

Lot 3 - Evaluation of ROP 2014-2020 interventions

FINAL EVALUATION REPORT

Theme 10. Improving the educational infrastructure

August 2019

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Contract no. 266/19.09.2018

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DISCLAIMER

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The opinions expressed herein are of the consortium and do not necessarily reflect the views of the Contracting Authority, namely the Ministry of Regional Development and Public Administration, nor of the Managing Authority for the Regional Operational Program 2014-2020.

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List of Abbreviations

CA	Contracting Authority
RDA	Regional Development Agencies
ROP MA	Managing Authority for the Regional Operational Program
ARACIP	Romanian Agency for Quality Assurance in Pre-university Education
ROP BE	Office for the Evaluation of the Regional Operational Program
ECC	Evaluation Coordination Committee
ToR	Terms of Reference
ROP MC	Monitoring Committee of the Regional Operational Program
ERDF	European Regional Development Fund
NIS	National Institute for Statistics
VET	Vocational education and training
ISE	Institute of Education Sciences
MEN	Ministry of National Education
MS	Ministry of Health
IB	Intermediate Body
SO	Specific Objective
MEP	Multiannual Evaluation Plan
ROP	Regional Operational Programme
SIIR	The Integrated Education System in Romania
ATU	Administrative Territorial Unit
UMPMRSU	Project Management Unit for the Modernization of the School and University Network



This evaluation report was made in Phase 2 implemented under contract no. 66/ 19.09.2018 “Lot 3 - Evaluation of ROP 2014-2020 interventions” concluded between the Ministry of Regional Development and the Public Administration and the association of companies Lattanzio Advisory Spa and Lattanzio Monitoring and Evaluation SRL.

The report is based on the results generated by the analysis of the data collected for this study and presents the conclusions and recommendations resulting from these findings. This report is the result of an independent evaluation, and the opinions expressed belong to the evaluators and do not necessarily reflect the opinions of the Ministry of Regional Development and Public Administration.

1. Executive summary

This evaluation report was prepared in Phase 2 implemented under contract no. 266/ 19.09.2018 “Lot 3 - Evaluation of ROP 2014-2020 interventions” concluded between the Ministry of Regional Development and the Public Administration and the association of companies Lattanzio Advisory Spa and Lattanzio Monitoring and Evaluation SRL.

The assessment was carried out between February and July 2019. The evaluation methodology was based on a mixed, quantitative, but especially qualitative approach, given the early stage of implementation of many projects. The evaluation methodological framework considered two evaluation criteria - effectiveness and sustainability - which were analysed considering four evaluation questions.

Evaluation Question 1: To what extent have the ROP interventions contributed to the achievement of the three specific objectives in the field of education and to the achievement of the targets of the related outcome indicators?

Evaluation Question 2: What types of interventions have proven to be effective and why? Are there good examples of ROP interventions/ mechanisms in the field of education?

Evaluation question 3: What is the degree of sustainability of the educational dimension of the actions promoted through the ROP? (sustainability)

Evaluation question 4: Is the sustainability of the effects different depending on certain elements, for example demographic evolution?

In terms of data collection and analysis methods, the evaluation included documentary research, semi-structured individual and group interviews, focus groups, case studies and experts panels.

Conclusions the results of the evaluation were the following:

Effectiveness

- The interventions subordinated to the analysed projects will significantly contribute to the implementation of the SO 10.1, which refers to the investments in kindergartens and schools - a good part of the budget being already contracted, of this a significant proportion being also reimbursed. Large centralized projects (MEN beneficiary, in partnership with ATU), which accumulate the most consistent part of the budget related to the specific objective SO 10.1, can be considered effective (they are the most advanced, as level of achievement) and efficient (unit costs are lower) in achieving the investment objectives, especially considering the continuity of the investment process, the respective projects continuing and finalizing previous interventions. Most of the investment objectives are completed; a good part of the expenses incurred by the beneficiary (MEN) is also reimbursed. As a result, if we refer strictly to the relationship between objectives and results, these projects are the most advanced.

