



Moldova Team

Case study in progress from the KIX-EAP learning cycle “Equitable Access to Education with Geospatial Data” held in collaboration with IIEP UNESCO

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About case studies in progress

This case study in progress was drafted by a national team that participated in the KIX EAP Learning Cycle: Equitable Access to Education with Geospatial Data. Case studies in progress are ongoing and incomplete studies. As such, the KIX EAP Hub/ NORRAG does not guarantee the quality of the work nor the accuracy of the data.

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About the KIX-EAP Hub

The Global Partnership for Education (GPE) Knowledge and Innovation Exchange (KIX) is a joint endeavour with the International Development Research Centre (IDRC) to connect expertise, innovation, and knowledge to help GPE partner countries build stronger education systems and accelerate progress toward SDG 4. There are globally four KIX hubs or Regional Learning Partners, overseen by IDRC. The hub functions as a regional forum within KIX. NORRAG (Network for International Policies and Cooperation in Education and Training) is the Regional Learning Partner for the KIX Europe Asia Pacific (EAP) hub.

The KIX EAP hub facilitates cross-country knowledge and innovation exchange and mobilisation, learning, synthesis, and collaboration among national education stakeholders in 21 GPE partner countries in the EAP region. The hub also offers opportunities for peer learning and exchange by means of professional development and inter-country visits.

About the KIX EAP Learning Cycle Equitable access to education with geospatial data

This case study is a result of the KIX EAP Learning Cycle “Equitable access to education with geospatial data”. Organised by NORRAG and the UNESCO International Institute for Educational Planning (IIEP), this professional development course ran from 15 June to 16 July 2021. Across 5 weeks, this Learning Cycle enabled participants to apply basic mapping techniques on a geographic information system (QGIS), understand the geospatial dimension of educational planning and management, and challenge the different aspects of equitable access to education by harnessing the power of geospatial data in their daily work. 10 national teams from Afghanistan, Bangladesh, Bhutan, Cambodia, Kyrgyz Republic, Maldives, Moldova, Pakistan, Papua New Guinea, and Sudan took part in this Learning Cycle.



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1. Introduction

The course Equitable access to education with geospatial data was extremely informative, enjoyable, and above all valuable for our team. Our group consisted of five members: Musienco Victoria, Ciorici Corneliu, Guitu Carolina, Prisacaru Angela, and Calmicov Olesea. Being employees of the Ministry of Education and Research, we found this course very interesting and relevant to our daily activities.

Over the past few years, education in Moldova is developing rapidly towards digitalization and technical growth. One of the main indicators of progress has been the implementation of the educational management information system for data entry at the national level. Thus, it became possible to analyze correctly and efficiently statistical data based on this adapted legislation. Till now, we have not used any softs destined to process the geospatial data. The range of possibilities that we got acquainted with during the course are very useful and give us the opportunity to analyze some important questions from another perspective.

2. What is equity in the Team's country?

Equity represents equal opportunities regardless of ethnicity, gender, aspect in the exercise of certain attributions and obtaining some results. The Ministry of Education and Research in the process of developing and implementing educational policies is based on creating a fair, viable system, as well as providing opportunities for all people employed in the system to develop new skills depending on the changes suggested by society. According to the Education Code no. 152/2014, the citizens of the Republic of Moldova have equal rights of access to initial education and continuing vocational training through the national education system. The state provides funding for the standard package of educational services for preschool, primary, secondary and high school education. In the case of technical vocational education and higher education, budgetary funding is granted within the limits of the admission plan approved annually by the Government. In the educational process, precarious attention is paid to pupils/people with special educational needs as well as to pupils/students with special performances. At the same time, the training and development of communication skills in English, French, and Russian in all public general education institutions is guaranteed. The basic purpose of education is the formation of integrity, the development of a system of skills that include knowledge, skills, attitudes, and values that allow the active participation of the individual in social and economic life.

