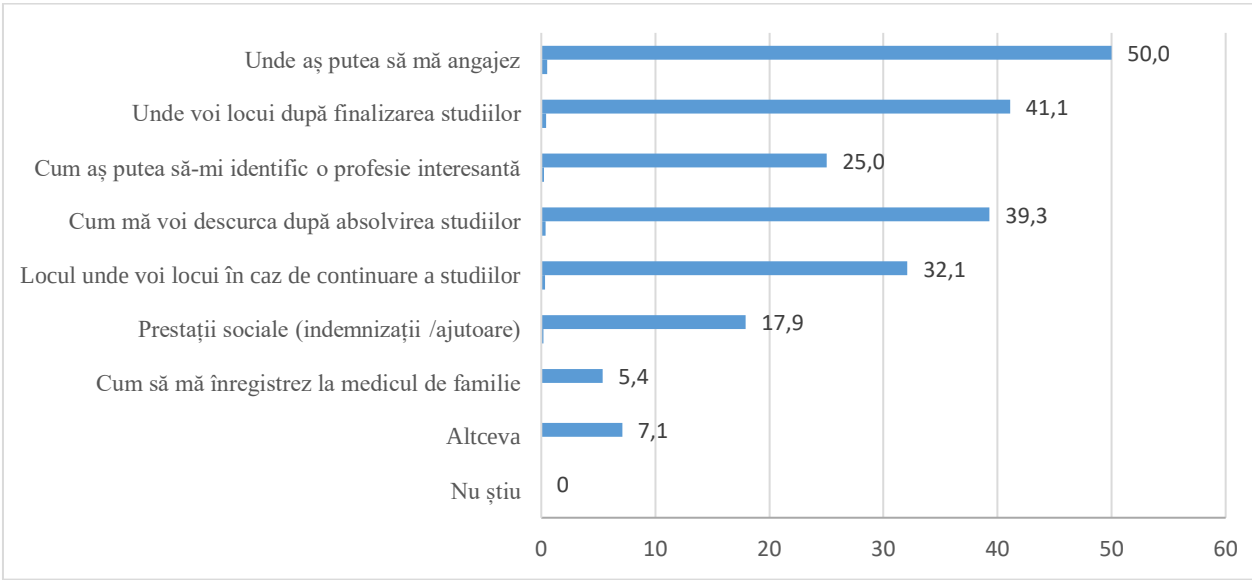

Figura 1. Preocupările tinerilor ocrotiți în sistemul rezidențial, din momentul părăsirii sistemului de protecție, %.

Una din preocupările tinerilor în momentul în care părăsesc sistemul de îngrijire rezidențială este locuința. Această problemă este comună atât pentru tinerii care doresc să își continuă studiile, cât și pentru cei care au finalizat studiile în școlile profesionale și sunt în căutarea unui loc de muncă. Dacă pe durata continuării studiilor marea majoritate a tinerilor locuiesc în căminul instituției de învățământ, în momentul absolvirii școlii profesionale situația este mult mai complicată, deoarece tinerii nu sunt angajați în câmpul muncii, nu au venituri suficiente pentru a acoperi această nevoie, de cele mai multe ori nu au nici experiență în identificarea și gestionarea unei locuințe.

„Nimeni când iese nu poate să aibă chiar posibilitatea de a închiria sau cumpăra o casă. De unde să iei bani ca beneficiar, copil fără părinți, fără nici o susținere din nici o parte ?! Tu te gândești unde să lucrezi ca să ai bani pentru apartament." (FG_tineri).

Alegerea profesiei reprezintă o altă etapă crucială, subliniată de tinerii participanți în cadrul discuțiilor de focus-grup. Unii dintre aceștia au menționat că au făcut o alegere complet conștientă a specialității și, în prezent, sunt foarte mulțumiți de decizia luată *„eu de mică mă gândeam că după clasa a noua o să învăț de bucătar" (FG_tineri).* Alții în schimb nu au avut posibilitatea să aleagă și a trebuit să se conformeze realității și să selecteze meserii pe care nu le cunoșteau, dar care erau disponibile în momentul admiterii: *„Mă gândeam să aleg specialitatea de bucătar, dar când m-am dus deja nu mai erau locuri. După asta m-am gândit la cea de brutar, dar tot nu mai erau locuri și au rămas doar de cofetar. Eu nici nu știam ce-i asta cofetar și am rămas deja de cofetar că altceva nu mai era nimic. Puțin îmi place, începe să-mi placă"* (*FG_tineri*). O parte dintre tinerii participanți în cadrul discuțiilor de focus-grup au exprimat dorința de a-și dezvolta cariera profesională, ceea ce, într-o primă etapă, ar presupune continuarea studiilor la niveluri educaționale mai înalte. Totuși, pentru o parte dintre aceștia, acest obiectiv nu este realizabil în lipsa resurselor financiare *„mulți studenți vor să-și continue studiile, dar nu au posibilitatea, ori că notele sunt mici sau că nu pot achita studiile."* (*FG_tineri*)

Un alt aspect de dificultate menționat de tineri sunt sursele financiare limitate pentru a acoperi costurile curente necesare întreținerii pe durata studiilor. Acest aspect se complică și mai mult la finalizarea studiilor. *„Odată ce am părăsit ...., eu am avut nevoie de bani, pentru*

că m-am dus cu 200 de lei ca să zic așa, nu făceam nimic în oraș. Unica nevoie erau banii, atât."(FG_tineri)

Datele studiului cantitativ, reflectate în Figura 2, confirmă nevoia resurselor financiare, în condițiile în care principala sursă de venit a tinerilor care părăsesc sistemul rezidențial de îngrijire sunt prestațiile sociale de diferit tip: 87,5% beneficiază de bursă socială sau de merit, iar 57,1% beneficiază de indemnizații lunare. Mai puțin de o jumătate din tineri (46,4%) beneficiază de bani de buzunar, în timp ce de suport financiar din partea rudelor (17,9%), salariu (14,3%) și pensie alimentară (8,9%) beneficiază într-o măsură mai mică.

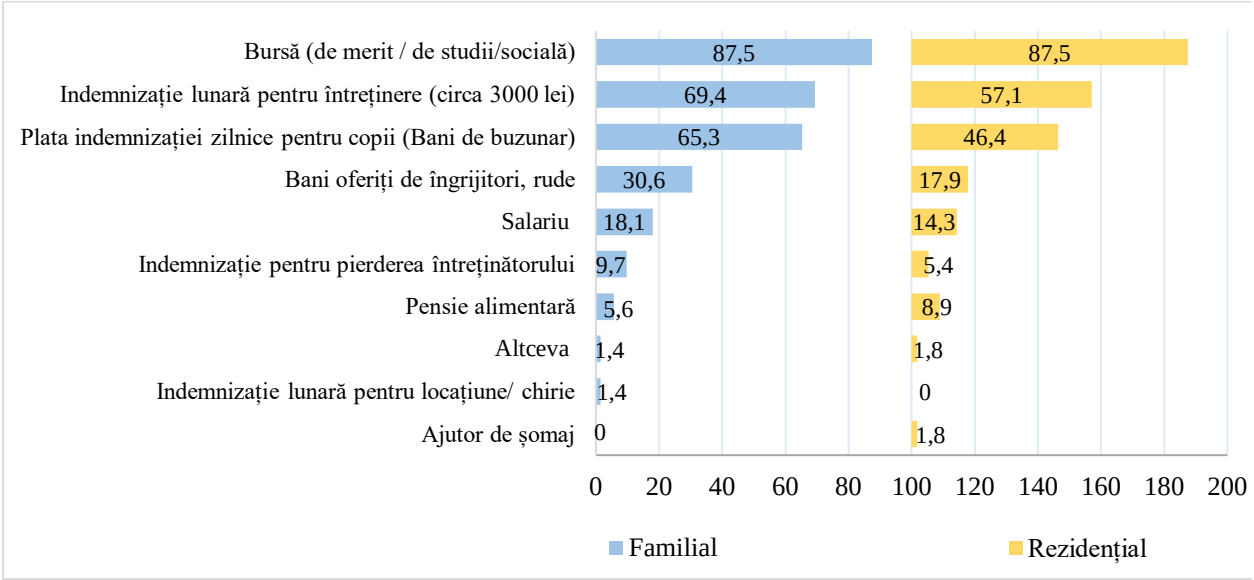

Figura 2. Sursele de venit ale tinerilor care părăsesc sistemul rezidențial de îngrijire, %.

Mai mulți tineri participanți la discuțiile de focus-grup au semnalat că se confruntă cu dificultăți legate de asistența medicală. De multe ori tinerii nu cunosc în ce instituție medicală ar putea beneficia de asistență medicală. Aceștia au relatat că medicii din orașul în care locuiesc nu le oferă asistență medicală, îndrumându-i în schimb să se adreseze medicilor din localitățile de proveniență. Această situație complică accesul tinerilor la îngrijiri medicale adecvate, afectându-le sănătatea.

„Da, să fie servicii mai bune de sănătate, pentru că acolo unde suntem îndreptați, acolo mergem și nu e chiar bine. La mine e problema cu medicul. Celor care vin din sat le e greu să meargă înapoi în sat la medicul de familie." (FG_tineri)

Datele cercetării cantitative realizate relevă că cel mai frecvent tinerii se adresează după asistență medicală, personalului medical din instituția de învățământ unde îți continuă studiile (62,5%). În cazul în care instituția nu are un personal medical, tinerii se adresează la medicul de familie din localitatea în care domiciliază (46,4%) sau apelează serviciul de urgență 112 (42,9%). Datele din Figura 3 indică asupra faptului că lipsa resurselor financiare afectează accesul la servicii medicale contra plată – doar 3,6% din tineri au apelat la serviciile medicale contra cost.

O altă dificultate menționată de tinerii participanți în cadrul discuțiilor de focus-grup este lipsa vizei de reședință, care afectează atât accesul la servicii medicale, cât și alte servicii, cum ar fi perfectarea actelor de stare civilă, angajarea în câmpul muncii, limitându-le accesul pe piața muncii. În același timp, dificultățile de perfectare a actelor de stare civilă în lipsa unei reședințe permanente afectează exercitarea drepturilor lor civice: nu pot participa la vot și nu pot participa în procese decizionale care îi afectează direct.

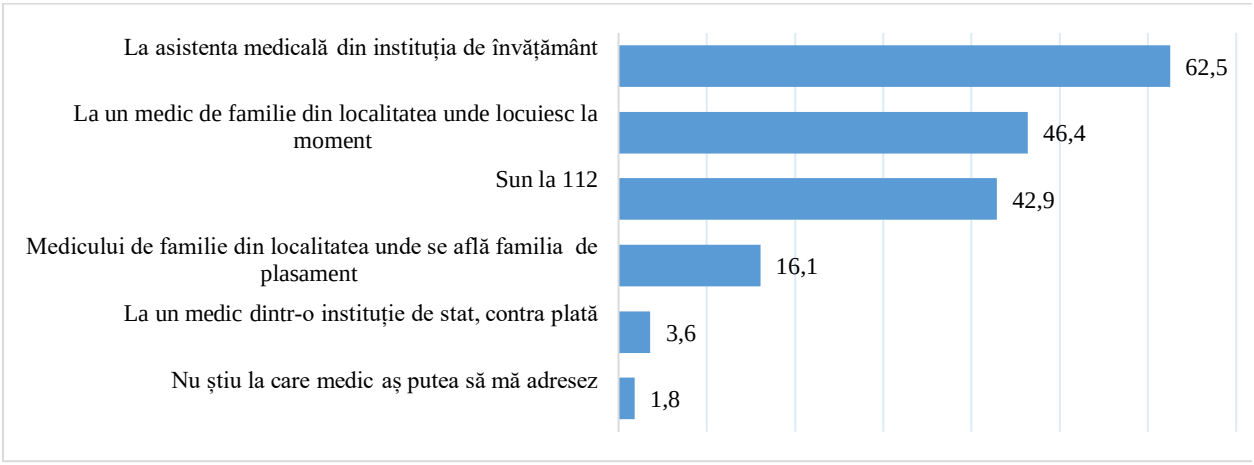

Figura 3. Instituții la care apelează tinerii după servicii medicale, %.

„Lipsa de viză de reședință. Asta e cea mai mare problemă. Trebuie să votăm, noi suntem cumva cetățeni așa în vid. M-am confruntat la colegiu cu foarte multe probleme în care îmi ziceau: „măi, dar tu cine ești", pentru că nu aveam viză de reședință, nu eram nimeni, nu puteam vota." (FG_tineri)

Tinerii în momentul pregătirii părăsirii sistemului de îngrijire au nevoie de suport emoțional, atât la transferul din instituția de plasament către instituția de învățământ, cât și pe durata studiilor sau după absolvirea lor. Suportul oferit de persoanele care s-au aflat în imediata apropiere pe durata aflării în instituția de îngrijire, suportul asistentului social sau al altor specialiști este foarte important pentru tineri. O bună parte a tinerilor participanți în cadrul discuțiilor de focus-grup au menționat lipsa acestui suport atât în momentul tranziției, cât și pe durata studiilor.

„Eu când am ieșit din casă, mie nu mi s-a oferit sprijin moral."... „Eu m-am adresat la asistentul meu social și el cumva a rămas neinteresat de problema mea și de atunci nu mai răspunde." (FG_tineri)

„Să fie cineva să-l susțină și să-i explice, să îl ajute cu ceea ce are nevoie, să îi deschidă ochii asupra la ceea ce face sau ce vrea să facă, ca să îi fie bine." (FG_tineri)

Datele cercetării cantitative, reflectate în Figura 4, permit identificarea tipurilor de suport de care au beneficiat tinerii ce au părăsit sistemul de îngrijire în procesul lor de integrare socială. Datele indică faptul că aceștia au beneficiat în cea mai mare măsură de: acces la educație (76,8%), acces la sprijin financiar sau material (69,9%), sprijinul asistentului social (67,9%), acces la servicii medicale (60,7%), acces la prestații sociale (60,4%). Circa jumătate din tineri au beneficiat de suport din partea angajaților instituțiilor rezidențiale (55,4%) și suport legal (53,6%). Într-o pondere mai mică aceștia au participat la ateliere de orientare în carieră (42,9%), au avut acces la locuințe (41,1%), au beneficiat de consiliere (33,9%) și de sprijinul altor tineri care au trecut prin experiențe de viața similară (21,4%).

Tinerii care părăsesc sistemul de îngrijire rezidențială sunt un grup de tineri mai vulnerabili care au trecut prin diverse experiențe de viață traumatizante și au nevoie de suport și servicii sociale pentru se integra în societate.

La moment, intervenția în cazul acestei categorii de beneficiari este sub forma prestațiilor sociale garantate de stat și a serviciilor sociale, oferite în mare parte de organizațiile nonguvernamentale. Serviciile prestate de instituțiile de stat sunt în proces de pilotare, cu statut de excepție. În anul 2017, prin ordinul nr.813 a ministrului Muncii și Protecției Sociale (MMPS) a demarat pilotarea serviciilor pentru tineri care ies din sistemul

serviciilor sociale de plasament în mun.Chișinău: „*Centrul de resurse și suport pentru tineri*” și „*Locuința socială asistată*”, cu suportul financiar oferit de A.O. Lumos Foundation Moldova.