- Also in the case of these centralized projects, the experience of the management team, which manages such infrastructure projects for a long time, has counted. There is a thorough knowledge of each investment objective, of the legislation that favours or, on the contrary, hinders the optimal performance of the respective projects. However, beneficiaries and partners ATU are facing the lack of specialized technical personnel in the field of construction.
- Projects with ATU and Universities as beneficiaries (SO 10.1 with ATU beneficiaries, 10.2. with ATU beneficiaries and SO10.3. with Universities beneficiaries), could not be evaluated from the point of view of the effectiveness, as they are in the early stages. As a result, intentions regarding increasing schooling capacity were considered.
- As all the projects were approved during 2018 and none of the projects is finalized, it is not possible to strictly estimate the achievement of the target values, established for the ROP PA 10 indicators, regarding the increase of the degree of participation in education (gross enrolment rate for pre-school education, primary and high school, technical and professional and higher education). Even if we can predict an increase in the gross enrolment rate in education or, at least, a less pronounced decrease (for most investment objectives), its measure, as well as the causal relationship between interventions and the evolution of the respective indicators, a subsequent impact assessment is needed, using a specific methodology - for example, the counterfactual analysis.
- Moreover, the impact of the negative evolution of the school population, for all levels of education, on the participation rate cannot be anticipated. Until 2017 (the last year for which INS provided statistical data), the decrease of the school population was correlated with an increase of the gross enrolment rate, until 2016, followed by a decrease in 2017. There is not enough data to extrapolate this trend of decreasing of the gross enrolment rate, started in 2017 compared to 2016.
- The field data indicate that there is a risk that in some situations the investments made by ATU may not be fully realized (at least for some investment objectives), or may be quite delayed due to lack of capacity and, in particular, of qualified human resources necessary to carry out such projects. For centralized projects (with MEN as beneficiary), the risk was invoked that part of the ATU partners' expenses will not be registered in MySMIS - and therefore, will not be reimbursed - as the affiliation process is cumbersome (as stated by the project managers).
- The unit cost (per preschool/ pupil/ student) is different from one project to another. The unit cost (for example, the cost of one square meter of built surface) can be indicative only if the constructions are similar. From the discussions with the experts of the central public administration, it turned out that the imposition of maximum prices led to the impossibility of making some investments, due to the large differences of conditions, such as soil quality, average values of outdoor temperature during the school year, the distance to which the materials have to be transported, the quality of transport

infrastructure and much more. At the same time, the imposition of maximum prices created the risk that some investments would be made with poor quality materials, with an effect on the subsequent costs for the maintenance of the respective infrastructures.

- The legislative instability affects the smooth running of the approved projects. We can mention, here, as examples of legislative changes that, in the opinion of the representatives of the beneficiaries of projects, considerably slow down the pace of project implementation:
 - Changes regarding public procurement procedures and their difficulty.
 - The major changes, in the last years, from the salary legislation, which have led to the increase of the real costs of contracting some construction works, above the level anticipated in the financing applications.
 - Changes regarding the ISU legislation or the construction discipline. For example, works started on the basis of fire safety notices, issued before 2016, are in danger of not receiving, at the end, the fire safety authorization, especially when additional funds cannot be allocated for redesign or to bring the investment to the parameters provided in the new regulations.

Sustainability

- On the educational dimension, projects are sustainable. Thus, a certain number of pre-schoolers, pupils and students, whose number even if is in decline, will learn in renovated buildings, which will provide them with previously absent comfort and well-being, and will benefit from additional facilities. All of these, according to the profile research, will have an effect on both school and university participation (and, implicitly, will contribute to reducing school/ university dropout) as well as on learning outcomes. We remind that education is a fundamental right and a universal service, which must be provided regardless of the number of direct beneficiaries. We emphasize that education is a fundamental right and a universal service, which must be provided regardless of the number of direct beneficiaries. From this point of view, all the projects are needed: children who are learning in the respective schools, even if their number is decreasing, they will learn in renovated buildings, which will provide them with comfort and a well-being previously absent, and they will benefit from additional amenities. All of these, according to the profile research, we estimate that will have an impact on both school attendance and, implicitly, will contribute to reducing school dropout/ early school leaving, as well as on the learning outcomes.
- On the other hand, the school population in the educational units subject to the intervention decreased during the life of the project, in an even greater proportion than the school population at national and the counties level of which the respective ATU is a member. As a result, there is no certainty that the respective educational units are sustainable in the medium and long term, even if, in the short term, based on the analysis of demographic trends, we do not anticipate very big problems. The educational units were selected long before the demographic issues appeared, however, the general

design framework should have been made flexible so that it could be possible to either replace the original unit targeted by the rehabilitation/ modernization, or to identify alternative solutions - such as students transport - of course, based on a rigorous cost-benefit analysis.

- From this point of view, correlating the projects that have ATU as beneficiaries with the demographic evolutions, we could find they are better founded on the demographic evolutions, the educational units or the localities in which they are located having a positive evolution of the school population, trend contrary to the county, regional and national level.
- Also, the projects have greater chances of sustainability if they are an integral part of the local development strategies, the investment in the educational infrastructure being correlated with the investment in other areas of the local development - such as the transport and telecommunications infrastructure, with the sanitary infrastructure and, not least, with the investment objectives of the economic sectors, which, through the jobs created, will contribute to stabilization, possibly even to the growth of the population and to the reduction of the phenomenon of internal and external migration.
- Apart from the non-correlation with the demographic evolution, the correlation with the previous interventions and the continuity in the criteria defined for the schools concerned by the interventions constitute a strong point of this intervention. In this respect, the experience of the project management team seems decisive, including with regard to the multiplication/ scaling of the intervention at national level.
- The interest of the beneficiaries towards the professional and technical education (in general) has increased - fact evidenced by the increase of the gross enrolment rate in the vocational education. As a result, we consider that investments in the related infrastructure are sustainable in the long term.

Recommendations of the evaluation for the improvement of the implementation of PA 10, but also for the next programming period are the following:

Effectiveness

- Considering the very different unit cost (per preschool/ pupil/ student) from one project to another and being aware of the diverse conditions in which the constructions approved within the analysed projects are carried out (from the quality of the land, to the thermal regime of the respective localities), in order to increase the efficiency of the investments we recommend ***carrying out annual summaries regarding average costs for different categories of works***, as a guideline for conducting public procurement procedures.
- It is necessary to provide ***additional technical support for ATU beneficiaries who do not have institutional capacity***, nor the personnel needed to carry out such projects, especially since the pre-schoolers and students belonging to the disadvantaged categories are usually located in such ATUs.