Classification of the national educational programs according to ISCED 2011 is presented as follows:

Levels of education by ISCED 2011	Equivalent in the education system of the Republic of Moldova	Age
Early childhood educational development (level 01)	Early childhood education	1-2 y.o.
Pre-primary education (level 02)	Preschool education	3-6 y.o.
Primary education (level 1)	Primary education (grades I to IV)	7-10 y.o.
Lower secondary education (level 2)	Lower secondary education – gymnasium (grades V to IX)	11-15 y.o.
Upper secondary education (level 3)	Upper secondary education (the final stage of compulsory education also): lyceum education, grades X-XII secondary vocational education (for graduates of the gymnasium) postsecondary vocational education (the first two years for graduates of the gymnasium)	16-18 y.o.
Post-secondary, non-tertiary education (level 4)	Secondary vocational education (for graduates of general secondary schools and lyceums)	19-23 y.o.
Short-cycle tertiary education (level 5)	Postsecondary vocational education (exclusive the first two years for graduates)	



	of the gymnasium)	
Bachelor's or equivalent level (level 6)	Bachelor's higher education (cycle I)	
Master's or equivalent level (level 7) Long first-degree program equivalent at level 7	Master's higher education (cycle II) Integrated higher education, inclusive medicine and pharmacy	
Doctoral or equivalent level (level 8)	Doctoral higher education (cycle III) Postdoctoral programs	

At the beginning of 2020/2021 study year, the total number of pupils and students amounted to 438.2 thousand, or by 119.6 thousand less than in 2010/2011. At the same time, the total number of pupils and students increased by 4.7 thousand compared to the 2019/2020 study year. Thus, at the beginning of the 2020/2021 study year, there were 1687 pupils and students per 10 000 inhabitants, compared to 1640 in 2019/2020. Compared to 2015/2016, the number of primary and general secondary education institutions decreased by 82 units (in 2020/2021 – 1241 units), but at the same time, the number of pupils in them registered insignificant changes (334.4 thousand in 2020/2021 compared to 334.5 thousand in 2015/2016).

In 2020, lower secondary education graduated 30.8 thousand pupils, of whom 26.4 thousand, or 85.7 percent, continued education and pursued upper secondary education in the same year (44.2% – in lyceum education and 41.5% – in vocational); general upper secondary graduated 11.2 thousand pupils, of whom 8.9 thousand, or 79 percent, continued education and pursued higher education in the same year. In the 2020/2021 study year, 42 vocational schools were providing secondary vocational training programs, 36 colleges – post-secondary vocational training programs, and 13 centers of excellence providing both postsecondary and secondary vocational training programs. At the beginning of the 2020/2021 study year, there were 44.8 thousand students in these institutions, of which 13.9 thousand in vocational schools, 18.4 thousand in colleges, and 12.56 thousand in centers of excellence. From total enrolments in the centers of excellence, 11.4 thousand were covered by postsecondary vocational training programs and 1.2 thousand by secondary vocational training programs. The total number of students enrolled at the beginning of the 2020/2021 study year in vocational education decreased by 8.7 thousand (or 16.3 percent) compared to 2010/2011.

In 2020, vocational education was graduated by 11.9 thousand persons, of which 6.3 thousand postsecondary vocational training programs and obtained the Diploma of professional studies, and 5.6 thousand - the secondary one and obtained the Certificate of qualification. In the 2020/2021 study year, there were 24 higher education institutions, with 59.0 thousand students in them. In the period 2010-2020 the number of higher education institutions decreased by 9 units, and the number of students in them by about 49 thousand. At the beginning of the 2020/2021 study year, the majority of all students in higher education represented public institutions (83.9 percent). In 2020, 9.4 thousand graduates of higher education obtained the License's diploma and 5.2 thousand – Master's diploma, or its equivalent. In 2020, there were 39 doctoral schools, with 1.7 thousand doctoral students in them and 246 graduates registered.