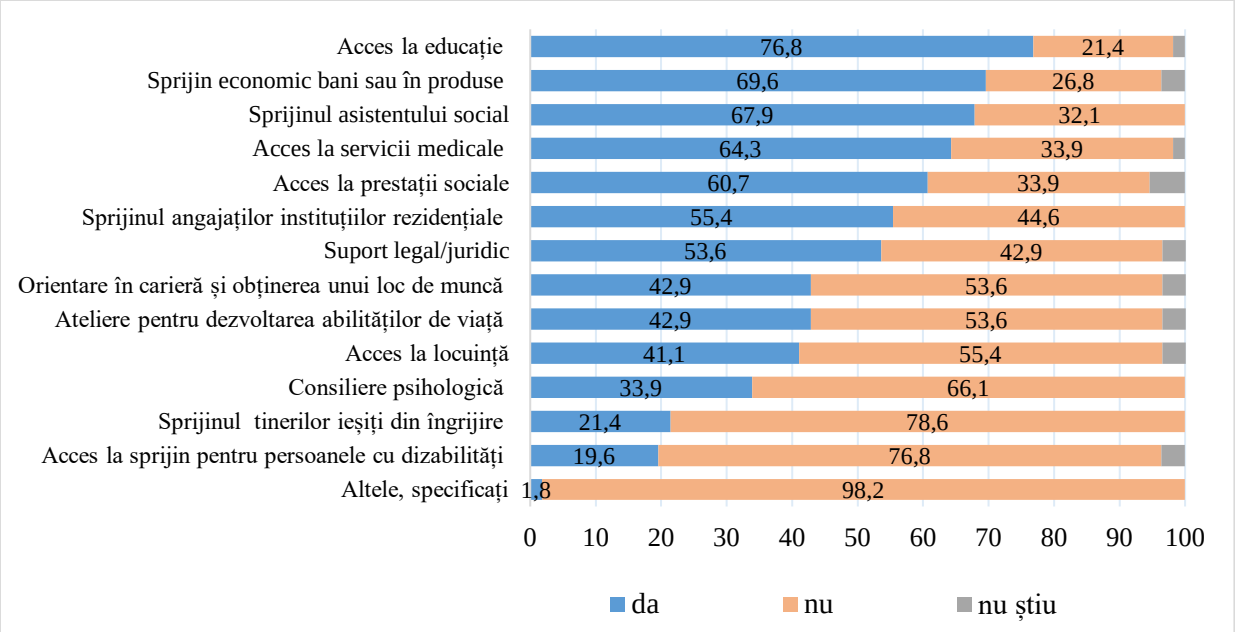

Figura 4. Tipuri de asistență oferite tinerilor care părăsesc sistemul rezidențial de îngrijire, %.

Centrul de resurse și suport pentru tineri este un serviciu specializat multifuncțional care asigură facilitarea incluziunii socioprofesionale a tinerilor ieșiți din instituțiile rezidențiale și servicii sociale de plasament în perioada de tranziție de la sistemul de îngrijire la viața independentă, prin informare, orientare profesională, consiliere și organizarea eficientă a timpului liber. Beneficiari sunt tineri cu vârsta 16-23 ani ieșiți din instituțiile rezidențiale și de plasament. Capacitatea centrului este 20-40 tineri, având activități cu program de zi. Serviciile prestate în cadrul Centrului sunt:

- informare;
- asistență psihologică (consiliere individuală, de grup, mediere);
- asistență juridică (informare, consiliere juridică, mediere, suport la perfectarea actelor);
- asistență socială (consiliere socială, formarea deprinderilor de viață, mediere);
- asistență educațională (consiliere, instruire pentru ghidare în carieră, orientare vocațională);
- asistență în procesul de angajare în câmpul muncii (consultanță, mediere);
- mentorat;
- coordonarea activităților sociale pentru tineri (asistență individuală a tinerilor, locuință socială asistată).

Locuința socială asistată este un serviciu social specializat de găzduire temporară a tinerilor care au absolvit sistemul rezidențial de îngrijire și nu dispun de un loc de trai sau se confruntă cu probleme de cazare. Beneficiarii serviciului sunt tineri cu vârsta 16-23 ani absolvenți ai instituțiilor rezidențiale care își continuă studiile în instituții de învățământ secundar, profesional tehnic și superior. O altă categorie sunt tinerii încadrați în câmpul muncii și în ambele cazuri nu dispun de locuință și au nevoie de suport adițional pentru a duce o viață independentă. Serviciile oferite sunt:

- cazare temporară;
- cazare de urgență;
- consiliere și asistare specializată (psihologică sau juridică);
- dezvoltarea deprinderilor de viață independentă;
- suport informațional și consiliere în vederea continuării studiilor sau identificării unui loc de muncă;
- informare;
- facilitarea accesului la servicii din comunitate (educație, sănătate, cultură).

Prin serviciul de Locuință socială asistată poate fi prestată referirea tinerilor care au părăsit sistemul de îngrijire rezidențială către servicii specializate.

Argumentul principal pentru lansarea acestor servicii a fost faptul că tinerii care ies din sistemul de îngrijire rezidențială sunt asistați sporadic, preponderent de ONG-uri prin servicii de informare, consultanță, orientare profesională, consiliere, cazare temporară, suport financiar. Inițiativa de pilotare a acestor servicii a reprezentat un pas important în asistarea tinerilor care părăsesc sistemul rezidențial, dar care până la moment nu a depășit faza de pilotare, fapt ce creează dependență de resursele financiare ale ONG-urilor. Asigurarea durabilității serviciilor sociale pilotate necesită aprobarea cadrului normativ de organizare și funcționare a serviciilor în cauză și alocarea resurselor necesare de la bugetul de stat.

Suportul la angajare reprezintă un tip necesar pentru categoria tinerilor din sistemul rezidențial. În acest caz serviciile prestate prin intermediul Agenției Naționale pentru Ocuparea Forței de Muncă (ANOFM) prin structurile teritoriale pot contribui la facilitarea angajării în câmpul muncii. Conform art. 23, al. 3, lit. a) a Legii nr.105/2018 cu privire la promovarea ocupării forței de muncă și asigurarea de șomaj [15], tinerii cu vârsta cuprinsă între 16 și 18 ani rămași fără ocrotire părintească reprezintă o categorie de șomeri care necesită suport suplimentar pentru integrarea pe piața muncii. În acest context, legea stabilește dreptul acestora de a beneficia de măsuri active de ocupare. Totuși, un aspect important al reușitei pe piața muncii îl reprezintă ghidarea corectă în carieră, or Agenția Națională pentru Ocuparea Forței de Muncă prin structurile teritoriale sunt responsabile de realizarea ghidării în carieră, prin informare cu privire la profesii și specificul pieței muncii, autocunoaștere și consultanța pentru decizii în carieră (art. 26). Totodată, această categorie de tineri pot fi eligibili pentru măsuri active de ocupare, precum formarea profesională, subvenționarea locurilor de muncă și crearea/adaptarea locului de muncă, stimularea mobilității forței de muncă. Datele ANOFM pentru anul 2023 evidențiază un număr de 77 de tineri de 16-18 ani care au părăsit sistemul de îngrijire s-au înregistrat în calitate de șomeri, într-o pondere mai mare fiind femeile (54,5%). În rezultat, circa 31% au fost plasați în câmpul muncii, dintre care 13 tineri în cooperare cu structurile teritoriale de ocupare a forței de muncă și 11 s-au angajat de sine stătător. Totodată, 4 tineri au fost înmatriculați la o formă de învățământ cu frecvență. De măsura activă de subvenționare a locurilor de muncă au beneficiat 5 tineri (6,5% din tinerii din categoria dată) [16, p. 7]. Datele prezentate relevă o accesare modestă a serviciilor ANOFM de către tinerii care părăsesc sistemul de îngrijire, care poate fi explicată prin lipsa cunoștințelor despre aceste servicii sau prin lipsa ghidării acestora către structurile teritoriale de ocupare a forței de muncă.

O măsură de sprijinire a tinerilor din sistemul rezidențial este suportul financiar sub forme de prestații. Spectrul de prestații sociale de care pot beneficia acești tineri sunt reglementate din două acte normative: Hotărârea Guvernului nr.1278/2018 pentru aprobarea Regulamentului cu privire la indemnizațiile pentru creșterea și îngrijirea copiilor plasați în

serviciile de tutelă/curatelă, asistență parentală profesionistă și casă de copii de copii de tip familial [17] și Hotărârea Guvernului nr. 132/2020 pentru aprobarea Regulamentului privind modul de stabilire și plată a indemnizațiilor pentru anumite categorii de copii și tineri [18].

Conform Regulamentului cu privire la indemnizațiile pentru creșterea și îngrijirea copiilor plasați în serviciile de tutelă/curatelă, asistență parentală profesionistă și casă de copii de copii de tip familial [17] copiilor/tinerilor beneficiari ai acestor servicii, pot acordate următoarele tipuri de indemnizații: unică la plasament, lunară, zilnică, unică la împlinirea vârstei de 18 ani, în funcție de statutul acestora. Acest tip de suport este oferit copiilor plasați în casele comunitare pentru copii în situație de risc, centre de plasament pentru copii separați de părinți începând cu clasa a cincea până la atingerea vârstei de 18 ani. Conform datelor publicate de MMPS din aprilie 2024 [19], cuantumul indemnizațiilor zilnice au crescut de la 20 lei la 23 lei în zilele obișnuite, de la 167 lei la 190 lei în ziua de naștere a copilului și de la 119 lei la 135 lei în zilele de sărbătoare, ceea ce reprezintă o creștere între 13-15 puncte procentuale.

În corespundere cu Regulamentul privind modul de stabilire și plată a indemnizațiilor pentru anumite categorii de copii și tineri, prestațiile sociale sunt acordate tinerilor pentru a sprijini tranziția către viața independentă, asigurându-le un suport financiar esențial pentru acoperirea nevoilor de bază. Copiii/tinerii care pot beneficia de suport monetar sunt cei care au statutul de copil rămas temporar fără ocrotire părintească sau statut de copil rămas fără ocrotire părintească care sunt plasați în școală de tip internat, domiciliați pe teritoriul Republicii Moldova, care își fac studiile la nivelurile de învățământ 3-7. Indemnizațiile sunt stabilite în acord cu minimul de existență pentru anul precedent. Tinerii pot beneficia și de indemnizație lunară pentru locațiunea locuinței sau pentru editarea tezelor în ultimul an de studii, date prezentate în Tabelul 1.

Tabelul 1

Cuantumul indemnizațiilor pentru unele categorii de copii și tineri, *în lei*

Indemnizația lunară pentru întreținere în cuantum egal cu minimul de existență pentru anul precedent, în conformitate cu datele calculate de Biroul Național de Statistică	**Indemnizație unică la absolvirea școlii de tip internat**	**Indemnizație lunară pentru locațiunea locuinței**	**Indemnizație unică pentru efectuarea cercetărilor și editarea tezei și lucrării de diplomă în ultimul an de studii**	**Indemnizație unică la absolvirea instituției de învățământ**
Pentru copii cu vârsta de 7 - 17 ani, în cazul **elevilor/ studenților** cu vârsta de până la 18 ani / persoanele apte de muncă, în cazul **elevilor /studenților** cu vârstă mai mare de 18 ani.	5000	500	500	10000

Analiza desfășurată atestă că serviciile existente la moment acoperă doar o parte a nevoilor cu care se confruntă tinerii în momentul părăsirii instituției de îngrijire. Din acest considerent sunt necesar a fi dezvoltate programe de dezvoltare a abilităților de viață independentă, programe de orientare în carieră, servicii de suport în momentul transferului din instituția de protecția în instituția de învățământ și din instituția de învățământ către

angajare în câmpul muncii, programe de suport financiar pe durata transferului, mentorat din partea asistentului social comunitar. Toate acestea vor necesita amendarea cadrului normativ național și dezvoltarea celui instituțional.

5. Concluzii

Studiul desfășurat a stabilit spectrul de dificultăți cu care se confruntă tinerii în momentul părăsirii sistemului de îngrijire, printre care:

- lipsa spațiului locativ;
- lipsa resurselor financiare;
- dificultăți în selectarea unei profesii și identificarea unui loc de muncă;
- lipsa vizei de reședință;
- dificultăți în accesarea serviciilor medicale.

Toate acestea creează impedimente în realizarea procesului de integrare socială.

În scopul facilitării integrării sociale a tinerilor care părăsesc sistemul rezidențial de îngrijire este necesară:

- adaptarea activităților din instituțiile rezidențiale cu un accent sporit pe pregătirea tinerilor pentru părăsirea sistemului;
- desemnarea persoanelor de sprijin pentru tineri, care ar facilita procesul de integrare socială;
- consolidarea cooperării dintre instituțiile rezidențiale cu instituțiile medicale, de educație, de ocupare pentru facilitarea tranziției la viața independentă a tinerilor;
- amendarea cadrului normativ prin diversificarea serviciilor sociale care ar oferi suport și favoriza integrarea cu succes a tinerilor.

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Bibliografie

1. Evans, P.; Raport de evaluare. Implementarea Strategiei naționale și planului de acțiuni privind reforma sistemului rezidențial de îngrijire a copilului în Moldova pe anii 2007-2012. UNICEF, Dira-Ap, Chișinău, Republica Moldova, 2013, 114 p.
2. Ministerul Muncii și Protecției Sociale. Raportul cu privire la copiii din sistemul rezidențial în anul 2023. Disponibil on-line: https://social.gov.md/wp-content/uploads/2024/04/Raport-cu-privire-la-copiii-din-sistemul-rezidential-in-anul-2023.pdf (accesat la 28.11.2024).
3. Ministerul Muncii și Protecției Sociale. Raportul statistic anual nr 103A-Copii din sistemul rezidențial pentru anul 2021. Disponibil on-line: Raport-CER-103-A_Copiii-din-sistemul-rezidential_pentru-2021c.pdf (accesat la 08.12.2024).
4. Ministerul Muncii și Protecției Sociale. Raportul statistic anual nr 103A-Copii din sistemul rezidențial pentru anul 2022. Disponibil on-line: Raport-statistic-anual-nr.-103-A-Copii-din-sistemul-rezidential-in-anul-2022.pdf (accesat la 08.12.2024).
5. Encyclopedia of Quality of Life and Well-Being Research, Springer Science and Business Media Dordrecht, 2014. Disponibil on-line: https://link.springer.com/referenceworkentry/10.1007/978-94-007-0753-5_2769#citeas (accesat la 28.11.2024).
6. Durkheim, E.; The division of labor in society. Disponibil on-line: http://fs2.american.edu/dfagel/www/Class%20Readings/Durkheim/Division%20Of%20Labor%20Final%20Version.pdf (accesat la 02.11.2024).
7. Parsons, T. The social system. England, 1951. Disponibil on-line: https://voidnetwork.gr/wp-content/uploads/2016/10/The-Social-System-by-Talcott-Parsons.pdf (accesat la 06.11.2024).
8. Bourdieu, P. The forms of capital. Disponibil on-line: https://www.ucg.ac.me/skladiste/blog_9155/objava_66783/fajlovi/Bourdieu%20The%20Forms%20of%20Capital%20_1_.pdf (accesat la 02.11.2024).
9. Giddens, A.; Modernity and self-identity: self and society in the late modern age. Polity Press, 1991, 245 p.

10. Fraser, N.; From redistribution to recognition: Dilemmas of justice in a 'postsocialist' age. In: *The New Social Theory Reader*, Routledge, London, UK, 2008, 464 p.
11. Ungar, M. Resilience Across Cultures. *British Journal of Soc*ial *Work* 2008, pp. 218–235. doi:10.1093/bjsw/bcl343.
12. Portes, A. Social Capital: Its Origins And Applications In Modern Sociology. *Annual Review of Sociology* 1998, 24, pp. 1-24.
13. Bauman, Z. *Liquid Modernity*. Polity Press, Cambridge, UK, 2020, 232 p.
14. Stein, M. Research review: Young people leaving care. *Child and Family Social* 2006, 11(3), pp. 273–279.
15. Legea Nr 105/2018 cu privire la promovarea ocupării forței de muncă și asigurarea de șomaj. In: *Monitorul Oficial al Republicii Moldova*, 2018, nr. 295-308, art.448.
16. Raport de activitate al Agenţiei Naţionale pentru Ocuparea Forţei de Muncă pentru anul 2023. Disponibil on-line https://anofm.md/view_document?nid=20702 (accesat la 23.03.2025)
17. Hotărârea Guvernului nr. 1278/2018 pentru aprobarea Regulamentului cu privire la tipurile, cuantumurile și condițiile specifice de acordare a indemnizațiilor pentru creșterea și îngrijirea copiilor plasați în serviciile de tutelă/curatelă, asistență parentală profesionistă și casă de copii de copii de tip familial. In: *Monitorul Oficial al Republicii Moldova,* 2018, nr. 513-525, art. 1359.
18. Hotărârea Guvernului nr. 132/2020 pentru aprobarea Regulamentului privind modul de stabilire și plată a indemnizațiilor pentru anumite categorii de copii și tineri Republica Moldova. In: *Monitorul Oficial al Republicii Moldova,* 2020, nr. 84, art. 267.
19. Comunicat de presă Ministerul Muncii și Protecției Sociale, din data de 06.03.2024. Disponibil on-line: https://social.gov.md/comunicare/indemnizatiile-zilnice-pentru-copiii-plasati-in-servicii-de-plasament-vor-fi-majorate-cu-134/ (accesat la 28.11.2024).