- It is necessary to ensure the **legislative stability**, or, at least to reduce the impact of legislative changes on the ongoing investments. For example, the amendments made by the Ordinance 114/2018 require further clarifications as to the manner of implementation envisaged for each of them, as well as an in-depth analysis of the extent to which those changes fully comply with European regulations, as well as of the impact it has on the implementation of large investment projects with European funding.
- Beneficiaries are concerned about reducing bureaucracy at all stages of a project. Based on the experience gained in the preparation and implementation of projects funded from the Structural Funds, the beneficiaries consider that an important lesson that should be learned from the current programming period would be that **the project selection process should be simplified in the pre-contracting stage**. Thus, the efficiency of this process could be made by introducing a pre-selection stage, carried out only on the basis of a much simpler application and, only after the project concept is pre-selected, the complete documentation, including the approvals, should be required. This would reduce the risks for potential beneficiaries of investing in a complex application for which there is no certainty of funding. In the case of the permits, as they have a limited period of validity, in case the project is not financed, practically the resources invested by the potential beneficiary in obtaining those permits are lost and, moreover, become imputable, in case of an audit of the Court of Accounts.
- Another measure that beneficiaries would need to increase implementation efficiency concerns **reducing the bureaucracy and improving the functioning of MySMIS**. It is currently required that certain documents be uploaded to MySMIS twice, or there are documents circulating both physically and electronically. Both the beneficiary and the RDA staff consider that the efficiency of the functioning of the MySMIS application should be carefully examined and increased so that it constitutes a tool that will really help them in their activity.

Sustainability

- To prepare a careful analysis of the effects of the intervention **the systematic monitoring of demographic developments is necessary at the level of localities and educational units benefiting from this intervention**. For planning the impact assessment of the intervention it should be considered whether and to what extent the existence of a quality infrastructure for education has contributed to diminishing the phenomenon of internal and external migration.
- The field visits of the RDAs, as well as the monitoring visits of the ROP MA should include **monitoring the use of the built/ rehabilitated material base**, in order to avoid changing the destination of the rehabilitated buildings, especially in the case of kindergartens and schools where the school population will fall below 50 pre-schoolers/ students.
- Given that the present evaluation was carried out at an early stage of implementation of ATUs projects (most are not even in the stage of submitting the first reimbursement

request), at this level only a process result can be obtained; ***in a more mature stage of project implementation, it will be necessary to carry out an evaluation that will mainly follow the progress of the output and outcome indicators.*** Preferably, this evaluation should be performed after the completion and receipt of investments and should include the correlation of the results of the evaluation with the demographic developments.

- The correlation with other projects seems to contribute to the assurance of the premises for the maximum sustainability and impact of the project. The experience of some of the ATUs indicates that ***the development of educational infrastructure projects should be correlated with other infrastructure projects*** (road, public transport, utilities), which is especially important in the case of projects implemented in new, developing neighbourhoods. This correlation requires a strategic vision that goes beyond a single programming framework and continuity in pursuing strategic local development objectives.
- In order to ensure greater sustainability, given the evolution of the gross enrolment rate, for each level of education, we recommend, keeping the good results regarding the inclusion of children in pre-school and primary education and building interventions on this positive evolution, that future projects should focus, in the future, especially on the rehabilitation of the secondary, high school and vocational school infrastructure. This recommendation is also supported by the fact that, if for kindergartens the initial budget for the ROP is over-contracted, for schools and for vocational and technical education the budget is sub-contracted.
- Greater flexibility is needed in constructive solutions. The imposition of certain constructive solutions, when new, more efficient technologies of construction appear permanently, is not always desirable. In this sense, based on the information gathered from the experts, it would be desirable to focus on results (for example, a certain level of lighting or ambient temperature), leaving the designer to find the best and most efficient solution from the economic point of view.

The following **lessons learned** or to be considered for learning can be extracted from the PA 10 implementation:

- Interventions aimed at providing a public service, especially one with a universal character such as education, ***must be addressed in an integrated way***, considering both the purpose of this service and the actors with legal powers in the field. In the present case, given that the attributions regarding the provision of the public education service are shared between the MEN, through the school inspectorates, and the ATUs, through the local councils and the town halls, the collaboration and the communication between the actors is imperative and on a permanent basis, not only in the cases where an approval/ permit is required. For example, given the demographic developments, which could not be foreseen at the time of the project approval (and of issuing the necessary approvals), the progress monitoring and the intermediate evaluations can recommend, to

the beneficiaries and the partners, solutions that will ensure both the efficiency and the sustainability of the investment **by consulting local decision-makers**. These solutions can target, for example:

- If, at a general education unit (primary and secondary school), the school population is decreasing, there may be the solution of accrediting the respective unit also for the vocational education, depending on the local specificity, thus ensuring increased employment opportunities.
- If (especially in the urban environment) there are differences in the dynamics of the population between educational units, such recommendations may aim at redesigning the school districts or even at reorganizing the entire school network, in order to ensure the full use of the rehabilitated infrastructure (also generating an increased quality of school life), even if these decisions will lead to the closure of some units - which, of course, do not offer similar conditions.
- **Integration of interventions is necessary both "horizontally"** - by correlating, for example, the intervention in the school infrastructure with interventions in the field of employment, poverty reduction, transport infrastructure and utilities - **as well as "vertically"**, by ensuring a logical succession of the interventions (for example, the interventions in the local transport infrastructure and on the utilities, should be prior to the school buildings, which would benefit from the respective roads and utilities). In other words, it would be desirable that the approval of an investment in the education infrastructure to be conditioned by the existence of roads and utilities. In this regard, we believe, it is necessary, including as an eligibility criterion, the evaluation of the local development strategy, especially regarding the (effective, according to the planning) realization of the preconditions and of the logical succession of the interventions. Otherwise, the interventions will not lead to the expected effect. For example, a school that does not have the water supply sources and the waste disposal systems (sewerage or septic tank) established by the law, will not be included in the school network of the locality, as it will not obtain the operating health authorization. Another example, the creation of new spaces for learning, at universities, may generate the need for a greater capacity for dormitories and canteens, or vice versa: the capacity of schooling in amphitheatres and seminar rooms must be correlated with the capacity of workshops and laboratories, with the places in dormitories and canteens etc.
- **The institutional capacity of the beneficiaries** (the existence of specialized staff and know-how) to write and carry out projects of such complexity **it is an essential condition for the success of the interventions**, both at the level of the central authorities and, especially, at the level of the local authorities: the management teams that have conceived and realized projects, have the highest chances that these projects will be both efficient and sustainable. On the other hand, it can be noted that this capacity (including the resources available for its procurement - for example, for consulting services) is lacking precisely where there is a greater need for such interventions, namely in communities where a significant percentage of the population is

in situation of risk of poverty, marginalization or social exclusion. As a result, there is a risk that these interventions will not mitigate social disparities, but deepen them, by providing funding in communities that already have resources and the capacity to attract resources. Therefore, it is necessary to develop the mechanism of free technical assistance for project development, especially for beneficiaries from the most disadvantaged areas, considering, for example, priority lists established on the basis of the two Atlases of the disadvantaged areas developed under the coordination of the World Bank¹. In extreme cases, it may even be necessary to outsource the management of these projects - given that a fundamental right, such as education, cannot be limited because of the lack of will or the incapacity of the local public administration. These situations can be identified in an eventual pre-selection phase.

- A defining element of institutional capacity is, in this context, ***the ability to manage the documents and data needed to implement the projects and the related reports***. All beneficiaries accused the excessive bureaucracy of reporting (for example, by repeatedly requesting the same document, at each reporting time) and the difficulty of working with the related IT platform (MySMIS). A more efficient debirocratization and computerization (in terms of time spent working with the platform) would reduce the staffing needs of the beneficiaries and would facilitate the elaboration, implementation, monitoring and evaluation of projects. For example, the electronic archiving of the submitted documentation would be desirable, at the level of the Managing Authorities or of the Intermediate Bodies, combined with the reporting based exclusively on the progress made (without having to present all the project documentation). A great help in this regard would come from the unification/ interoperability or at least from the inter-communication between the existing databases and documents. For example, the necessary permits for investments (construction, environmental, fire safety approval, etc.) could be verified in the databases of the issuing institutions, without requiring the beneficiary to present (and upload in the application) copies of them. Or, another example, the demographic evolutions can be better predicted by unifying the data from the population record services with those from SIIR (the Integrated Information System of Education in Romania) or Revisal (General Registry of Employees) or from ANOFM (National Agency for Employment). This debirocratization, combined with the computerization of processes, would greatly improve the relations between the beneficiaries, on the one hand, and between the RDA and MA, on the other, without requiring a double (in application and physical) verification and the circulation of documents in order to be modified and signed, in their physical form, when clarifications or errors corrections are requested.

¹ Atlas of Marginalized Rural Areas and Local Human Development in Romania (2016). The World Bank - http://www.mmuncii.ro/j33/images/Documente/Minister/F6_Atlas_Rural_RO_23Mar2016.pdf; Atlas of Marginalized Urban Areas in Romania (2014). The World Bank - <http://documents.worldbank.org/curated/en/857001468293738087/pdf/882420WP0P1430085232B00OU00900Atlas.pdf>)

- Facilitating the implementation of infrastructure projects can also be achieved through **clarification and legislative stability** (including regarding beneficiary guides and contract forms) and/ or, if this is not possible, **by making the financing framework more flexible**. For example, the changes in the wage legislation caused the prices of some works to rise, beyond the approved budgets. In this case, it may be necessary, in a relatively short time, to renegotiate the budget of the respective project and to amend the contract for the respective works. Also, it is necessary to apply the same legislation, for the whole life of the project (here, we consider, first of all, the legislation on fire safety, drastically changed in the last 2 years: investments that have received fire safety notice, on the project, before 2016, risk not receiving the fire safety authorization once the investment is put into use). Funding flexibility is also needed for technical reasons: in a renovation/ rehabilitation project, the necessary works are estimated by project. But, almost every time, the need for additional works or fewer works (type of works and/ or quantity of works) appears - needs that could not be foreseen. In these situations, a less rigid allocation of funds by category of works, by facilitating the transfer of funds from one budget line to another, would greatly facilitate the accomplishment of the works. Clarification of the legislation is also necessary because, according to the statements of the stakeholders, there were different interpretations of the same requirements at the MA, RDA (including between regions) and beneficiaries' level. We also mention here the need to clarify the situation of the assets of many ATUs, especially regarding the disputes on the right of property, as well as the simplification of the legislation on public procurement.