The first initiative to digitize the process of data collection in the educational field happened in 2010, but the implementation of the first informational management system in education at the national level for general education was in 2012. For 10 years the system was modernized and developed. As a result, we have access to a lot of different reports. Analyzing the quality of the data annually, there is a significant increase in the veracity and quality of the data. Due to this fact, the analysis and report will be based on general education data.

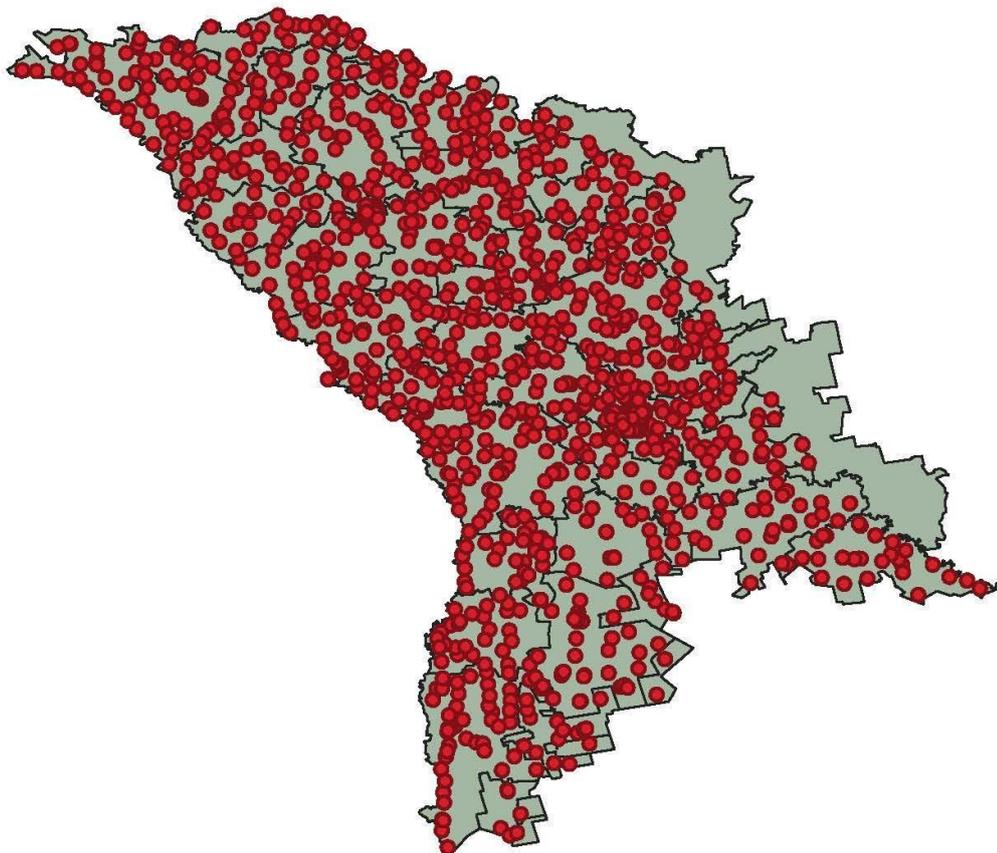


The language of instruction under Soviet rule was Russian. However, in 1989, Moldovan was adopted as the official language and in the year 2000, nearly two-thirds of all pupils were studying in schools where Moldovan was the language of instruction. However, schools serving the needs of minorities and schools with Russian, Gagauzian, Ukrainian, and Bulgarian as the language of instruction are also present. Students of other nationalities (Jewish, Polish, and German) have the opportunity to study these as separate subjects. Nonetheless, state policy emphasizes that all citizens should study Romanian.