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CHALLENGES OF EMPOWERING LOCAL COMMUNITY: THE CASE OF ADDIS ABABA POLICE COMMISSION

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Abstract. This study probes the challenges to implement the strategies of community policing in empowering the community at *Ketena* 09, Addis *Ketema* Sub city. The sub city was selected after a comparison was made among the eleven sub-cities of police in the metro Politian. To make the comparison objective, the study used the crime statics reported in the past three years. Qualitative method was the strategy employed to meaning data from in-depth interview solicited from 22 key informants selected based on the eligibility criteria. Six residents, seven members of the ketene advisory council, and nine police officers were finally identified. Data gathered from in-depth interviews were analyzed thematically. The findings indicate that the community olicing structure begins from family police at the grass roots level and hieratically grows to block and ketene council. The challenges are misusing the community policing philosophies for political gain, labeling and silencing critical voices, misusage of power and disempowering the lower structure where the police are there to deliver services. The study recommends the government officials, police chiefs, and community policing boards to review the policies, operational procedures, and structural arrangements and develop research informed frameworks to free the implementation from unnecessary grounds and political influences.

Keywords: *Community Empowering, Community Policing, Ketena Council, Political Benefits.*

Rezumat. Acest articol analizează provocările de implementare a strategiilor de poliție comunitară în împuternicirea comunității din Ketena 09, orașul Addis Ketema, care a fost selectat după ce s-a făcut o comparație între cele unsprezece secții ale poliției din metroul Politian. Pentru a face comparația obiectivă, studiul a folosit statisticile criminalității raportate în ultimii trei ani. Metoda calitativă a implicat strategia utilizată pentru a însemna datele din interviul aprofundat solicitat de la 22 de informatori cheie selectați pe baza criteriilor de eligibilitate. În cele din urmă, au fost identificați șase rezidenți, șapte membri ai consiliului consultativ pentru comunitatea din Ketena 09 și nouă ofițeri de poliție. Datele culese din interviuri aprofundate au fost analizate tematic. Constatările indică faptul că structura poliției comunitare începe de la poliția de familie la nivel de bază și crește hieratic până la bloc și consiliu orășenesc. Provocările sunt: folosirea greșită a filozofiei de poliție comunitară pentru câștiguri politice, etichetarea și reducerea la tăcere a vocilor critice,

folosirea abuzivă a puterii și dezabilitarea structurii inferioare, în care poliția are datoria de a furniza servicii. Studiul recomandă oficialilor guvernamentali, șefilor de poliție și consiliilor de poliție comunitară să revizuiască politicile, procedurile operaționale și aranjamentele structurale, să dezvolte cadre bazate pe cercetare pentru a elimina motivele inutile și influențele politice.

Cuvinte cheie: *Împuternicirea comunității, poliția comunitară, consiliul Ketena, beneficii politice.*

1. Introduction

Modern policing is the product of numerous reforms and changes made to modernize the police service since the medieval period. The social, economic, political, and technological advancements contribute to the development of police professionalism [1]. The ancient Roman era had considerable influence and is a trajectory on modern-day policing to the ancient period recorded in history. In England, Henry Fielding Bow Street Runner's establishment in 1748 and Peelian reform contributed to the development of modern policing [2]. Sir Robert Peel, a pioneer and the "father of modern policing" proposed a return to the Anglo-Saxon principle of individual community for preserving law and order [2]. The creation of the police wanted to limit the political and military nature of the new police, but the economic, political, and social nature was instrumental in helping them to achieve their aim [3].

Policing is characterized by crime control as the primary function, a centralized efficient organization, professional remoteness from the community, and emphasis on preventive motorized patrol and rapid response to crime [4]. The poor state of police-community relations, the need for a more diverse police workforce, the ineffectiveness of traditional police strategies, and the need for more flexibility within police organizations are at the forefront in police practices [4]. The interaction of police with the community through community policing, the only platform bringing both the police and the community on board to mutually identify and solve community problems.

The police community relation develops only the degree of engagement of the community in decision making. Partnership between police and the community refers to the joint working arrangements where the police, the business community, and other stakeholders collaborate in all steps of designing and implementing the strategies crafted to draw the concerted efforts in combating crime [5]. The main objective of this type of partnership is to determine community, police, and other agencies' needs through consultation to promote accountability, transparency, and effectiveness [6]. Mabunda [5] argued that applying the community policing model in the police practice will lead to a greater sense of partnership between the community and various units within the Police department. Community policing creates platforms and social networks to address the needs of a community. It is impossible to tackle crime solely by the police or any other single agency and maintain a holistic and partnership approach based on shared effort, information, resources, and expertise among agencies [5]. Crime problems are controlled by forming partnerships with groups, individuals, organizations, and other government agencies within the community [7]. In support of the above explanations, Mabunda [8] has further described that crime goes down when citizens, police, and other organizations work together in partnership. It requires commitment from both sides to make the partnership successful. Community empowerment and active participation are essential to mitigate the scarcity of

divers' resources gathering from the neighborhood community to solve crime and social problems.

The global movement in policing requested the global police to adopt community policing principles to be responsive against terrorism, trafficking in persons, and drug abuse. Community policing is a recent philosophy of policing urging police departments to establish collaborative partnerships to address crime and safety-related concerns at the grassroots level [9]. Community policing is an alternative approach to the conventional model of policing, which narrowly defines the role of police in terms of law enforcement and order maintenance [10]. Broadening the mandate of the police to assume a more proactive role is placed at the heart of the philosophy of community policing [11-12]. Accordingly, police are expected to apply strategies aimed at improving neighborhood conditions to enhance the quality of life of citizens in both rural and urban areas. However, achieving these goals demands the police establish a new relationship with the public by empowering community groups and individual citizens to participate in identifying and solving community problems.

Community partnership, problem-solving, and organizational transformation are essential components in the philosophy of community policing. Partnership refers to joint working arrangements whereby the police, the business community, the community in each neighborhood, and other stakeholders collaborate to design and implement strategies aimed at combating crime [5]. The main objective of this type of partnership is to determine the community, police, and other agencies' needs through consultation to promote accountability, transparency, and effectiveness. Mabunda [5] argued that the implementation of community policing will lead to a greater sense of partnership between the community and various units within the police department. Problem-solving, on the other hand, involves an interactive process wherein police and communities work jointly to identify underlying causes and solutions to community problems [11,13-14]. Problem-solving, then, can be viewed as a process of intervening to alter, change, or eliminate the exhibited problem [15]. Establishing partnerships and solving problems need structural transformation and change of operational procedures in the very nature of the structure of police departments. Organizational transformation in this context implies decentralizing the police service, granting bottom-line officers to exercise meaningful power, and receiving input from citizens.

Community policing has a brief history in Ethiopia. The philosophy is introduced to meet one of the objectives of partnering the police with the community to put the concerted effort of both parties to protect the living neighborhood from criminals, anti-social behaviors, and anomalies. On the one hand, different programs conducted to bring a holistic change in police services were in line with the Ethiopian Police Doctrine graduated four years ago to establish consensus on shared values to fundamentally prevent crime based on public participation. The presence of the doctrine especially helped to avoid misconceptions and misunderstandings about the police and future trends of policing partnering the community in identifying and solving the community problems. Addis Ababa police adopted the community policing model as a leading policing strategy to meet public demand and attain service improvement. The aim is to encourage the public to actively participate in decision-making processes to alleviate social problems and maintain order in putting efforts with the area police.

The community policing structure in Addis Ababa Police Commission (AAPC) at sub-city level includes three components; family polices, block structure, and *Ketena*/district advisory council. The family police constitute the smallest unit in community policing

implementation structure at *Ketena* level. The very reason of instituting 'the family' police in the structure of community policing to decentralize the police service down to the household level in order to facilitate a setting where problems are resolved without causing harm to the very family structure. Devolving actual power down to ordinary citizens is the other rationale of instituting family police in the implementation framework to document problems encountered and corrective measures taken at the household level. The block structure is in place to help the implementation of the community policing programs at the neighborhood level and it is responsible for mobilizing residents at block level. The advisory council is mandated to coordinate the efforts of residents while ensuring local peace and stability. This structure involves in mobilizing residents to raise funds relevant to building community policing centers at the *Ketena* level and identifying and prioritizing major community concerns at the Ketena level. The council serves as a liaison between community residents and the local administration. Community policing structures, particularly the *Ketena* advisory council, are crucial in making the police service accessible to ordinary citizens at the grassroots level. Second, the *Ketena* advisory council helps provide residents with the opportunity to control the way they are policed. The advisory council enabled residents to question the quality of services that the police provide at the *Ketena* level.

Though community policing receives high attention across the police departments in the country, the studies conducted to understand the role played by the community and police partnership are rare and inadequate. Hence, most of the knowledge about multiple aspects of community policing in Ethiopia refers to the implementation rather than examining the relationships between police and the community. The official reports produced by the police departments do not depict the actual status of community policing since the reports lack facts on the ground and empirically supported evidence. Similarly, the existing empirical studies are not enough to present the status of community policing across the country. Focusing on a smaller geographic unit, this study explored the challenges of police to achieve the community policing goals and objectives in Addis Ababa, Ethiopia. More specifically, the study focused on examining the structural barriers demotivating the active engagement of the public in identifying and solving the problems of crime in the neighborhood together with the area police.

This article sheds light on the practical implication of community policing to understand the contribution posed by to reduce the trend of crime and public fear of crime in the study area. It is with this knowledge and understanding that the community and police align in partnership to safeguard and protect citizens from crime and unlawful deeds. To this end, the study provides valid information on the gaps not discovered in another research. The findings further contribute new knowledge to the existing ones empowering the community to participate in community policing practices meaningfully and actively. On the other hand, the results bring practitioners, policymakers, and researchers together to discuss the prospect of policing to fundamentally overhaul the police service to ensure citizens' voices and priorities are appropriately represented.

2. Materials and Methods

The study employed qualitative design. Qualitative design is preferred when little is known about the research problem. This is due to community policing is not well studied, and little account of empirical inquiries exists in Ethiopia. Besides, qualitative approach is preferable to harvest an in-depth account of a phenomenon, or issues forwarded for a

phenomenon. Thus, this study intends to widely explore the challenges restricting the implementation of community policing introduced in the area police to prevent crime through fostering partnership between police and the area community.

This study was conducted in *Ketena* 09, located in woreda/district 08 of Addis Ketema sub-city, one of the eleven sub-cities in Addis Ababa. This area is one of the busiest areas in the city and known for hosting Africa's largest open-air market, *Merkato*. The neighborhood is well-known for its high volume of crime and in the top priority lists asking numerous interventions to reverse the crime rates. Because of the crime situation, for instance, *Ketena* 09 was among the first few neighborhoods in Addis Ababa selected to pilot the implementation of community policing. Accordingly, the neighborhoods and the area residents are said to be lucky to have the project. Consequently, community residents and groups in *Ketena* 09 are obviously in a better position to observe the challenges exhibited during the program.

One of the mechanisms to ensure the research validity was the careful procedure in choosing informants for the study. To select participants for interviews, this study employed purposive sampling to include informants with high expertise, meeting the minimum service of two years in Ketena's community policing office and three years in the community-based associations and advisory council. After the overdue selection, 22 informants (six community residents, seven members of the advisory groups, and nine police officers) were selected for interview.

Interviews were conducted in places and times chosen by the study participants. Special attention was paid to the interview setting to keep the study participants focused and attentive. The interview lasts one hour and thirty minutes. The data gathered from key informant interviews were analyzed thematically. The interview was stopped after checking the accuracy and level of saturation are preserved. Furthermore, the interview data were initially classified into the steps of data cleaning, checking the relevance, categorizing various proverbs in the form of narrations, and giving meaning. It helps to avoid unexpected biases that might be errors in the selection of the informants. Finally, themes and meanings were extracted to mark the information clearly and remarkably.

3. Results

This article assessed different challenges in implementation of community policing.

There is an agreed consensus among the study participants regarding the relevance of the government structures at the grassroots level in resolving community issues to safeguard the area from crime and causes of crime. The study participants argued that the willingness of the local government administration to grant official recognition to different voluntary youth associations operating in the study area is paramount. However, significant numbers of participants are skeptical of the neutral and honest commitment of the local government administration in implementing community policing programs. Informants highlighted their dissatisfaction resulting from the nature and quality engagement of local government administration to effective the implementation of community policing programs.

Exposing the block structures in community policing for political purposes was reported as the ones that eradicated the participants' trust to uphold collaboration with the local government administration. The pressure from government officials increases during elections. In this regard, it was indicated that politicians usually wanted to approach every household in the neighborhood, particularly during national and regional elections. The

community policing structure has better access at reaching every resident at the community level. This caused frequent unconditional moves from local government officials to utilize the existing structures of community policing to influence residents to elect officials serving the period of four years in the government office.

Grassroots community dialogue sessions are wrongly manipulated by the local government officials to enforce their political interests through imposition. Community residents are not interested in attending meetings facilitated by the local government administration for known reasons. Thus, there is a tendency among local politicians to use the *shay-bunna* (coffee ceremony) sessions to conduct election campaigns at the neighborhood level. In simple terms, there has been an increasing interest from politicians to use the *shay-bunna* discussion forums to guarantee the nominees from the ruling party to defeat elections at the neighborhood level.

Forcing residents to contribute money for different development projects is another way discussants criticized. The campaign is not genuine and is to benefit the ruling party's political elites in the name of development. Study participants indicated that local politicians usually appear in meetings at *Ketena* or block levels to force residents to raise money for infrastructure. They openly refuse the opposition parties to preach to the people for voting using the stage in place. The problem, however, is not with raising money for development but the intention behind the fact is indeed political. In this regard, it was indicated that residents in neighborhood have intentions to contribute money for public projects, e.g., Grand Renaissance Dam. However, they hate the personality of government rulers at the woreda level attempting to politicize the public activities. For example, politicians usually force residents to buy bonds to get promotions in the government offices. This, in turn, made members of the ruling party explore and use all sorts of structures to guarantee political promotions.

Hijacking the meeting agendas was the other issue informants agreed with. Hijacking the agenda is deliberate, and crafting the discussion points in line with the political interest of the ruling party is the task on duty. Residents at the grassroots level lose interest in meeting and discussing the public concerns with the politicians delegating the local administration and office of the party. Thus, different sectors from the local government administration repeatedly pleaded with the *Ketena* community policing coordinators to arrange meetings so that they could advance their agenda. This, however, is straining police-community relations. Moreover, study participants reported that community residents lost trust in accepting the community policing coordinators genuinely and positively. The declining number of residents attending meetings arranged by community policing officers is evidence.

Community policing encourages police departments to listen to the concerns and interests of citizens while delivering policing services. The purpose of police-community partnership is to facilitate the active engagement of all community residents and groups in identifying and addressing safety and crime-related concerns at the grassroots level. Study participants have reported that the existence of multiple community policing structures whereby citizens are encouraged to provide inputs towards the improvement of police service in the study area. However, study participants also identified several instances whereby the police and local government officials attempted to misuse the community policing structures to intimidate residents who are critical of the police and local government administration.

Community residents who criticize the police department and administration are purposely neglected and disregarded to a call in the community dialogue sessions at any level. Moreover, those critical voices are recorded in the blacklist by the local government officials and those who uttered the voices are denied getting services from the local government offices. Community residents, particularly the youth, usually participate when informal gatherings of religious and public events are organized to voice their grievances against the local government officials with the neighborhood community. The participant indicated that people asking critical questions are usually labeled as troublemakers by the police and government officials. The police are not willing and do not want those who publicly criticize the police to attend any public gathering involving community residents and government officials later. In some instances, the police attempted to lobby and intimidate parents and elders in the community to advise the youth to stop criticizing the police and government officials.