There is a great need to prioritize investments based on clear criteria², generating **lists of investment targets** to be financed, by categories of sources of financing (for example, ROP, National Program for Local Development PNDR, etc.), in order of the scores obtained. ATU should be the beneficiary of these projects (as a first option), but without excluding the possibility of centralized projects, where there is no will or capacity at local level.

² Such as those provided in the Strategy on the modernization of the educational infrastructure 2017-2023 (project) - https://www.edu.ro/sites/default/files/Strategie%20SMIE_2017docx_0.pdf, with its annexes.

2. Existing situation

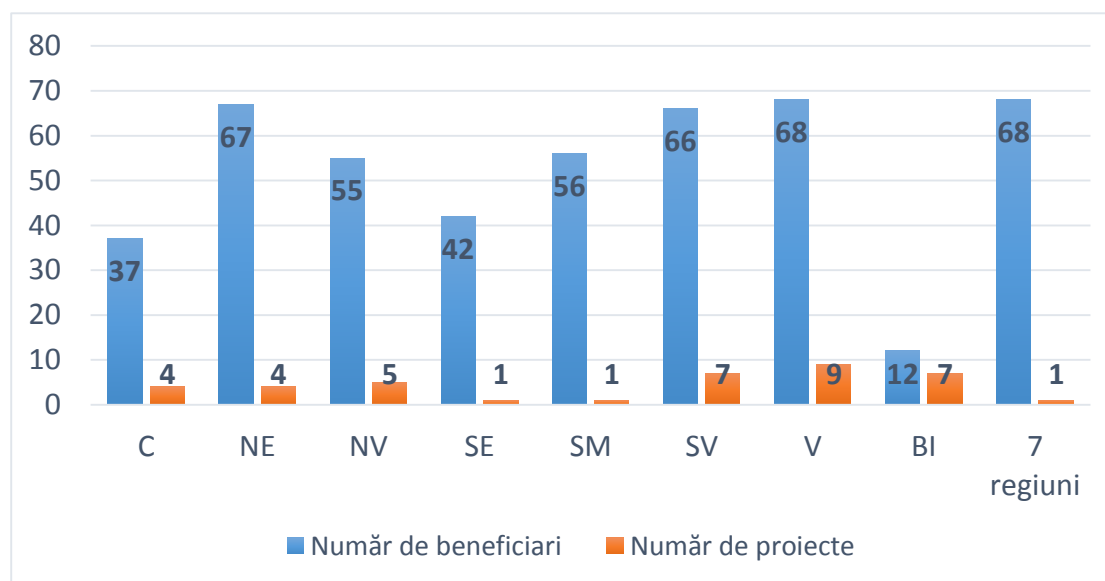
Priority Axis 10 of the 2014-2020 ROP targets investments in education and training, including vocational training, for acquiring skills and lifelong learning through the development of education and training infrastructures. Data provided by the Managing Authority for the Regional Operational Program (ROP MA) indicate that, under the Priority Axis 10, 12 calls for projects were launched corresponding to the three specific objectives. These calls totalled an **allocation of 360,582,128 EUR**. The criteria for prioritizing investments on PA 10 by education level are presented in Annex 2.

During these calls 814 projects were submitted, of which, at the date of **25.02.2019 established as the deadline for this study**, 55 projects were accepted and **39 projects were contracted** with a **total eligible value of 218,506,559 euros**, from which **European contribution of 184,544,089 euros**, representing about 84.5% of the ROP allocation for this axis. All projects are under implementation (none is finalized), and the total value of payments made to beneficiaries amounts to 32,179,989 euros.

Regarding the distribution by region of the contracted projects, the largest number of projects were contracted in the West Region (9 projects), followed by the South-West and Bucharest-Ilfov regions with 7 projects each, the North-West region with 5 projects, North-East and Centre with 4 projects each and South-East and South-Muntenia with 1 project each. In addition, there is the project covering 7 regions (excluding Bucharest-Ilfov) which aims at building schools.

The 39 projects have as **beneficiaries 417 ATUs**, to which it is added the Ministry of National Education (MEN), as project leader in 10 projects. Figure 1 shows the distribution of beneficiaries - except for MEN and the multi-regional project covering 7 regions without BI in which 68 ATUs beneficiaries are included.