3. The school map for an educational level

Our team decided to make an analysis based on general education data from the 2020-2021 study year. All the data were extracted from the Educational Management Informational System (EMIS) - the official data source for education at the national level. Until 2016 all the schools (public, private) have to introduce and constantly update the requested information in EMIS. Our team elaborated a School map of the Republic of Moldova, according to data collected in EMIS. This map includes the representation of administrative boundaries and the position of all national schools. As we can see, the densest concentration of schools is located near the capital of the Republic of Moldova – Chisinau, also all the districts have access to schools across the whole country. As a clarification, it is necessary to add that the east-central part of Moldova has no marked schools because in this area is situated Transnistria. This is the district that in 1990 was partially recognized as a sovereign entity after it declared independence from Moldova. They have their legislation and the Government, that's why the Ministry of Education and Research of Moldova doesn't possess their data about the education area.

Fig 1. The school map for general education in the Republic of Moldova



4. What may affect the demand for education?

At first glance, it may seem that processing the geospatial data may be relevant only for countries with various terrain. Also, even for Moldova which has the uniform relief throughout the whole country, there is other georeferenced information that could help us to analyze the influence of location on certain indicators. There are presented the most important factors that influence equitable access to education:

1. Studying language;
2. Distance traveled from home to school;
3. A significant difference between rural and urban schools;
4. Ethnicity;
5. Children from vulnerable families;
6. Availability of sewerage and drinking water;
7. Location of the gas pipeline in relation to the school

Moldova is a diverse and multiethnic country with a great heritage and tradition and rich culture and history. Based on the dates of the population census, conducted in 2014, representatives of numerous national, ethnic, religious, and linguistic minorities are living in the Republic of Moldova.

In 2014, the National Bureau of Statistics of the Republic of Moldova¹ organized the Moldovan census. On 31 March 2017, the National Bureau of Statistics officially announced a part of the census results. The census covered people with habitual residence (living in Moldova for over 12 months regardless of citizenship) and citizens gone from the country for more than 12 months. Accordingly, the census covered 2,998,235 people. In addition, estimated 193,434 persons were not covered by the census. In Chişinău municipality, as many as 41% of the population were not covered. The total population in Moldova covered is 2,804,801, of which about 209,000 (7.5%) were non-residents (living mostly abroad for over 12 months). The number of habitual residents in Moldova was 2,595,771.²

2,754.7 thousand people (98.2%) reported their ethnicity, and the distribution is as follows:

- 75.1% Moldovans
- 7.0% Romanians
- 6.6% Ukrainians
- 4.6% Gagauz
- 4.1% Russians
- 1.9% Bulgarians
- 0.3% Roma
- 0.5% other