Besides, the politicians of the ruling party and the police misuse the family police structure by intimidating the family members critical of the administration and the police department. Police assign individuals from the family to formally communicate. The police often approach the family police representative to lobby and sometimes to warn the family member creating trouble for government officials and the police at the *Ketena* or district level. In this regard, the participants indicated that the community always curious about the family police structure and they further indicated that although every family has its way of raising and socializing with children and family members, police attempt to teach citizen how to discipline children and they advise to stop cooperating with other political elites opposing the ruling party. They opposed the relevance of extending the community policing structure up to the family level, suggesting that the family issues are private, and denying the right to privacy is breaching one of the core elements of human rights. The structure of family police is misused by the police and spying on citizens has been its major duty.

Community policing implementation in AAPC follows the decentralized structure to reach the police services across the city. Several implementation structures stretched from family to police commission operate to facilitate the engagement of residents in forums police and community prepare. Study participants agreed to work with the police to promote the notion that community policing implementations pursue a decentralized approach to delivering police services. Participants said the structures lack sufficient power to address community concerns at various levels. The decentralization process does not go beyond building service centers at various levels the same as most of the community policing structures at the grassroots level are not authorized to make any decision.

Study participants used the phrase ‘narrow service scheme’ to express their feelings on how community policing is not integrated and aligned with the service packages of other police units. Community policing units are merely operational in proactive problem-solving, and the reactive one is not encouraged in the community policing paradigms. It is; therefore, a paradigm shifts the city police are making to deter crime before it damages the life and property of law-abiding citizens. Most of the services delivered by the Addis Ababa Police Commission are provided to the people by other units and officers. Those who are providing services different from the police institutions are not graduates in police sciences and knowledgeable in community policing. This, in turn, brought up confusion and frustration among the public about the entire mission and directive of the police commission.

Participants further indicated that community policing centers are far away for some of the residents to easily access the district police get help from criminals, youth gangs, discourage visitors and informants. On the one hand, the services offered to the area community are reachable in the departments of traffic and crime investigations. The problem, as said by the informants, matches to access the community policing structures, forcing the residents to take a taxi or bus to cover distances. The worst thing, however, is not only the inability to get services in the nearby community policing centers but the entire environment looks different from how services are delivered in the Ketena community policing center. Study participants reported several accounts of unfriendly and, in some cases, impolite approaches while visiting the Woreda police station for some services. One participant reflected lack of uniformity among the police officers for the similar activity. Although community police officers in the neighborhood have been so friendly and easily accessible at the community, things will be a bit different at police stations. The police officers at the police station start to mistreat people starting from the entrance gate and they use abusive words and tend to label all visitors as troublemakers. As a result, the dwellers prefer not to go to the police station to seek any support.

Community policing implementations in the study area are marred by flawed and inconsistent organizational structures. The AAPC has made efforts to decentralize the police service down to the family level. However, the decentralization process has not been substantiated with sufficient decentralization or devolution of power to the lower implementation structures. The finding also revealed that the service package within the framework of community policing is too narrow to provide comprehensive police service. Community policing is implemented as one typology of police service, not as a philosophy governing the entire service provision of the police department. This can be seen from the organizational set up in which units of crime investigation, road traffic management and rapid response police are organized parallel to the community policing unit.

4. Discussions

This article presents three challenges to implementation of the community policing.

4.1 Political intrusion in the implementation of community policing

First, this found out political intrusion in the implementation of community policing. Active engagement of law enforcement agencies is indispensable to create safe and peaceful neighborhoods for at least two reasons. First, many of the issues causing crime and insecurity at the grassroots level have social and economic roots detracting the attention of local government administration. Second, police departments at all levels are challenged by the scarcity of resources and budgets to mobilize the police officers and the community all the time to combat crime and other safety-related concerns. Hence, the engagement of the local government administration in ensuring a safe and livable neighborhood remained debatable. The political encroachments laid down by the local government administration. Hence, they agreed to devise informal strategies to counterattack the political manipulations among inhabitants. These strategies reinforce the *Ketena* community policing coordinators to communicate the agendas before every meeting at the *Ketena* or block level. Avoiding the meeting arranged for the political gain is the other strategy informants agreed to safeguard the true nature of community policing. Nevertheless, it seems impractical to control political interference through these strategies, given that those in the upper structure are politicians affiliated with the then-ruling party. The community is devoted to freeing the implementation

by empowering the community to enroll in the decision-making process actively and decisively. In line with these findings, empirical literature suggests political interference or manipulation has long been the major threat impeding the successful implementation of community policing.

Gaines [16] noted that community policing usually serves the interests of the powerful since the police leaders are under constant pressure from the political elite to tailor strategies to the mainstream or hegemonic ideology. Ikuteyijo [17] has further argued that the political elite in Nigeria use police officers and community policing structures to advance inappropriate political advantage. Debela et al. [18] reported that the political partiality of the police is among the factors inverting the successful execution of community policing in Ethiopia. However, Denny and Kassaye [19] and Di Nunzio [20] provided the most comprehensive and critical analysis of the nexus between politics and community policing in Ethiopia. Community policing implementation in Ethiopia has been developed and framed within a particular political context. Community policing implementations have been portrayed as an extension of the overall desire of the government to ensure political hegemony and control [19]. Community policing implementation in Ethiopia was framed by the ruling party aimed at political conformity among the youth [20]. The police community relations are decisive to buildup trust between police and the community [21]. Police practice is highly sabotaged by the ruling party to honestly serve the political ideology stipulated in their manifesto [22].

4.2 Police Profiling and Sabotaging the Critical Voices

Second, this article identified police profiling and concealing the critical voices. The tendency to marginalize critical voices is listed as the factors jeopardizing the community policing implementation in the study area in at least two ways. First, community residents are reducing their engagement and collaboration with the local police department since the police and local government officials are only interested in listening to positive remarks about their respective organizations. Second, the police and local government administration are among the major stakeholders in solving crime and safety-related concerns at the grassroots level. Avoiding critical voices means the police and local government administration are not interested in improving the service provision and solving community problems.

Findings of this study support the assertions Onyeozili [23] indicated that the police department and local authorities are misusing the community policing structures to silence and prosecute critical voices, which severely damages the reputation of the program and the police department in general. More specifically, Di Nunzio [20] reported that community policing structures in Addis Ababa have been efficiently integrated with the political structures to suppress anti-government sentiments or movements in major metropolitan cities such as Addis Ababa. Beyond political encroachments, undemocratic approaches from the police department and violation of human and democratic rights pull out the residents discouraging the residents to meaningfully participate in community policing implementation programs in Ethiopia [24].

4.3 Power Centralization and Decentralization

Third, this study assessed power centralization and the question of decentralization. Community policing in AAPC is organized under a special unit (community policing directorate). Thus, the responsibility to undertake tasks related to community policing such

as community engagement and proactive problem-solving are barely left for officers in the community policing directorate. On the other hand, there seems to be no change to the overall structure and function of all police units other than community policing. Accordingly, the police service in AAPC is delivered through police units having divergent philosophy and orientation towards policing: community policing and the conventional or traditional model of policing. This in turn is not only confusing community residents in the study. Rather, it is also demoting initiatives of community residents to actively engage in community policing implementation in the study area.

Consistent with the findings of this study, Debela et al. [18] noted that despite the decentralized structures enforced in community policing in Ethiopia has not yet assumed a department-wide or full-fledged implementation. Moreover, according to Dempsey et al. [1], police organizations noted by continue to operate along with the values of the traditional policing model, and police officers and community residents at the grassroots level are exercising insignificant power in preventing crime and disorder. Moreover, it reported that AAPC has not yet attained genuine organizational decentralization to promote community policing structures to realize active and meaningful community engagement. Services are provided in a fragmented manner, and community policing structures are not comprehensive enough to accommodate the service needs of communities at the grassroots level [1]. Denny and Kassaye [19] further argued that community policing structures in Ethiopia employ a centralized command structure and, hence, the area community and police officers at the bottom are powerless to decide on crime and safety issues.

5. Conclusions

In this study, the researchers explored the structural barriers that impede the successful and effective implementation of community policing programs in Addis Ababa. The study highlighted the multiple challenges of police to bear the responsibilities while implementing the community policing principles. Political encroachment is the major challenge hindering community policing implementation. The political elite, at all levels, have been attempting to manipulate the community policing structure for political purposes. This may partly relate to how policing and the role of police organizations in the country had been portrayed across different regimes in the country. Since the inception of modern policing in Ethiopia, police departments have been designed to serve the interest of regimes in power rather than the public. This study also confirmed that politicians at Woreda/district and sub-city levels usually encroach on community policing structures to attain some political ends, despite the city-wide implementation manual clearly prohibiting any political interference in community policing structures. The implementation of community policing is highly intruded by the intrusion of higher officials and political parties. Hence, efforts from the government side to free the police from any form of partisanship should be determined and enacted to advance police professionalism.

The challenges of the implementation of community policing relate to the police dilemma and government rivalry to implement the strategies partly entailed in the wide range of the program. Manipulating community policing structures to silence critical voices is the other major barrier to paralyzing community policing programs in Addis Ababa. Stretching community policing structures to the family level was partly helpful in facilitating proactive problem-solving at household and neighborhood levels. However, evidence from this study suggests that the police are using lower implementation structures to restrain

residents, particularly the youth, from questioning and challenging injustices in the local government administration. The incumbent and political elites are demanded to emancipate the police from party politics to ensure the profession is independent and impartial while enforcing the law of the country.

Insufficient power granted to lower implementation structures has also further exacerbated the sound execution of community policing programs. The study identified that the geographic decentralization of structures is not substantiated by the meaningful delegation of power and mandate to the lower structures. In other words, organizational transformation is not achieved to merit the philosophy of community policing in informing the department-wide implementation within the context of AAPC. Hence, the mandate given to community policing is too narrow to allow community residents at the grassroots level to enjoy a full range of police services. Besides, all police units, other than community policing units, are still functioning under the influence of the conventional model of policing. This, in turn, is eroding community trust, active engagement of residents in community policing implementation, and the community empowerment process in the study area. Thus, the government, police officials, and other individuals well known by the community should meet and work on the gaps to better achieve in the future. The capacity development programs are necessary across the nation to enhance the awareness level of the community, public servants, various organizations, and public offices settled in the study area to safeguard the practice from rivalries and anti-peace forces.

Conflicts of Interest: The author declares no conflict of interest

References

1. Dempsey, J.S.; Forst, L.S. *An Introduction to Policing*, 2nd ed. Wadsworth Publishing, NY, US, 1999, pp. 213-224.
2. Wrobleski, H.M.; Hess, K.M. *Police Operations: Theory and Practice*, 5th ed. Thomson Wadsworth WA, US, 2006, pp. 314-317.
3. Emsley, C. *The English Police: A Political and Social History*, 2nd ed. Routledge, UK, 2014, pp. 127-132.
4. Cordner, G.W.; Scarborough, K.E. *Police Administration*, 4th ed. Anderson Publishing, UK, 1989, pp. 104-121.
5. Mabunda, M.M. Community Policing: A Model for South Africa. *UNISA*, 2018, 12, pp. 117-123.
6. Skogan, W.G. *Police and Community in Chicago: A Tale of Three Cities*. OUP, UK, 2006, pp. 131-134.
7. Crawford, A. *Crime Prevention and Community Safety: Politics, Policies, and Practices*, 5th ed. Longman, UK, 1998, pp. 215-227.
8. Mabunda, M.M. Community Policing in Practice. *UNISA*, 2014, 4, pp. 89-97.
9. Newburn, T. *Handbook of Policing*, 2nd ed. Willan Publishing, UK, 2012, pp. 114-145.
10. Wilson, J.Q. *Thinking About Crime*, 4th ed. Basic Books, UK, 2013; pp. 23-43.
11. Fridell, L.; Wycoff, M.A. *Community Policing: The Past, Present, and Future*, 6th ed. Casey Foundation, London, UK, 2004, pp. 32-40.
12. Kappeler, V.E.; Gaines, L.K. *Community Policing: A Contemporary Perspective*, 6th ed. Elsevier, NY, USA, 2012, pp. 49-60.
13. Eck, J.E.; Spelman, W. Problem-Solving: Problem-Oriented Policing in Newport News. *Police Executive Research Forum* 2019, pp. 175-183.
14. Goldstein, H. *Problem-Oriented Policing*, 2nd ed. McGraw-Hill, London, UK, 1990, pp. 44-49.
15. Bucqueroux, B. *Community Policing: The Next Generation*, 3rd ed. Anderson Publishing, London, UK, 2007, pp. 77-84.
16. Gaines, L. K. Community Policing and the Politics of Police Reform. *CJR* 1993, 18, pp. 13-26.
17. Ikuteyijo, L. The Nigerian Police Force and the Challenges of Policing Democratic Society. *IJPSM* 2009, 11, pp. 285-293.
18. Debela, B. K.; Teka, F. A.; Abebe, T. G. Challenges of Community Policing Implementation in Ethiopia. *EJSC* 2020, 6, pp. 67-89.

19. Denny, L.; Kassaye, D. Community Policing in Ethiopia: Challenges and Prospects. *JASS* 2013, 4, pp. 45-60.
20. Di Nunzio, M. The Political Economy of Community Policing in Ethiopia Policing and Society. *JASS* 2014, 2, pp. 471-488.
21. Demelash, B. Police-Community Relations and Public Trust in Law Enforcement in Ethiopia. *JPS* 2022, 10, pp. 215-230.
22. Workneh, A. Community Policing and Political Influence in Ethiopia. *AJPS* 2016, 9, pp. 99-118.
23. Onyeozili, E. C. Obstacles to Effective Policing in Nigeria. *AJCJS* 2005, 1, pp. 32-54.
24. Yitayih, M. Human Rights Violations and Community Policing in Ethiopia. *EJLS* 2019, 7, pp. 88-112.

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THE TRIAL OF GALILEO GALILEI BY THE ROMAN INQUISITION: A COMPREHENSIVE OVERVIEW

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Abstract. One of the most famous trials in world history is that of the Florentine scientist Galileo Galilei in front of the Roman Inquisition. Based on historical sources, this article presents a comprehensive overview of the 1633 trial, the roots of which dated to Galileo's 1613 publication on sunspots. It culminated with his publication of the *Dialogue concerning the two chief world systems, Ptolemaic and Copernican*. Although condemned by the Inquisition to imprisonment for an indefinite period, his sentence was commuted to house arrest until death.

Keywords: *Galileo Galilei, 1633 trial, Copernicus, Bellarmino, Bellarmine, Maculani, Roman Inquisition, heliocentrism.*

Rezumat. Unul dintre cele mai cunoscute procese din istoria lumii este cel al savantului florentin Galileo Galilei în fața Inchiziției romane. Bazat pe surse istorice, acest articol prezintă o prezentare cuprinzătoare a procesului din 1633, ale cărui rădăcini datează de la publicația lui Galileo din 1613 despre petele solare. Punctul culminant a fost publicarea lui intitulată *Dialog privind cele două sisteme principale ale lumii, Ptolematic și Copernican*. În ciuda faptului că Inchiziția l-a condamnat la închisoare pe perioadă nedeterminată, pedeapsa a fost comutată în arest la domiciliu până la moartea lui.

Cuvinte cheie: *Galileo Galilei, procesul 1633, Copernic, Bellarmino, Bellarmin, Maculani, Inchiziția romană, heliocentrism.*

1. Introduction

Hosted by the University of Missouri–Kansas City, the Famous Trials website, set up in 1995 by Douglas Linder, covers over 50 famous trials in world history. One of them is the trail of Galileo Galilei (1564–1642), who was raised in Florence after his family moved from Pisa when he was young – with respect to which Linder includes a chronology [1]. He traces the beginning of the story to the Polish polymath Nicolaus Copernicus (1473–1543), who put forward the first model of a heliocentric system for the universe in 1514, half a century prior to Galileo's birth. This proposed system ran contrary to the Ptolemaic model whereby the sun orbits the stationary earth. Linder also refers to the Danish astronomer Tycho Brahe (1546–1601) who proposed a compromise between the Copernican and Ptolemaic models: the earth as the stationary centre of the universe with the sun and moon orbiting it. Brahe's model included other planets orbiting the sun.