Figure 1 - Regional distribution of projects and beneficiaries of PA 10



3. Phases of the study

3.1. Description of the methodology

The evaluation model was designed taking into account: the documentary analysis, the evaluability analysis, the recommendations of the Multiannual Evaluation Plan (PME), as well as the lessons learned from the previous evaluations and from the experience of the team of evaluators. Starting from the progress in the implementation of the interventions under PA 10 (all the projects under implementation were contracted at the earliest in 2018, none is finalized) in this phase it was not possible to estimate the impact achieved effectively, but it was rather analysed the technical and financial progress and the effects of the interventions were estimated based on the available data and through the cooperation with the beneficiaries, stakeholders and experts in the field of the priority axis, thus adopting an **interpretive and participatory model**.

The methodological design of the evaluation considered two evaluation criteria (efficiency and sustainability) and seven evaluation questions. The evaluation matrix is presented in Annex 3.

Five methods of data collection described below were used in the evaluation process.

1. Documentary research

The following data sources were used (Annex 1):

Documents

- The applications for financing of the projects contracted up to the agreed deadline for this study (25.02.2019)
- Progress, visit and monitoring reports for the same projects
- Reports of the central reference institutions for the two areas of the study (health and social)
- Specialized literature (studies, analyses, etc.)

Databases

- ROP MA database on contracted projects (SMIS)
- Other relevant databases and statistical data sources (INSP, Eurostat, etc.)

Websites

- Websites of local authorities
- Websites of medical units
- Ministry of European Funds MFE websites (www.fonduri-ue.ro), Ministry of Health MS (www.ms.ro) and ROP (www.inforegio.ro).

2. Semi-structured interviews

The purpose of the interviews was to gather qualitative information that is indispensable for providing an answer to the evaluation questions and to deepen certain aspects resulting from the secondary data.

The interviews were conducted face-to-face with the representatives of the beneficiaries, but also with the employees of the units that provide health/ social services selected for carrying out the case studies, as well as with representatives of the local public administration. In addition, RDA staff members directly involved in program management were interviewed as well as persons responsible for the elaboration of Regional Development Plans, ROP MA Departments, Monitoring, Contracting and Programming, and other central public entities involved in the management of policies in the health and social services field. For the interviews we used an interview guide which can be found in Annex 3.

3. Focus groups

This method was chosen to allow the collection of a high number of information from a wide range of relevant actors, too numerous to be approached through the technique of the individual interview.

The organization of this focus group with the participation of the Intermediate Body, of the representatives of the local authorities where projects were implemented within the ROP PA 10 and of the representatives of educational institutions that did not benefit from the ROP intervention is essential for collecting information on the PA 10 intervention logic, but especially in terms of identifying and contextualizing the ROP effects, the complementarity at local and regional level in a more in-depth manner and to strengthen or, on the contrary, to identify other evaluation directions, depending on their convergence with the results of individual interviews.

4. Case study

The purpose of conducting the case studies was to supplement the qualitative and quantitative information already obtained in order to detail and explain certain findings already outlined following the data previously collected. 9 case studies were carried out; for their selection, the following criteria were used:

1. Projects contracted and in progress- as a result, the 9 projects proposed as case studies were selected from the 39 projects contracted and in progress at different stages of implementation.
 2. Representative distribution from the perspective of the eligible beneficiary - in the list of the projects contracted and under implementation, there are the following categories of beneficiaries:
 - Ministry of Education through the Project Management Unit for Modernizing the School and University Network (UMPMRSU) in partnership with ATU
 - Territorial Administrative Units (ATU), including Sectors of Bucharest, from rural and urban areas.
 - Universities.
- As a result, from the 9 case studies projects, considering also the value of the respective projects, we proposed:
- 2 regional or multi-regional projects (the regional one for kindergartens, the multi-regional one for schools), whose beneficiaries are MEN through UPMRSU in partnership with ATU.

- 6 projects with ATU beneficiary (2 for kindergartens, 2 for schools, 2 for vocational and technical education units, respectively 3 in the rural environment, 3 for urban areas).
 - 1 project having an university as beneficiary.
3. Balanced distribution from the perspective of covering all levels of education. From the 9 case studies projects:
- 3 projects targeted kindergartens (1 regional, 2 with ATU beneficiaries).
 - 3 projects targeted schools (1 multi-regional, 2 with ATU beneficiaries).
 - 2 projects aimed at vocational and technical education units.
 - 1 project aimed at a university.
4. Balanced distribution from the perspective of location of the project in rural/ urban areas and in disadvantaged communities or with majority Roma population. From the 9 case studies projects:
- 2 (the regional and multi-regional ones) include both rural and urban educational units,
 - 3 (initiated by ATUs) are from rural areas,
 - 3 (initiated by ATUs) are from urban areas,
 - 1 (initiated by a university) is from urban area.

Since the evaluation criteria for the funding applications also concerned disadvantaged areas/ groups, this criterion is covered regardless of the selected projects.