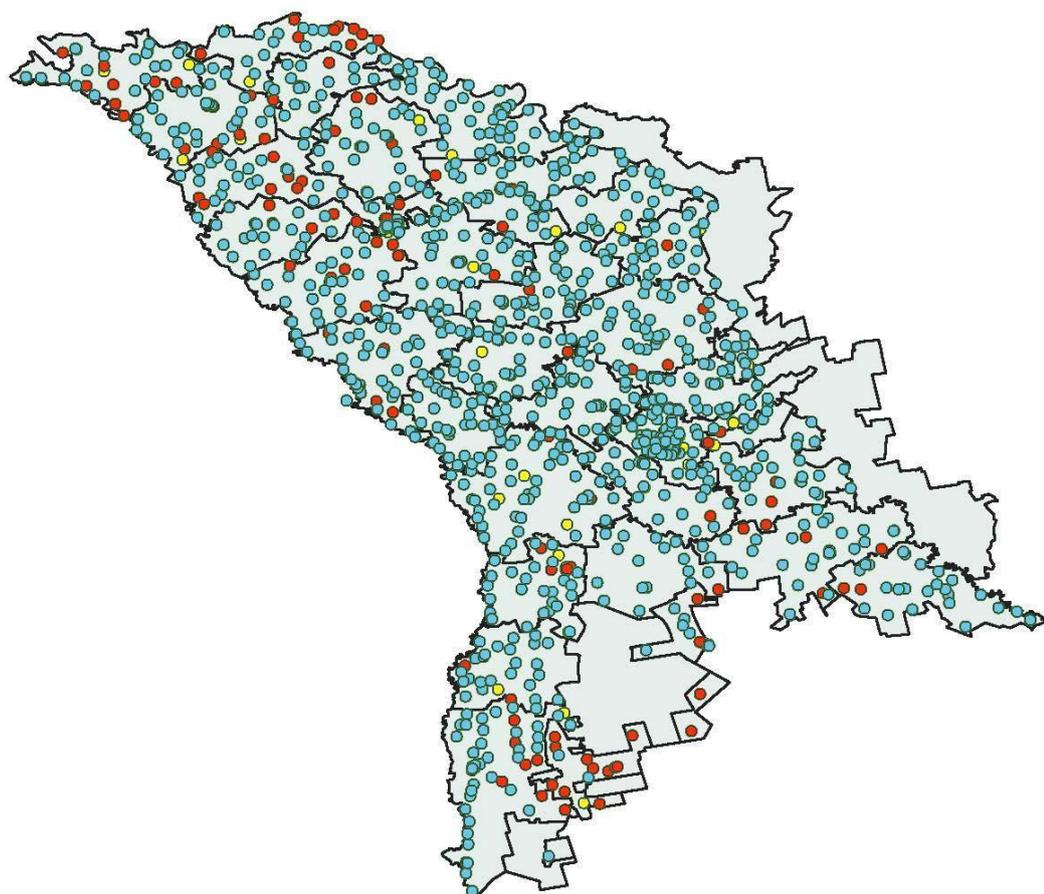
Respecting the rights and access to quality education and education for all, regardless of ethnicity and religion, is one of the priorities of the Ministry of Education and Research of the Republic of Moldova.

¹ <https://statistica.gov.md/pageview.php?l=en&idc=479>

² <https://recensamint.statistica.md/en>

5. How equitable is the supply of education?

Fig. 2 The school map by study language for general education in the Republic of Moldova



- Study language - Russian
- Study language – Romanian
- Study language – both: Russian and Romanian

During the analysis of the main influence factors, it was identified the importance of the position of institutions with different languages of instruction: Russian, Romanian, others. Nearby the large cities there are schools with Russian and Romanian language of instruction. Also, the situation throughout the country is different. Due to urbanization, schools have been closed in many settlements, and if we also add the language factor as a filter, then the provision of equal access to education becomes a topical issue. A multilingual educational environment also affects the demand for didactic staff, depending on the type of educational institution. It is important to note that one of the main factors in such a distribution of schools by the language of instruction is associated with the ethnicity of the population living in these regions. We mention that in the institutions where students belonging to national minorities study, the training is done in Russian. At the same time, these students study their mother tongue and language, the culture and traditions of their people.



6. Policy responses for more equitable access

In the Republic of Moldova, the population has registered a declining trend in the last 20 years. Thus, the school network is constantly streamlined. In this context, the analysis using the geospatial location is important to make the right decisions and not to limit the access to studies for each beneficiary. Analyzing the type of institutions, the language of instruction, the road infrastructure, and the geographical specificity (in Moldova there are winters with a lot of snow and sometimes certain sections of the road become impassable), a map can help to make the right decisions regarding the formation of the network of educational institutions, to studies and equity.

Thus, to improve equitable access:

1. Develop and implement specific strategies to ensure that school is easily accessible to all children and adolescents and that basic education is affordable for all families.
2. Ensure that minority children have access to quality education as much as other children.
3. Develop and implement specific strategies to improve the quality of education and meet the learning needs of all children.
4. Improve the status, training, and professionalism of teachers, including early childhood educators, by providing them with appropriate remuneration for their work and opportunities and incentives to improve their skills.
5. To define an additional set of data required for collection at the national level to process information about schools in conjunction with geospatial data.