By 1597, Galileo fully embraced the Copernican model of the universe. He wrote to the German astronomer Johannes Kepler (1571–1630) that "Like you, I accepted the

Copernican position several years ago and discovered from thence the causes of many natural effects which are doubtless inexplicable by the current theories" [2, p. 11]. Three years later, the Italian thinker Giordano Bruno (1548–1600) was convicted of heresy – including his cosmological theories which conceptually extended to the Copernican model – by the Holy Office and burned at the stake in Campo de' Fiori, Rome. In 1610, Galileo built a ×30 telescope which he used for astronomical observations, including of moons revolving around Jupiter, thus confirming the veracity of the Copernican model. He improved on the design – his own version of the Dutch Perspective Glass – credited to either Hans Lippershey (c. 1570–1619) or Zacharias Janssen (1585–pre-1632), both Dutch master lens grinders and spectacle makers who experimented with lenses to view distant objects. A year later, Kepler explained how a convex objective lens and a convex eyepiece lens could be used to create a much more effective telescope. In 1611, Galileo observed sunspots. In April of the same year, Jesuit Cardinal Roberto Bellarmino (1542–1621) (or Cardinal Robert Bellarmine if in English) – a former rector of the Collegium Romanum which was established in 1551 by St Ignatius of Loyola (1491–1556), 11 years after he founded the Society of Jesus (Jesuits) – asked Jesuit mathematicians to confirm or disprove Galileo's findings. They replicated Galileo's observation but did not converge with his interpretation.

2. Materials and method

The objective of this article is to impart a concise, comprehensive overview of the trial of Galileo Galilei by the Roman Inquisition. It concludes by outlining the Inquisition's judgment and execution of the sentence; the former is reproduced in full as an Annex. Significant to all publications to date is *I documenti del processo di Galileo Galilei*, published by the Pontifical Academy of Sciences in 1984 [3]. Use has been made of Karl von Gebler's (1850–1878) revised version of Galileo's trial based on primary sources [4]. The account of his trial is given in several books, notably de Santillana [2] and, more concisely, Drake [5].

Applying the classification proposed by Henry Ansgar Kelly [6], Linder [1] ascribed three phases to Galileo's brush with the Holy Office: (i) non-trial (1616); (ii) pre-trial (1632–1633); and (iii) trial (10 May 1633).

3. Galileo and the Roman Inquisition

One can trace the non-trail phase to 1613, the year Galileo published his work on sunspots [7] which supported the theory that the sun rotates on an axis. The chronology given by Linder which address this phase is given in Table 1.

Table 1

Chronology: non-trial phase (After [1])

Date	Event
November 1613	Lorini launches the first attack from the clergy on the Copernican theory.
21 December 1613	Galileo writes a letter to Castelli submitting his ideas concerning the relationship of science and Scripture.
February 1615	Lorini files a complaint with the Roman Inquisition against Galileo's Copernican views. It includes a copy of Galileo's 1613 letter to Castelli.
April 1615	Bellarmino cautions scientists to treat Copernican views as hypothesis, not fact.
December 1615	Galileo travels to Rome to defend his position.

Continuation Table 1

January 1616	Galileo argues the case for tidal theory, whereby tidal motion is proof that the earth is not stationary.
February 1616	A committee of advisors to the Inquisition declares that heliocentric theory is absurd and formally heretical.
26 February 1616	Bellarmino warns Galileo not to hold, teach or defend Copernican theory.
5 March 1616	The Congregation of the Index bans Copernicus's work until corrected.

The Dominican friar Niccolo Lorini (1544–1617), a professor of ecclesiastical history at the University of Florence, denounced Galileo's Copernican views. He was the first member of the clergy to publicly disagree with Copernican theory in November 1613. On 21 December 1613, Galileo wrote to the Benedictine friar Benedetto Castelli (1578–1643), a professor of mathematics at the University of Pisa, presenting his views regarding the relationship between science and scripture. In February 1615, Lorini filed a formal complaint with the Roman Inquisition against Galileo's Copernican views and attached a copy of Galileo's letter to Castelli. In April 1615, the Cardinal Bellarmino, a leading figure in the Counter-Reformation, cautioned scientists on behalf of the Holy Office to treat Copernican views as a hypothesis, not as fact. By his own will, Galileo travelled to Rome in December 1615 to defend his position.

In January 1616, he argued that tidal motion was produced solely by the earth's motion, that is, that the earth is not stationary. Following the statement of position by the committee of advisors to the Inquisition – which, in February 1616, declared that the heliocentric view of the universe was absurd and formally heretical – Bellarmino admonished Galileo on 26 February 1616 not to hold, teach, defend or discuss Copernican theory orally or in writing, to which Galileo agreed. On 5 March, the Congregation of the Index banned Copernicus's *De revolutionibus orbium coelestium* (On the revolution of celestial spheres) [8] until corrections were made.

Soon after, Galileo met with Pope Paul V (1550–1621), who assured Galileo that he was safe from persecution as he was held in high esteem. In collaboration with Mario Guiducci (1583–1646), Galileo published the *Discorso delle comete* (Discourse on the comets) in 1619 [9], months after three comets appeared, prompting widespread interest in their nature. In 1623, Galileo published *Il Saggiatore* (The Assayer) [10], which he dedicated to Cardinal Maffeo Barberini (1568–1644) who had just been elected the new pontiff, and "who was much more favourably disposed toward intellectuals and their work than his predecessor [Pope Gregory XV (1554–1623)] had been" [11: 466]. In 1624, Galileo had six audiences with Urban VIII (the former Cardinal Maffeo Barberini) and met other influential cardinals. The Pope directed Galileo to discuss and treat Copernican theory only as a mathematical hypothesis. By April 1630, Galileo completed his *Dialogo sopra i due massimi sistemi del mondo, Tolemaico e Copernicano* (Dialogue concerning the two chief world systems, Ptolemaic and Copernican), hereafter referred to as the *Dialogue* [12]; two months earlier, Urban VIII bestowed Galileo with an annual pension of 40 scudi. Figure 1 (left) shows the frontispiece of the *Dialogue* by Stefan Della Bella (1610–1664) while Figure 1 (right) is the title page of the work. By June 1630, Galileo had obtained conditional approval from the Secretary of the Vatican for its publication [1].

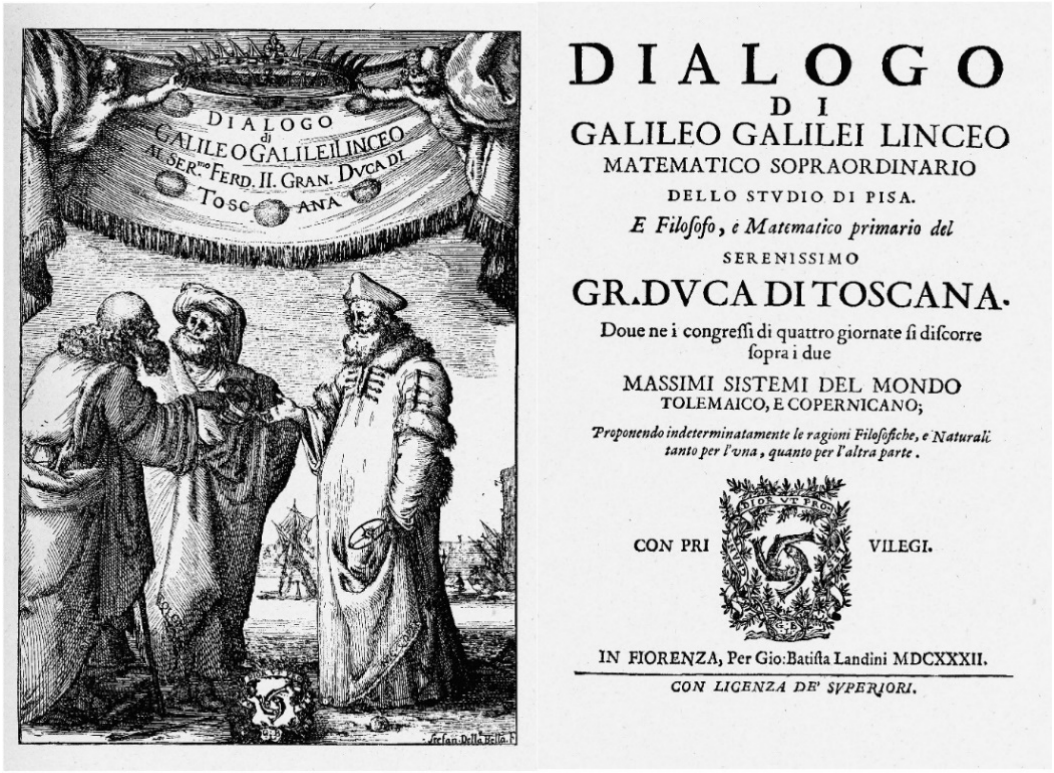

Figure 1. *Dialogue*: Frontispiece by Stefan Della Bella (1610–1664) (left); title page (right) [13] (online version is in colour).

Linder's chronology for the pre-trial phase is given in Table 2. The commencement of this phase can be attributed to the printing of the *Dialogue* in February 1632. By summer of the same year, its distribution was halted and Urban VIII set up a special commission to examine the publication. Based on the commission's feedback, the pontiff referred Galileo's case to the Roman Inquisition and a summons was issued. On receiving it in October 1632, Galileo requested the trial be held in Florence; the request was not upheld by the Inquisition, which was presided over by Urban VIII, in November 1632. The following month he submitted a statement by three physicians that he was not fit to travel to Rome. The Inquisition rejected this statement and declared that if Galileo did not travel to Rome voluntarily, he would be "brought a prisoner in irons to Rome" [4, p. 186].

Galileo arrived in Rome on 13 February 1633 and was accommodated at the residence of the Tuscan ambassador. He was introduced to Cardinal Francesco Barberini (1597–1679), a nephew of Urban VIII. The Cardinal "gave him [Galileo] a friendly hint … that he had better keep very retired in the ambassador's house, not receive anyone, nor be seen out of doors" ([4, p. 192], according to dispatches from Niccolini to Cioli of 16 and 19 February 1633).

Table 2

Chronology: pre-trial phase (After [1])

Date	Event
February 1632	*Dialogue concerning the two chief world systems* is printed.
Summer 1632	The distribution of the *Dialogue* is halted by Urban VIII, who empowers a special commission to examine the book.
September 1632	Based on the report of the special commission, the Pope refers Galileo's case to the Roman Inquisition.

Continuation Table 2

October 1632	Galileo receives a summons to appear before the Inquisition; he requests the trial be held in Florence.
November 1632	Galileo's request is turned down.
December 1632	Three physicians declare that Galileo is not fit to travel. The Inquisition rejects this declaration and asserts that if he does not travel to Rome voluntarily he will be arrested and brought in chains.
13 February 1633	Galileo arrives in Rome. He is allowed to stay at the home of the Tuscan ambassador and is advised to stay indoors and not to meet anybody.

4. The trail of Galileo

On 12 and 30 April 1633, Galileo was interrogated by the Roman Inquisition, by the Dominican Vincenzo Maculani da Firenzuola (1578–1667), and formally charged on 10 May [6]. He was kept for two weeks in the building of the Inquisition. It is true that he was restricted to a confined place, and thus his confinement is referred to by Linder as imprisonment [1], but Galileo was placed in a comfortable apartment in the Holy Office fiscal's private residence, a layout sketch of which was reproduced by Gebler [4, p. 209]. This accommodation was far from a prison. After the first session, Firenzuola's strategy was to induce Galileo "to enter a guilty plea judicially" [4: 213] in exchange for a lenient sentence. During the second session, Galileo declared that he overstated the case in the previous session. Figure 2 shows an 1857 painting by Cristiano Banti (1824–1904) which depicts Galileo during a session with Firenzuola, who is standing at the table. The trial was then held.

Figure 2. Banti, *Galileo facing the Roman Inquisition* [14] (online version is in colour).

Figure 3, a painting of 1847 by Joseph-Nicolas Robert-Fleury (1797–1890), portrays Galileo before the Holy Office.

On 22 June 1633, Galileo was sentenced to life imprisonment, which was later commuted to house arrest. Seven out of the ten cardinal-inquisitors presiding at his trial signed the sentence (Table 3); Cardinal Barberini did not sign it. Galileo signed a formal recantation and was kept under house arrest at the residence of a former disciple and friend, the Archbishop of Siena.

Figure 3. Robert-Fleury, *Galileo before the Holy Office* [15] (online version is in colour).

Table 3

Judges at the trial of Galileo

Name as stated in the sentence[1]	Signature[2]
Gasparo del titolo di S. Croce in Gierusalemme Borgia	
Fra Felice Centino del titolo di S. Anastasia, detto d'Ascoli	F. Cardinalis de Asculo
Guido del titolo di S. Maria del Popolo Bentivoglio	G. Cardinalis Bentiuolus
Fra Desiderio Scaglia del titolo di S. Carlo detto di Cremona	Fr. Cardinalis de Cremona
Fra Antonio Barberino detto di S. Onofrio	Fr. Antonious Cardinalis S. Honuphrij
Laudivio Zacchia del titolo di S. Pietro in Vincola detto di S. Sisto	
Berlingero del titolo di S. Agostino, Gessi	B. Cardinalis Gypsius
Fabricio del titolo di S. Lorenzo in pane e perna, Verospi	Fr. Cardinalis Verospius
Francesco di S. Lorenzo in Damaso Barberino	
Martio di S. Maria Nuova Ginetti Diaconi	M. Cardinalis Ginettus

1 Based on [4, p. 230]; [2] based on [4, p. 234].

In its sentence, the Inquisition noted that Galileo [4, p. 231]:

1. "denounced to this Holy Office for holding as true the false doctrine [of a heliocentric system of the universe] taught by many";
2. had "disciples to whom you taught the same doctrine";
3. held "correspondence with certain mathematicians of Germany concerning the same";
4. printed "certain letters, entitled 'On the Solar Spots', wherein you developed the same doctrine as true"; and
5. replied "to the objections from the Holy Scriptures … by glossing the said Scriptures according to your own meaning: and whereas there was thereupon produced the copy of a document in the form of a letter, purporting to be written by you to one formerly your disciple, and in this divers propositions are set forth, following the hypothesis of Copernicus, which are contrary to the true sense and authority of Holy Scripture".

In 1616, Galileo agreed to comply with the order to abandon "he said false opinion, and not in future to defend or teach it in any way whatsoever, neither verbally nor in writing" [4, p. 231]. The *Dialogue* renewed the doctrine which he recanted. Based on Galileo's confession, the Roman Inquisition found him "vehemently suspected of heresy, namely of having believed and held the doctrine – which is false and contrary to the sacred and divine Scriptures" [4, p. 233]. Based on these and on Galileo's pronouncement that Copernican doctrine was erroneous and heretical, the Holy Office placed him under house arrest until his death and requested him "for three years to come you repeat once a week the seven penitential Psalms" [4, p. 234].

5. Final comments

Galileo consented in 1616 to abide by the order of the Roman Inquisition to give up his belief in a heliocentric system of the universe and to never again support or propagate it, either orally or in writing. The doctrine he renounced was revived in the *Dialogue*. The Roman Inquisition decided in June 1633 that he strongly suspected of heresy, specifically of believing and holding this belief which conflicts with the Scriptures. In December 1633, he was permitted to return to his home in Arcetri, Florence, where he lived under house arrest until his demise on 8 January 1642. He continued his writing and met visitors at his residence, including John Milton (1608–1674). His significant publication, *Discorsi e dimostrazioni matematiche intorno a due nuove scienze* (Discourses and mathematical demonstrations relating to two new science) [16], was published in 1638.

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References

1. Linder, D.O. The Trial of Galileo: A chronology. In: *Famous Trial*. Available online: https://www.famous-trials.com/galileotrial/1015-chronology (accessed on 10 January 2025).
2. de Santillana, G. *The Crime of Galileo*. University of Chicago Press, Chicago, USA, 1962, pp. 117-281.
3. Pagano, S.M., Luciani, A.G. *I documenti del processo di Galileo Galilei*. Rome: Pontifical Academy of Sciences, 1984, pp. 63-248.
4. von Gebler, K. *Galileo Galilei and the Roman Curia*. Trans. and edited by Jane Sturge. London: Kegan Paul, 1879, pp. 175-248.