5. Balanced distribution from the perspective of the type of intervention: simple/ complex/ integrated or with potential for complementarity/ synergy. From the 9 case studies projects:
- 2 projects are complex (one regional, one multi-regional) and 7 are "simple" (ATU initiators and universities).
 - 6 of the 9 projects target the Specific objective SO 10.1 (3 projects for kindergartens and 3 for schools) taking into account the share of the final beneficiaries: pupils in compulsory education (primary and lower secondary schools) as well as children benefiting from early education - which, according to studies, has the best cost-benefit ratio across all levels of education. In fact, kindergartens and schools have benefited from most funds under Priority Axis 10.
 - 2 projects will target SO 10.2 (vocational and technical education).
 - 1 project will target SO 10.3. (Higher education).
6. Good examples and less good examples ("bracketing" selection) from the perspective of efficiency and effectiveness, in order to highlight types of interventions that do not work.
- This criterion was considered when collecting qualitative data. Given that 2 projects are at regional or multi-regional level, we anticipate, even in the same project, different levels of achievement of the investment objectives - with objective or subjective causes that will be highlighted. The individual projects are all in the early stages of implementation.

The case studies were conducted through: documentary research, interviews (with project managers and legal representatives of beneficiaries, staff of the visited institution, etc.), site visits, direct observation. The case studies are presented in Annexes 8.1 - 8.9.

5. Panel of Experts

The target group of the experts panel included experts in the field of education, respectively persons responsible for education at the central level. 2 panels of experts were organized; 6 experts participated in each of them. The experts panel consultation was organized to collect specific information on the subject of evaluation (development of educational infrastructure). In particular, the panel of experts contributed to:

- identifying current and new challenges for the future development of medical and social services, taking into account the data collected in the territory as well as the experience of the participants;
- examining the sustainability of the two categories of interventions;
- stimulating the mutual contribution of each experience to enrich the knowledge base for evaluation.

3.2. Specialty literature

Recent research at European level has confirmed that the effects of quality school infrastructures are closely correlated with the success of training. School infrastructures refer to the development of the educational process in a sustainable environment from the point of view of air and light quality, the use of attractive stimulating infrastructures, the use of flexible and didactic functional spaces. All of these contribute to increasing school success.

Different international research programs show that learning outcomes depend to a large extent on the effectiveness of the physical environment in which it is conducted (Kuhn, 2011). The space used by the teachers must respond to the needs of the organizational and didactic dynamism of the teaching and learning process. The "Building School for the future" program in the United Kingdom, the "Secondary School Building Modernization" program in Portugal and the "Building Education Revolution" in Australia put this need in the first place.

These new approaches are, in fact, based on the identification of empirical evidences (Lippman, 2011) that confirm the role played by the educational environment on learning outcomes. Studies conducted by international research institutes and institutions operating globally (World Bank, 2017) confirm and underline the importance of the relationship between the assessment of learning outcomes and the physical structures and environments in which they are conducted ("Assessment of the learning environment: Image of emerging problems", 2016). A 2006 study by the OECD ("Learning environments for the 21st century in designing the educational compendium

of exemplary educational facilities")³ indicates the strategy for improving the quality of infrastructures, their ecological sustainability and, at the same time, aims at reaching specific and high levels of training for students.

Similar trends are registered in many countries where the development of new learning spaces has been based on the 'top-down' approach. This type of approach has been more successful in terms of carrying out the investments, with many good practices indicating this in all sectors and at all levels of the education system (OECD Learning Environments Assessment Program, 2013⁴).

The need to integrate diversified fields of study in the construction of learning environments aimed at supporting school well-being led to the development of the concept of "school architecture", which replaced the generic concept of school construction. This change is very evident in the ROP and is supported by the strategic and operational objectives identified both at the level of the EU Member States and at the level of international literature and cooperation. Starting with 2013, the OECD has gradually transferred the object of studies on the quality of education from demographic aspects to the return on investments (cost-benefit analysis) and to the analysis of the relationship between spaces and learning processes by launching the OECD Program mentioned above. As learning takes place in a multidimensional context, a fundamental problem is the participation of students and teachers in the configuration of spaces to innovate the teaching and learning processes. The OECD project "Innovative Learning Environment" (OECD, 2015 b) demonstrates the importance of the learning environment focused on the well-being factors for the student. This statement is the result of a shift of interest towards the main object of studies at international level, from the demographic aspects (70s) to the return on investments in education (the second half of the 80s - the cost/benefit analysis), to the integration of progress technology in a profoundly changed economic framework (first decade of the third millennium) until the analysis of the relationship between spaces and learning processes.

According to the World Bank⁵ international experience highlights two characteristics by which the infrastructure influences the students: location and quality. These characteristics correspond to two different but interconnected types of analyses, regarding the educational infrastructure: 1/ *location of the* infrastructure in the context of school network planning and organization, and 2/ *the quality of the* infrastructure in designing efficient teaching and learning environments. The placement of educational units within the communities is an extremely important dimension, as it directly influences the distance to the school, having an impact on the enrolment and retention of the students. The number and location of educational

³ More recently, the OECD Handbook for Innovative Learning Environments confirms these trends. Also, the recent Recommendation of the European Council on the "National Reform Program 2018" of Romania dated 23.05.2018 confirms the information and the trends.

⁴ Learning Environments Evaluation Program (OECD, 2013)

⁵ The data sources used in this sub-section are represented by recent studies and analyzes of the World Bank carried out for the preparation of the "National Strategy for investments in the infrastructure of educational units", as follows: "Draft recommendations for the Romanian Strategy regarding the investments in the infrastructure of the educational units" with the annexed studies (2016) and "Final report with recommendations for the Strategy of Romania regarding the investments in the infrastructure of the educational units" (2017).

units can influence the number of enrolled students, which has an effect on the performance and motivation of students and teachers.