5. Drake, S. *Galileo*. New York: Hill and Wang, 1980, pp. 73-79.
6. Kelly, H. A. Galileo's Non-Trial (1616), Pre-Trial (1632–1633), and Trial (May 10, 1633): A Review of Procedure, Featuring Routine Violations of the Forum of Conscience. *Church History* 2017, 85(4), pp. 724-761. https://doi.org/10.1017/S0009640716001190
7. Galilei, G. *Istoria e Dimostrazioni intorno alle Macchie Solari*. Rome: Accademia dei Lincei, 1613.
8. Nicolaus Copernicus, *De revolutionibus orbium coelestium*. Nuremberg: Johannes Petreius, 1543.
9. Galilei and M. Guiducci, *Discorso delle comete*. Pietro Cecconcelli, Florence, 1619.
10. Galileo, G. *Il Saggiatore*. Rome: Giacomo Mascardi, 1623.
11. Ravindra, R. Galileo Galilei. In: *The Encyclopaedia of Religion*. Editor in Chief Mircea Eliade. New York: Macmillan Publishing Co., 1987, 5, pp. 465-467.
12. Galileo, G. *Dialogo sopra i due massimi sistemi del mondo, Tolemaico e Copernicano*. Florence: Giovanni Batista Landini, 1632.
13. Landini, G.B. Frontispiece (by Stefan Della Bella) and title page of Galileo Galilei's Dialogue Concerning the Two Chief World Systems, published by Giovanni Battista Landini in 1632 in Florence. 1632. [image]. Available online: https://upload.wikimedia.org/wikipedia/commons/c/ca/Galileos_Dialogue_Title_Page.png (accessed on 10 January 2025).
14. Banti, C. *Galileo facing the Roman Inquisition*. 1857. [image]. Available online: https://commons.wikimedia.org/wiki/File:Galileo_facing_the_Roman_Inquisition.jpg#mw-jump-to-license (accessed on 10 January 2025).
15. Robert-Fleury, J.N. *Galileo before the Holy Office*. 1847. [image]. Available online: https://commons.wikimedia.org/wiki/File:Galileo_before_the_Holy_Office_-_Joseph-Nicolas_Robert-Fleury,_1847.png (accessed on 10 January 2025).
16. Galileo, G. *Discorsi e dimostrazioni matematiche intorno a due nuove scienze*. Leiden: Lodewijk Elzevir, 1638.

Annex:

Galileo Galilei's Sentence of the Roman Inquisition (Reproduced from [4, pp. 230-234])

We,

Gasparo del titolo di S. Croce in Gierusalemme Borgia;
Fra Felice Centino del titolo di S. Anastasia, detto d'Ascoli;
Guido del titolo di S. Maria del Popolo Bentivoglio;
Fra Desiderio Scaglia del titolo di S. Carlo detto di Cremona;
Fra Antonio Barberino detto di S. Onofrio;
Laudivio Zacchia del titolo di S. Pietro in Vincola detto di S. Sisto;
Berlingero del titolo di S. Agostino, Gessi;
Fabricio del titolo di S. Lorenzo in pane e perna, Verospi, chiamato Prete;
Francesco di S. Lorenzo in Damaso Barberino, e
Martio di S. Maria Nuova Ginetti Diaconi;

by the grace of God, cardinals of the Holy Roman Church, Inquisitors General, by the Holy Apostolic see specially deputed, against heretical depravity throughout the whole Christian Republic.

Whereas you, Galileo, son of the late Vincenzo Galilei, Florentine, aged seventy years, were in the year 1615 denounced to this Holy Office for holding as true the false doctrine taught by many, that the sun is the centre of the world and immovable, and that the earth moves, and also with a diurnal motion; for having disciples to whom you taught the same doctrine; for holding correspondence with certain mathematicians of Germany concerning the same; for having printed certain letters, entitled "On the Solar Spots", wherein you developed the same doctrine as true; and for replying to the objections from the Holy Scriptures, which from time to time were urged against it, by glossing the said Scriptures according to your own meaning: and whereas there was thereupon produced the copy of a

document in the form of a letter, purporting to be written by you to one formerly your disciple, and in this divers propositions are set forth, following the hypothesis of Copernicus, which are contrary to the true sense and authority of Holy Scripture:

This Holy Tribunal being therefore desirous of proceeding against the disorder and mischief thence resulting, which went on increasing to the prejudice of the Holy Faith, by command of his Holiness and of the most eminent Lords Cardinals of this supreme and universal Inquisition, the two propositions if the stability of the sun and the motion of the earth were by the theological "Qualifiers" qualified as follows:

The proposition that the sun is the centre of the world and does not move from its place is absurd and false philosophically and formally heretical, because it is expressly contrary to the Holy Scripture.

The proposition that the earth is not the centre of the world and immovable, but that it moves, and also with a diurnal motion, is equally absurd and false philosophically, and theologically considered, at least erroneous in faith.

But whereas it was desired at that time to deal leniently with you, it was decreed at the Holy Congregation held before his Holiness on the 25th February, 1616, that his Eminence the Lord Cardinal Bellarmine should order you to abandon altogether the said false doctrine, and, in the event of your refusal, that an injunction should be imposed upon you by the Commissary of the Holy Office, to give up the said doctrine, and not to teach it to others, nor to defend it, nor even discuss it; and failing your acquiescence in this injunction, that you should be imprisoned. And in execution of this decree, on the following day, at the Palace, and in the presence of his Eminence, the said Lord Cardinal Bellarmine, after being gently admonished by the said Lord Cardinal, the command was intimated to you by the Father Commissary of the Holy Office for the time before a notary and witness, that you were altogether to abandon the said false opinion, and not in future to defend or teach it in any way whatsoever, neither verbally nor in writing; and upon your promising to obey you were dismissed.

And in order that a doctrine so pernicious might be wholly rooted out and not insinuate itself further to the grave prejudice of Catholic truth, a decree was issued by the Holy Congregation of the Index, prohibiting the books which treat of this doctrine, and declaring the doctrine itself to be false and wholly contrary to sacred and divine Scripture.

And whereas a book appeared here recently, printed last year at Florence, the title of which shows that you were the author, this title being: "Dialogue of Galileo Galilei on the Two Principal Systems of the World, the Ptolemaic and the Copernican"; and whereas the Holy Congregation was afterwards informed that through the publication of the said book, the false opinion of the motion of the earth and the stability of the sun was daily gaining ground, the said book was taken into careful consideration and in it there was discovered a patent violation of the aforesaid injunction that had been imposed upon you, for in this book you have defended the said opinion previously condemned and to our face declared to be so, although in the said book you strive by various devices to produce the impression that you leave it undecided, and in express terms as probable: which however is a most grievous error, as an opinion can in no wise be probable which has been declared and defined to be contrary to Divine Scripture:

Therefore by our order you were cited before this Holy Office, where, being examined upon your oath, you acknowledged the book to be written and published by you. You confessed that you began to write the said book about ten or twelve years ago, after the

command had been imposed upon you as above; that you requested licence to print it, without however intimating to those who granted you this licence that you had been commanded not to hold, defend, or teach in any way whatever the doctrine in question.

You likewise confessed that the writing of the said book in is various places drawn up in such as form that the reader might fancy that the arguments brought forward on the false side are rather calculated by their cogency to compel conviction than to be easy of refutation; excusing yourself for having fallen into an error, as you alleged, so foreign to your intention, by the fact that you had written in dialogue, and by the natural complacency that every man feels in regard to his own subtleties, and in showing himself more clever than the generality of men, in devising, even on behalf of false propositions, ingenious and plausible arguments.

And a suitable term having been assigned to you to prepare your defence, you produced a certificate in the handwriting of his Eminence the Lord Cardinal Bellarmine, procured by you, as you asserted, in order to defend yourself against the calumnies of your enemies, who gave out that you had abjured and had been punished by the Holy Office; in which certificate it is declared that you had not abjured and had not been punished, but merely that the declaration made by his Holiness and published by the Holy Congregation of the Index, had been announced to you, wherein it is declared that the doctrine of the motion of the earth and the stability of the sun is contrary to the Holy Scriptures, and therefore cannot be defended or held. And as in this certificate there is no mention of the two articles of the injunction, namely, the order not "to teach" and "in any way", you represented that we ought to believe that in the course of fourteen or sixteen years you had lost all memory of them; and that this was why you said nothing of the injunction when you requested permission to print your book. And all this you urged not by way of excuse for your error, but that it might be set down to a vainglorious ambition rather than to malice. But this certificate produced by you in your defence has only aggravated your delinquency, since although it is there stated that the said opinion is contrary to Holy Scripture, you have nevertheless dared to discuss and defend it and to argue its probability; nor does the licence artfully and cunningly extorted by you avail you anything, since you did not notify the command imposed upon you.

And whereas it appeared to us that you had not stated the full truth with regard to your intention, we thought it necessary to subject you to a rigorous examination, at which (without prejudice, however, to the matters confessed by you, and set forth as above, with regard to your said intention) you answered like a good Catholic. Therefore, having seen and maturely considered the merits of this your cause, together with your confessions and excuses above mentioned, and all that ought justly to be seen and considered, we have arrived at the underwritten final sentence against you :

-Invoking, therefore, the most holy name of our Lord Jesus Christ and of His most glorious Mother, and ever Virgin Mary, by this our final sentence, which sitting in judgement, with the counsel and advice of the Reverend Masters of sacred theology and Doctors of both Laws, our assessors, we deliver in these writings, in the cause and causes presently before us between the magnificent Carlo Sinceri, Doctor of both Laws, Proctor Discal of this Holy Office, of the one part, and you Galileo Galilei, the defendant, here present, tried and confessed as above, of the other part, – we say, pronounce, sentence, declare, that you, the said Galileo, by reason of the matters adduced in process, and by you confessed as above, have rendered yourself in the judgment of this Holy Office vehemently suspected of heresy, namely of having believed and held the doctrine – which is false and contrary to the sacred and divine

Scriptures – that the sun is the centre of the world and does not move from east to west, and that the earth moves and is not the centre of the world; and that an opinion may be held and defended as probable after it has been declared and defined to be contrary to Holy Scripture; and that consequently you have incurred all the censures and penalties imposed and promulgated in the sacred canons and other constitutions, general and particular, against such delinquents. From which we are content that you be absolved, provided that first, with a sincere heart, and unfeigned faith, you abjure, curse, and detest the aforesaid errors and heresies, and every other error and heresy contrary to the Catholic and Apostolic Roman Church in the form to be prescribed by us.

And in order that this your grave and pernicious error and transgression may not remain altogether unpunished, and that you may be more cautions for the future, and an example to others, that they may abstain from similar delinquencies – we ordain that the book of the "Dialogues of Galileo Galilei" be prohibited by public edict.

We condemn you to the formal prison of this Holy Office during our pleasure, and by way of salutary penance, we enjoin that for three years to come you repeat once a week the seven penitential Psalms.

Reserving to ourselves full liberty to moderate, commute, or take off, in whole or in part, the aforesaid penalties and penance.

And so we say, pronounce, sentence, declare, ordain, condemn and reserve, in this and any other better way and form which we can and may lawfully employ.

So we the undersigned Cardinals pronounce.

F. Cardinalis de Asculo.
G. Cardinalis Bentiuolus.
Fr. Cardinalis de Cremona.
Fr. Antonious Cardinalis S. Honuphrij.
B. Cardinalis Gypsius.
Fr. Cardinalis Verospius.
M. Cardinalis Ginettus.

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THE LEGAL NATURE OF SINGLE-MEMBER LIMITED LIABILITY COMPANIES: A COMPARATIVE ANALYSIS OF NATIONAL AND EUROPEAN LAW

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Abstract. The limited liability company with a sole partner has generated significant doctrinal controversies ever since its consecration in legislation, being perceived as an exception, both in the context of the institution of the legal person in general, and of the commercial company in particular. This paper aims to analyze in detail the legal nature of this corporate form, in the light of the national and the European legislation, or, although it represents a genuine limited liability company, its legal regime requires a distinct approach. Thus, the analysis focuses on the way in which the legislator has adapted the European normative framework to reflect the specificity of sole personality, highlighting the particular regulations regarding the establishment and operation of the limited liability company with a sole partner. Also, the paper explores the interferences between these regulations and the general rules which can be applied to commercial companies, thus emphasizing their contribution to the understanding of the legal regime of the limited liability company with a single partner, considering the growing relevance of these companies in the national and European economic landscape.

Keywords: *commercial company, limited liability company, limited liability company with a sole partner, single-member company.*

Abstract. Societatea cu răspundere limitată cu asociat unic a generat controverse doctrinare semnificative încă de la consacrarea sa în legislație, fiind percepută ca o excepție, atât în contextul instituției persoanei juridice în general, cât și al societății comerciale în particular. Această lucrare își propune să analizeze în mod detaliat natura juridică a acestei forme societare, prin prisma legislației naționale și a celei europene, ori, deși reprezintă o veritabilă societate cu răspundere limitată, regimul său juridic necesită o abordare distinctă. Astfel, analiza se concentrează pe modalitatea în care legiuitorul a adaptat cadrul normativ european pentru a reflecta specificitatea unipersonalității, evidențiind reglementările particulare privind constituirea și funcționarea societății cu răspundere limitată cu asociat unic. De asemenea, lucrarea explorează interferențele dintre aceste reglementări și normele generale aplicabile societăților comerciale, subliniind astfel contribuția acestora la înțelegerea regimului juridic al societății cu răspundere limitată cu asociat unic, având în vedere relevanța crescândă a acestor societăți în peisajul economic național și cel european.

Cuvinte cheie: *societate comercială, societate cu răspundere limitată, societate cu răspundere limitată cu asociat unic, societate unipersonală.*

1. Introducere

În peisajul antreprenorial din Republica Moldova, societățile cu răspundere limitată reprezintă cea mai populară formă de organizare juridică a activității de întreprinzător, atât datorită mecanismului simplist de constituire și funcționare, cât și datorită mecanismului specific de protecție a asociaților, care răspund doar în limita capitalului social investit, ceea ce înseamnă că bunurile personale ale acestora nu pot fi urmărite de creditori, pentru datoriilor SRL-ului al căror asociați sunt. Această distincție fundamentală între entitatea juridică și asociați conferă un nivel de securitate financiară, esențial pentru stimularea inițiativelor antreprenoriale.

SRL-urile, așa după cum prevăd actele normative, pot fi constituite de una sau mai multe persoane fizice și sau juridice [1, art. 11 alin. (1)]. Astfel, un SRL poate fi constituit și de către o singură persoană fizică sau juridică, fiind denumit în legislație societate cu asociat unic [1, art. 18].

În Republica Moldova, spre deosebire de alte sisteme legislative, nu există o lege specială ce ar reglementa statutul juridic al societății cu răspundere limitată cu asociat unic. Prin consecință, această varietate a SRL-ului nu reprezintă o categorie distinctă de societate comercială, ci o extensie a modelului clasic, supusă, în linii mari, acelorași reglementări. Deși funcționează conform normelor generale aplicabile societăților comerciale, totuși SRL-ul cu asociat unic beneficiază de reglementări specifice, care-i reflectă particularitățile unipersonalității. Studiul acestor reglementări și modul în care ele influențează atât constituirea, cât și funcționarea acestor societăți este esențial pentru a înțelege impactul pe care SRL-urile cu asociat unic îl au asupra mediului de afaceri din Republica Moldova. Această lucrare își propune să analizeze în profunzime aceste aspecte, evidențiind atât avantajele, cât și provocările pe care le întâmpină antreprenorii care optează pentru această formă de organizare.

În contextul în care legislația națională nu distinge această formă de organizare ca entitate separată, este esențial să analizăm atât terminologia juridică utilizată, cât și natura juridică a acestei forme de societate, discutând despre corectitudinea denumirii „*societate cu răspundere limitată cu asociat unic*” și alternativele propuse de doctrină. Articolul de față își propune să exploreze și aceste aspecte, clarificând natura juridică al SRL-ului cu asociat unic, privit atât prin prisma legislației din Republica Moldova, cât și prin cea a Uniunii Europene.

2. Materiale utilizate și metode aplicate

Pentru o înțelegere complexă a societății cu răspundere limitată cu asociat unic au fost folosite mai multe metode de cercetare, prin combinația cărora s-a reușit formarea unei viziuni clare privind regimul juridic al acestei forme societare, precum și a rolului și impactului ei asupra mediului juridic și economic actual. Astfel, în cercetare a fost folosită *metoda istorică*, pentru a elucida aspectele evolutive ale acestei forme de organizare; *metoda comparativă* a fost folosită pentru analiza similitudinilor și diferențelor între societatea cu răspundere limitată și celelalte forme de societate, pentru a evidenția particularitățile SRL-ului cu asociat unic; *metoda analizei critice* a fost folosită pentru evaluarea modificărilor legislative recente ce au influențat funcționarea SRL-urilor cu asociat unic, inclusiv evaluarea eficienței și transparenței acestor reglementări.

3. Rezultatele obținute și discuții

Dacă ar fi să analizăm din punct de vedere strict istoric momentul primelor dispoziții legale în privința societății cu răspundere limitată cu asociat unic menționăm, că societatea

cu răspundere limitată cu asociat unic a fost reglementată pentru prima dată în Germania prin Legea din 4 iulie 1980. Ulterior, acest model a fost adoptat și în legislația din Franța, prin Legea nr. 85-697 din 11 iulie 1985 și Decretul nr. 66-909 din 30 iulie 1986, sub denumirea de întreprindere unipersonală cu răspundere limitată (E.U.R.L.) [2, p.17].

În ceea ce privește reglementarea acestui tip de societate în dreptul național, menționăm că Legea nr. 845 din 1992 cu privire la antreprenoriat și întreprinderi, fiind primul act normativ ce reglementa formele de organizare juridică a activității de întreprinzător, în art. 17 stabilea posibilitatea de a desfășura activitate de întreprinzător sub forma societății cu răspundere limitată, definind-o ca „*o întreprindere aflată în posesiunea a două și mai multe persoane juridice și (sau) persoane fizice, care şi-au asociat bunurile în scopul desfășurării în comun a unei activități de antreprenoriat, sub aceiași firmă, în baza contractului de constituire (de societate) şi a statutului*" [3]. Din această definiție rezultă expres, că în acea perioadă, societatea cu răspundere limitată nu putea fi constituită decât de către două și mai multe persoane fizice și sau juridice, fiind exclusă posibilitatea unei singure persoane, fie ea persoană fizică sau juridică, de a constitui o societate cu asociat unic. Ulterior, prin Legea 1167 din 30.04.97, publicată în Monitorul Oficial nr. 63 din 25.09.97, art. 17 alin. (1) al Legii 845 din 03.01.1992 cu privire la antreprenoriat și întreprinderi a fost completat cu următoarea prevedere „*Societatea pe acțiuni sau societatea cu răspundere limitată poate fi înființată şi de o singură persoană juridică sau fizică*". Astfel, practic posibilitatea unui subiect de a-și constitui o societate cu răspundere limitată în care să fie unicul asociat a apărut în 1997, odată cu intrarea în vigoare a noilor modificări ale art. 17 alin. (1).

Ulterior, Codul civil nr. 1107 din 06.06.2002, publicat în Monitorul Oficial nr. 82-86 din 22.06.2002, în vigoare din 18.07.2003 [4], prin normele prevăzute în art. 145 alin. (2) reglementa posibilitatea constituirii societății cu răspundere limitată de către o singură persoană.

Și legea specială ce reglementează regimul juridic al SRL-ului și anume Legea nr. 135 privind societățile cu răspundere limitată din 14.06.2007 [1], publicată în Monitorul Oficial Nr. 127-130 din 17.08.2007, conține prevederi privind posibilitatea de a constitui un SRL și de către o singură persoană [1, art. 11]. De asemenea, legea în art. 18 reglementează particularitățile constituirii societății cu asociat unic [1], iar art. 62 conține reglementări privind deciziile asociatului unic în SRL [1].

Astfel, este indiscutabil faptul că reglementarea societății cu răspundere limitată cu asociat unic a bulversat paradigma instituției societății în general, care încetează să mai fie o grupare de persoane reunită în temeiul acordului lor de voință, contractul nemaifiind de esența societății, ci este considerat ca fiind doar o tehnică de organizare a societății.

Dacă este să concluzionăm vis-a-vis de evoluția reglementărilor în acest domeniu, menționăm că recunoașterea legislativă a societății cu răspundere limitată cu asociat unic a fost rezultatul unui proces îndelungat de dezvoltare a jurisprudenței și practicii legale, care a condus la formularea unui cadru legislativ potrivit pentru organizarea afacerilor. În lipsa acestei reglementări, persoanele fizice desfășurau activități comerciale fie ca persoane fizice, răspunzând cu întreg patrimoniul pentru obligațiile sale, fie se asociau, adesea formal, cu alte persoane, doar pentru a respecta cerințele legale privind numărul minim de asociați, ceea ce le permitea să își limiteze răspunderea la capitalul social.

Expunându-ne asupra legislației Uniunii Europene menționăm faptul, că în uniune SRL-ul cu asociat unic este reglementat printr-o directivă specială și anume Directiva 2009/102/CE a Parlamentului European și a Consiliului din 16 septembrie 2009 în

materie de drept al societăților comerciale privind societățile comerciale cu răspundere limitată cu asociat unic [5].

Comparând legislația națională cu cea a UE atragem atenția, că nici una nici alta nu definesc SRL-ul cu asociat unic, dar spre deosebire de norma națională, care reglementează posibilitatea unei persoane fizice sau juridice de a constitui un SRL cu asociat unic, legislația UE extinde reglementarea, instituind că un SRL poate deveni cu asociat unic nu doar în momentul constituirii sale, ci și atunci când părțile sociale sunt dobândite de o singură persoană [5, art. 2].

Revenind la legislația autohtonă observăm, că așa după cum rezultă din prevederile legale, societatea cu răspundere limitată cu asociat unic este acel tip de societate comercială guvernată de regulile speciale prevăzute de Legea 135 din 14.06.2007 [1] și regulile aplicabile societăților comerciale în general, prevăzute în capitolul II, secțiunea a 2-a Cod civil [4].

Așa după cum am menționat anterior, în Republica Moldova, spre deosebire de alte state, nu există o lege specială ce ar reglementa separat statutul juridic al unei societăți cu răspundere limitată cu asociat unic. În acest sens, deoarece legislația națională nu prevede că SRL-ul cu asociat unic ar fi o formă de organizare societară separată, elementele definiției SRL-ului furnizată de art. 2 al Legii 135/2007 [1], ar fi valabile și pentru SRL-ul cu asociat unic. În acest sens, interpretând definiția legală a societății cu răspundere limitată, formulăm propria definiție a SRL-ului cu asociat unic, ca fiind „*acea societate comercială cu personalitate juridică, constituită de o persoană fizică sau juridică, al cărei capital social aparține integral acelei persoane și ale cărei obligații sunt garantate cu patrimoniul societății*".

Societatea cu răspundere limitată cu asociat unic, este considerată de doctrină ca fiind o „*ficțiune juridică*," reprezentând forma de societate în care toate părțile sociale sunt deținute de o singură persoană, numită „*asociat unic*" [2, p.17]. Analizând denumirea normativă a societății cu răspundere limitată cu asociat unic, prevăzută în art. 18 al Legii 135 [1], observăm că această denumire nu pare a fi una corectă din punct de vedere gramatical, cel puțin din considerentul, că sensul cuvântului asociat, potrivit DEX-ului [6], reprezintă *„o (persoană) care s-a unit cu alta (sau cu altele) pentru atingerea unui scop comun (persoană) care face parte dintr-o asociație*". Astfel, tot doctrina vine cu alternative, propunând fie folosirea denumirii de întreprindere unipersonală cu răspundere limitată, denumire de proveniență franceză, care este de natură să respecte rigorile unei terminologii atât juridice, cât și gramaticale corecte [7, p. 368], fie societate cu răspundere limitată unipersonală [8, p.103]. Din punctul nostru de vedere, ne îndreptăm spre a doua variantă propusă de doctrină, considerând că se încadrează în rolul de a clarifica și ajusta mai corect această categorie de societate, în raport cu categoria generală din care face parte.

Din perspectiva naturii juridice a societății cu răspundere limitată cu asociat unic, deși o parte a doctrinei susține că aceasta reprezintă o formă distinctă de societate, având un conținut și o structură proprie care o diferențiază de celelalte tipuri de societăți [9, p.235], iar altă parte consideră că societatea cu răspundere limitată cu asociat unic este doar o varietate a societății cu răspundere limitată clasică [10, p.135], există și păreri conform cărora aceasta nu constituie nici o formă juridică separată și nu este nici o varietate a SRL-lui clasic, chiar dacă i se aplică un set specific de reguli [11].

Părerea noastră este, că societatea cu răspundere limitată cu asociat unic nu poate fi considerată niciun moment o nouă formă de societate comercială și nici o varietate a SRL-lui clasic, cel puțin din considerentul că nu se află printre formele enumerate de art. 245 alin. (2)

Cod civil [4] și art. 13 al Legii 845 din 03.01.1992 [3], texte ce conțin o enumerare limitativă a formelor de organizare a societăților comerciale.

Din prevederile legale [1, art. 11,18] rezultă, că constituirea societății cu răspundere limitată cu asociat unic își află rațiunea în voința unicului asociat de a exploata o întreprindere economică, prin intermediul căreia întreprinzătorul să îşi eficientizeze eforturile şi să îşi maximizeze profiturile. Astfel, specificul constituirii SRL-ului cu asociat unic se axează pe voinţa unică a acestui asociat, voință concretizată în statutul societăţii, care are valoare de act constitutiv, fiind aprobat și semnat de el însuși [1, art. 12 alin. (1)]. Prin urmare, este vorba doar de un criteriu numeric, care nu influențează natura juridică a societății cu răspundere limitată cu asociat unic și nu poate transforma aceasta într-o variantă a societăților cu răspundere limitată, cu atât mai puțin într-o nouă formă de societate.

Referitor la statutul SRL-ului cu asociat unic doctrina menționează, că acest act „*constituie un angajament unilateral de a avea o serie de drepturi şi obligaţii specifice care, fără să fie necesară pentru existenţa sa valabilă de acceptarea din partea vreunui terţ, determină o serie de raporturi juridice*"[12, p.138]. Astfel, fără îndoială, societatea cu răspundere limitată cu asociat unic îşi găseşte fundamentul în voinţa singurului asociat de a desfăşura o activitate economică neinterzisă de legislaţie, în scopul obţinerii unor beneficii, astfel că după înregistrarea de stat, natura sa de entitate corporativă devine preponderentă. În acest sens, statutul SRL-ului cu asociat unic reprezintă de fapt un veritabil act de constituire a societății, reprezentând un adevărat instrument de înființare şi organizare a entităţii juridice care urmează să fie creată, ce își va desfăşura activitatea de întreprinzător ca un subiect de drept distinct, separat de fondatorul unic care a creat-o.

Deoarece legea nu prevede reglementări speciale în privința statutului SRL-ului cu asociat unic, considerăm că voinţa fondatorului unic privind constituirea SRL-ului trebuie să îndeplinească cumulativ toate condițiile imperative stabilite de lege, atât cele de fond cât şi cele de formă, pentru constituirea valabilă a oricărei societăți comerciale.

De asemenea, în afară de condițiile de fond și formă, la acestea se adaugă și condiția specifică actului constitutiv al oricărei societăți comerciale: intenţia comună de a constitui o societate în vedere obţinerii unor beneficii, denumită *affectio societatis* [13, p.146.]. Deși, așa după cum ne spune definiția, *affectio societatis* reprezintă intenţia comună a asociaţilor de a desfăşura în comun o activitate comercială, nu trebuie să presupunem că *affectio societatis* nu există în cazul unei astfel de societăți, diferența constă doar în modul în care aceasta se manifestă, astfel că în cazul SRL-ului cu asociat unic avem de-a face cu o singură voinţă a asociatului respectiv. În acest context reţinem, că în cazul SRL-lui cu asociat unic *affectio societatis* reprezintă intenţia acestuia de a constitui o societate comercială şi de a desfăşura o activitate de întreprinzător de sine stătătoare, având ca scop creșterea valorii societății sale.

După cum am specificat supra, statutul SRL-ului cu asociat unic reprezintă de fapt un veritabil act constitutiv [1, art.12 alin. (1)] şi trebuie să cuprindă clauzele obligatorii prevăzute de art. 13 și 13^1 ale Legii 135/2007. Aceste cerințe minime, care trebuie incluse în statutul SRL-lui cu asociat unic sunt prevăzute și în art. 3 și 4 ale Directivei (UE) 2017/1132 [14]. Aici, doar rămâne de concretizat că, asociatul SRL-ui, fiind singurul fondator al societății sale, are deplina libertate să insereze în cuprinsul statutului şi alte clauze care corespund situaţiei concrete în care va funcţiona SRL-ul, cu condiția ca aceste clauze să nu contravină normelor imperative. Alt moment ce trebuie concretizat, constă în faptul că în statutul societății ce se constituie nu trebuie să fie indicată menţiunea că această societate este o SRL cu asociat unic. Acest fapt rezultă din prevederile art. 3 alin. (1) al Legii 135/2007 care prevede că

„Denumirea deplină a societăţii va include, în mod obligatoriu, cuvintele „societate cu răspundere limitată" scrise în limba română, iar denumirea prescurtată va conţine abrevierea „S.R.L."[1].

Societatea cu răspundere limitată cu asociat unic, ca de altfel orice formă de societate reglementată de legislația civilă, dobândeşte personalitate juridică din momentul în care s-a înregistrat [4, art. 176; 1, art. 9,15]. În acest sens sunt și prevederile art. 176 alin. (1) Cod civil, care prevede că persoana juridică dobândește capacitate de folosință de la data înregistrării ei de stat. Și la nivelul Uniunii Europene a fost instituită obligația de înregistrare, sau așa cum este prevăzută în art. 5 al Directivei (UE) 2017/1132 *„Autorizarea pentru începerea activității" [14].*

Dobândind personalitate juridică proprie din momentul înregistrării sale, societatea cu răspundere limitată cu asociat unic se manifestă în raporturile cu terții ca un subiect distinct de drept, în numele său propriu, pe cont propriu și sub răspundere patrimonială proprie, putând să dobândească și să-și exercite drepturi patrimoniale și personal nepatrimoniale și să-și asume obligații, distincte de cele ale asociatului unic. În acest context, SRL-ul nou creat se va individualiza în ansamblul raporturilor pe care le stabileşte în desfăşurarea activităţii sale cu ceilalţi profesionişti, cu autorităţile publice etc. printr-o serie de atribute, printre care: denumirea de firmă, sediul, naționalitatea, precum și printr-un număr de înregistrare în Registrul de stat al persoanelor juridice.

Ca și orice societate cu răspundere limitată și SRL-ul cu asociat unic poate desfășura orice gen de activitate neinterzis de legislație, cu excepția genurilor pentru care legea a impus o anumită formă juridică societăţilor comerciale. De asemenea se ține de concretizat, că anumite genuri de activitate stabilite de lege, se desfășoară numai în baza actului permisiv prevăzut de Legea nr.160/2011 privind reglementarea prin autorizare a activității de întreprinzător, iar altele sunt permise, conform art. 10 alin. (3) al Legii 485 cu privire la antreprenoriat și întreprinderi, doar întreprinderilor de stat. Cu titlu de exemplu menționăm doar câteva din aceste genuri, precum: supravegherea şi tratamentul bolnavilor care suferă de narcomanie, boli contagioase periculoase şi deosebit de periculoase; confecţionarea ordinelor şi medaliilor; producerea emblemelor ce confirmă achitarea impozitelor şi taxelor de stat; evidenţa de stat, înregistrarea de stat şi inventarierea tehnică (inclusiv paşaportizarea) a bunurilor imobile, restabilirea documentelor pentru dreptul de proprietate şi administrarea acestor bunuri; imprimarea bancnotelor şi baterea monedelor metalice, imprimarea valorilor mobiliare de stat etc. [3].

Dacă este să ne expunem asupra funcționării SRL-ului cu asociat unic, autorii de specialitate susţin, că funcţionarea societăţii cu răspundere limitată cu asociat unic se bazează pe două principii esenţiale, cel al separaţiei de competenţe între propriile sale organe şi cel al separaţiei de patrimonii între societate şi asociatul unic [15, p.88].

În acest sens menționăm, că şi societatea cu răspundere limitată cu asociat unic, ca și orice altă formă societară, are în structura sa internă cele trei organe obligatorii, fiecare având atribuţii şi competenţe bine determinate și anume: organul suprem de decizie [1, art. 48-62], reprezentat de asociatul unic care exprimă voinţa societăţii, conform art. 62 alin. (1); organul de gestiune curentă sau de administrare [1, art. 69-76]; şi, desigur, organul de control asupra gestiunii societății și activității administratorului, reprezentat de cenzori [1, art. 77-79].

În literatura de specialitate despre adunarea generală a asociaților s-a afirmat că aceasta este prin excelență organul suprem de decizie, în cadrul căreia se formează voința socială [17, p.136]. Revenind la particularitățile specifice SRL-lui cu asociat unic menționăm, că asociatul unic îndeplinește toate atribuțiile specifice organului suprem de decizie, prevăzute de art. 58 al Legii 135/2007 [1]. Aceiași prevedere o regăsim și la art. 4 al Directivei

2009/102/CE cu privire la societățile cu răspundere limitată cu asociat unic [5]. Astfel, în calitate de organ deliberativ, asociatul unic are prerogativa de a decide cu privire la gestionarea zilnică și funcționarea societății, incluzând următoarele aspecte: numirea sa ca administrator sau renunțarea la această calitate, desemnarea și revocarea administratorilor persoane fizice și juridice, inclusiv stabilirea împuternicirilor acestora; aprobarea sau respingerea contractelor încheiate între administrator și societate; numirea și revocarea unui sau mai multor cenzori; precum și deciziile referitoare la existența însăși a societății, inclusiv modificarea actului constitutiv în ceea ce privește durata societății, schimbarea denumirii, schimbarea sediului, deschiderea de sucursale, modificarea obiectului de activitate, majorarea sau reducerea capitalului social, cu respectarea reglementărilor legale, modificarea formei juridice a societății sau transformarea acesteia dintr-o societate unipersonală într-o societate cu răspundere limitată cu mai mulți asociați, reorganizarea și lichidarea societății, atragerea de noi parteneri etc.

Ceia ce legea specială cere de la asociatul unic, așa după cum rezultă din prevederile art. 62 din Legea nr. 345/2007 [1], deciziile pe care le ia trebuie să fie întocmite în scris. Această obligație o regăsim și în art. 4 al Directivei 2009/102/CE [5]. Considerăm că introducerea unei astfel de obligații în Legea 345/2007 s-a fundamentat pe două rațiuni principale ale legiuitorului, și anume: în primul rând protejarea interesului societății și în al doilea rând protejarea intereselor terților, ori față de hotărârile asociatului unic se poate exercita un control doar de terţi pe calea acțiunii în justiție, din considerentul că în cazul SRL-ui cu asociat unic nu sunt aplicabile dispoziţiile art. 202 Cod Civil privitoare la nulitatea hotărârii organului de decizie. În acest sens putem concluziona, că lipsa formei scrise va lipsi de efecte juridice decizia asociatului unic atât în raport cu societatea, cât și în raport cu terții.

Analizând legislația națională observăm, că în normele naționale nu există nici o prevedere legală ce ar obliga asociatul unic să țină un registru intern al deciziilor luate, or un astfel de registru special ar fi necesar pentru a curma tendinţa asociatului unic de a abuza de dreptul său absolut de decizie și pentru a asigura formalitățile de publicitate față de terții care ar putea avea anumite interese în legătură cu activitatea SRL-ului cu asociat unic. În acest sens, propunem *de lege ferenda* completarea conținutului art. 62 alin. (2) cu următoarele „*Asociatul unic este obligat să-și consemneze deciziile într-un Registru special al deciziilor, sub sancţiunea nulităţii absolute*".

Concluzionând la acest subiect menționăm, că asociații unici au o flexibilitate foarte mare în stabilirea regulilor interne ale societății, inclusiv în ceia ce privește gestionarea și controlul propriei afaceri și aceasta deoarece nu trebuie să ia în considerare interesele celorlalți asociați. Astfel, stabilindu-și în statut propriile reguli de joc, care de fapt nu trebuie să contravină legislației, dar care îi permit asociatului să își stabilească un mecanism propriu de luare a deciziilor, nu are decât să se conformeze propriilor sale reguli. În acest sens atragem atenția și asupra faptului, că în lipsa unei adunări generale ca organ deliberativ colectiv, asociatul unic este singurul responsabil pentru deciziile majore care privesc direcția și dezvoltarea societății sale.

În ceia ce privește atribuțiile de gestionare și administrare a SRL-lui cu asociat unic, din prevederile legale rezultă cert, că asociatul unic are două soluții în acest sens. Prima ar fi numirea unui terț persoană fizică sau juridică în calitate de administrator și a doua posibilitate ar fi numirea sa în calitate de administrator, caz în care asociatul preia și atribuțiile administratorului. Atragem atenția că în legislația unor state, cum ar fi de exemplu cea a Franței, nu există posibilitatea numirii unui terț în calitate de administrator, asociatul unic

trebuind să decidă personal cu privire la societatea cu răspundere limitată, fără a putea să transfere puterile sau competenţele sale de conducere unui terţ [16, p. 295].

O altă particularitatea a SRL-ului cu asociat unic, la care dorim să atragem atenția, este cea prevăzută la art. 18 alin. (4) care stabilește obligaţia încheierii contractelor dintre societatea cu răspundere limitată şi asociatul unic al acesteia în formă scrisă. Aceiași obligație o regăsim în art. 5 alin. (1) al Directivei 2009/102/CE care prevede că „*contractele încheiate între asociatul unic și societatea sa reprezentată de acesta se consemnează în proces-verbal sau se întocmesc în scris*" [5]. Comparând norma națională cu cea europeană, observăm că ultima este mai rigidă, dând posibilitatea asociatului unic fie să încheie contractul cu societatea sa în formă scrisă, fie să consemneze contractul într-un proces-verbal. Mai mult decât atât, alin. (2) al art. 5 al Directivei [5], este și mai permisibil, scutind de această formalitate operațiunile curente ale societății, chiar dacă acestea se întemeiază pe contracte încheiate de societate cu asociatul unic, acordându-se astfel prevalența principiului celerității afacerilor [17, p. 274]. Și la acest capitol considerăm că legiuitorul nostru ar trebui să-și revizuiască poziția, instituind o normă mai flexibilă și mai eficientă, care să păstreze, până într-un anumit punct, cerința respectării formei scrise a contractelor dintre asociatul unic și societatea sa, dar care, în același timp, să garanteze rapiditatea luării deciziilor, atunci când eficiența în afaceri este în joc.

Așa cum este indicat în literatura de specialitate, dincolo de luarea deciziilor și de gestiunea societății trebuie să existe și un control special asigurat fie de cenzori, mandatari ai societății, fie de asociații care nu cumulează și calitatea de administrator [17, p.136]. Analizând secțiunea a 5-a a Legii 135 observăm, că în cazul societăților cu răspundere limitată nu este obligatorie numirea cenzorilor, controlul gestiunii putând fi îndeplinit, conform art. 77 alin. (1) și de asociatul care nu îndeplinește și funcția administrator al societății [1]. Astfel, în cazul în care asociatul îndeplinește și funcția de administrator al societății sale, în conformitate cu art. 77 alin. (3) liter. a) el nu poate fi numit și în calitate de cenzor. În acest caz, chiar dacă asociatul unic îndeplinește și atribuțiile adunării generale și se desemnează și în calitate de cenzor, hotărârea privind desemnarea sa va fi nulă, el neavând dreptul să exercite atribuţiile cenzorului.

Recapitulând menționăm, că deși într-un SRL cu asociat unic, asociatul joacă un rol important în cadrul acestuia, atât în ceia ce privește luarea deciziilor, cât și în gestionarea și controlul societății, această activitate a sa nu se confundă cu întreaga activitate a societății cu răspundere limitată, ori toate deciziile sale sunt considerate a fi al SRL-lui al cărui asociat este. În acest sens menționăm, că cele trei categorii de organe la care ne-am referit supra au un rol esențial în existența și funcționarea societății cu răspundere limitată cu asociat unic, fiind indispensabile acesteia. Astfel, asociatul unic nu poate prevedea în statutul societății posibilitatea de a renunța la anumite categorii de organe dintre cele enumerate, cu excepția organului de control.

4. Concluzii

Reglementările referitoare la societățile cu răspundere limitată cu asociat unic sunt de dată relativ recentă, primul pas semnificativ fiind făcut în Germania în 1980, urmat de reglementări în Franța și alte state europene. În dreptul autohton, această formă de societate a fost reglementată pentru prima dată în 1997 și a fost consolidată de-a lungul timpului prin modificări legislative, culminând cu includerea acestui tip de societate în Codul Civil din 2002, preluată ulterior Legea nr. 135/2007 privind societățile cu răspundere limitată. Astfel,

introducerea SRL-ului cu asociat unic a reprezentat o schimbare radicală în structura tradițională a societății comerciale, care anterior presupunea un număr minim de doi asociați. Prin urmare, pentru a stimula inițiativa antreprenorială și a oferi un cadru legal pentru persoanele care doreau să își constituie și gestioneze afacerea proprie, fără a implica alte persoane asociate, normele cu privire la SRL-ul cu asociat unic a redus barierele administrative pentru înființarea unei astfel de afaceri, aducând un plus de flexibilitate în organizarea afacerilor.

Deși legislația națională nu reglementează explicit, dar nici doctrina nu abundă în explicații cu privire la natura juridică a SRL-ului cu asociat unic, unii considerând că reprezintă o formă de societate separată, alții o privesc ca o variantă a SRL-ului tradițional, totuși interpretarea legislației din acest domeniu ne duce la concluzia că SRL-ul cu asociat unic nu este o nouă formă de organizare a societăților, ci este o veritabilă societate cu răspundere limitată, ce prezintă anumite particularități, printre care: asociatul unic are controlul total asupra deciziilor, inclusiv asupra numirii administratorului, stabilirii obiectului de activitate și reorganizării societății. Această structură simplificată este însoțită însă de anumite reglementări, care protejează interesele terților, cum ar fi obligația ca deciziile să fie întocmite în scris, dar și reglementări privind contractele încheiate între societate și asociatul unic.

Cu toate acestea, marele avantaj al desfășurării activității de întreprinzător sub această formă organizatorico-juridică constă în separarea patrimoniului fondatorului de cel al societății sale, societatea răspunzând pentru obligațiile sale cu acest patrimoniu, spre deosebire de întreprinzătorul individual, care răspunde nelimitat pentru obligațiunile asumate în contextul desfășurării acestei activități.

Abordând în această lucrare regimul juridic al societății cu răspundere limitată cu asociat unic, prin analiza comparativă a reglementărilor naționale și europene, am identificat similitudinile și diferențele dintre aceste reglementări, evidențiind punctele forte și unele lacune ale legislației naționale, propunând și unele recomandări de politici pentru îmbunătățirea cadrului juridic național. În acest sens se propune ca în legislația națională să fie recunoscut explicit că *affectio societatis* este aplicabil și în cazul SRL-ului cu asociat unic, sub forma voinței individuale a asociatului de a desfășura activitate de întreprinzător independentă, cu precizarea expresă a caracterului de act constitutiv al statului SRL-ului cu asociat unic și menționarea obligatorie a unicității asociatului în statut. Deși în legislația națională nu este impusă această mențiune, o clarificare în acest sens ar aduce transparență și ar evita unele confuzii în raporturile cu terții.

O altă propunere se referă la flexibilizarea regulilor privind încheierea contractelor dintre SRL și asociatul unic, legislația actuală prevăzând că toate contractele între SRL și asociatul său să fie încheiate în formă scrisă. Se recomandă în acest sens ajustarea legislației, pentru a permite ca anumite contracte între SRL și asociatul unic să fie consemnate într-un proces-verbal, similar normelor din Directiva 2009/102/CE, în vederea accelerării proceselor decizionale și a facilitării activităților comerciale.

De asemenea, cu titlu de recomandare se propune modificarea Legii nr. 135/2007, pentru a introduce obligația asociatului unic de a consemna toate deciziile sale într-un Registru special al deciziilor, sub sancțiunea nulității absolute. Această măsură ar contribui la protejarea terților și la evitarea eventualelor abuzuri din partea asociatului unic.

Prin abordarea comparativă a problemei cercetate, lucrarea oferă o înțelegere mai profundă a impactului legislației europene asupra dreptului societar național și poate servi

drept bază pentru viitoarele ajustări necesare alinierii optime a legislației naționale la standardele Uniunii Europene. De asemenea, lucrarea poate fi un reper util atât pentru practicienii dreptului, cât și pentru cei ce sunt interesați de a desfășura o activitate de întreprinzător sub forma de organizare a societății cu răspundere limitată, nedorindu-și asocierea cu alți antreprenori.

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Referințe bibliografice:

1. Legea privind societățile cu răspundere limitată Nr. 135 din 14.06.2007, publicat în Monitorul Oficial nr. 127-130 din 17.08.2007, art. 548.
2. Lefter, C. *Fundamente ale dreptului comunitar instituţional, societatea cu răspundere limitată în dreptul comparat*. Economică, Bucureşti, România, 2003, 246 p.
3. Legea cu privire la antreprenoriat și întreprinderi Nr. 485 din 03.01.1992, publicat în Monitorul Parlamentului nr. 2 din 28.02.1994, art. 33.
4. Codul civil nr. 1107 din 06.06.2002, publicat în Monitorul Oficial nr. 82-86 din 22.06.2002, art. 661, în vigoare din 18.07.2003.
5. Directiva 2009/102/CE a Parlamentului European și a Consiliului din 16 septembrie 2009 în materie de drept al societăților comerciale privind societățile comerciale cu răspundere limitată cu asociat unic. Disponibil online: http://data.europa.eu/eli/dir/2009/102/oj (accesat la 08.11.2024).
6. Dicționarul Explicativ al Limbii Române (DEX). Disponibil online: https://dexonline.ro/definitie/asociat (accesat la 12.11.2024).
7. Cărpenaru, S.D. *Tratat de drept comercial român*. Universul Juridic, București, România, 2014, 844 p.
8. Voica, I. *Regimul juridic al societății cu răspundere limitată cu un singur asociat în dreptul comunitar european*. Matricea, București, România, 2005, 362 p.
9. Nemeș, V. *Drept comercial, ediția a 2-a revizuită și adăugită*. Hamangiu, București, România, 2015, 545 p.
10. Smarandache, L. E. *Societăți comerciale*. Sitech, Craiova, România, 2010, 246 p.
11. Săuleanu, L. Societatea cu răspundere limitată cu asociat unic. Disponibil online: https://www.barouldolj.ro/assets/docs/files/srl-unic-asociat-sauleanu,6397578c16a52.pdf (accesat la 29.10.2024).
12. Vasilescu, P. *Relativitatea actului juridic civil. Repere pentru o nouă teorie generală a actului de drept privat*. Rosetti, Bucureşti, România, 2003, 381 p.
13. Cărpenaru, S.D., Piperea, Gh., David, S. *Legea societăţilor*. C.H. Beck, Bucureşti, România, 2014, 960 p.
14. Directiva (UE) 2017/1132 a Parlamentului European și a Consiliului din 14 iunie 2017 privind anumite aspecte ale dreptului societăților comerciale. Disponibil online: https://eur-lex.europa.eu/eli/dir/2017/1132/oj (accesat la 29.10.2024).
15. Piperea, Gh. *Drept comercial. Întreprinderea în reglementarea NCC*. C.H. Beck, Bucureşti, România, 2012, 407 p.
16. Buttet, E. *Procès-verbal de décisions de l'associé unique d'E.U.R.L*. Bull. Joly, 1989, 385 p.
17. Leuciuc, E.G. *Regimul juridic al societății cu răspundere limitată*. Universul Juridic, București, România, 2018, 282 p.

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