The other key dimension of education infrastructure is quality, which includes compliance with the minimum standards for infrastructure and aligning the design of the educational facilities with the learning principles. At the most basic level, the educational infrastructure must be structurally sound in order to provide students with a safe learning environment. Other standards include environmental factors, such as light, acoustics and ventilation, but also the functionality of some subsystems such as heating and plumbing.

The analysis show that the location of the educational infrastructure is entirely related to four key factors that influence the learning opportunities: 1/ distance to school and commute time, 2/ school segregation, 3/ number of enrolled students (capacity of the school) and mode of operation in shifts and 4/ links between educational units and employers.

The location of the educational infrastructure, including the organization of the school network, influences distance to school and commute time, which in turn influences the number of enrolled students and school dropout rates. In terms of distance from school, the data indicate: the closer the school is to the home, the greater are the chances of a child being enrolled at the right age and attending school (Filmer 2004). Less time needed to reach school encourages parents to enrol children at school at a younger age, thus reducing the probability of school dropout (World Bank 2005a). In Romania, urbanization and a better transport network and alternatives allow students to go to schools farther from home, so it would be more relevant to analyse commuting time instead of distance (Bard, Gardener and Wieland 2006). Distance and commute time influence the number of enrolled students and retention because they reduce the energy level of students, limit interaction with colleagues and teachers in extracurricular activities, reduce parental involvement in school activities and create potential risks for students safety (Berry and West 2010; Strang 1987).

The distance to school and the lack of public transport are reasons for the high dropout and non-participation rates among Roma students. In Romania, almost half of the Roma live more than 10 kilometres from the nearest urban centre, and over 20% live more than 1 km from a bus station (Gatti et al. 2016). High education costs, including transportation and other costs for textbooks, fees, etc. are among the most frequently mentioned reasons why Roma children do not attend or leave school (Gatti et al. 2016).

"The national strategy of Romania regarding the social inclusion of Romanian citizens belonging to the Roma minority" aims to reduce the educational gap between Roma and non-Roma students, ethnic discrimination and segregation in schools. However, segregation of Roma students persists in Romania, despite official policies that prohibit this phenomenon. According to the "Survey among the Roma population" conducted by the European Agency for Fundamental Rights (FRA) in 2011, about 26% of Roma children attended segregated schools or classes, being partially the result of spatial segregation. This is an important reality that must be taken into account, given that schools in Romania with students predominantly belonging to minority ethnic groups are often characterized by poor educational infrastructure and equipment, poor hygiene,

limited learning resources, lower qualifications of teachers and high fluctuation of teachers (Brüggemann 2012; Sunday and Ivasiuc 2010; Surdu 2008).

School capacity data is mixed, larger schools tend to have greater capacity and more resources, but overcrowding can reduce learning opportunities and limit the quality of student-teacher interactions. Larger schools have more educational offerings and facilities, and diversity is also found in teachers.

However, larger schools impose additional transportation costs for parents and fail to provide the positive school climate from the smaller schools, which encourage the development of interpersonal relationships, increased participation in extracurricular activities, and the development of students leadership skills (Humlum and Smith 2015; Borland and Howsen 2003). Also, teacher satisfaction tends to be lower in large schools, due to disciplinary issues among students or the diminished spirit of cooperation and community that exists in smaller schools (Cotton 1996; Slate and Jones 2005). Empirical data indicate considerable benefits in primary education for students attending smaller schools, while secondary schools seem to have "optimal" ability, and students performance is higher in schools that are not very small or very large (Leithwood and Dress 2009; Ares Abalde 2014).

Investments in the modernization and endowment of the educational infrastructure without increasing the schooling capacity can lead to overcrowding. This leads to a two-shifts mode of operation, in the morning and in the afternoon. The mode of operation in two shifts allows the enrolment of a greater number of students, without the need to construct another building. This approach can be beneficial from the perspective of efficiency, but the mode of operation in shifts can have negative consequences. In Romania, the information regarding the effects that the mode of operation in two shifts has on the results is considered to be inconclusive: some schools that operate in two shifts have impressive test results, while other schools that operate in one shift have very poor results. Although this information is not conclusive, most teachers and specialists argue that the mode of operation in two shifts negatively influences the learning environment compared to the mode of operation in one shift (Bray 2008).

A distinct but critical aspect of educational infrastructure location is the proximity and links between educational institutions and labour market institutions, in particular employers, but also community agencies that provide employment services. For Romania, important objectives to be achieved through the use of EU funds include improving the relevance for the labour market and enhancing the quality of education systems. The placement of high school, vocational, tertiary and adult education units in relation to employers, especially in growth centres and urban development centres, could have important effects on regional development and therefore represents an important dimension to be considered in prioritizing investments in infrastructure.

Quality - the second critical dimension of education infrastructure - can be defined using two criteria: (i) compliance with minimum standards for infrastructure; and (ii) aligning the facility design mode with the learning principles. In planning education infrastructure, quality tends to be defined by building specifications and educational specifications. The construction specifications identify the *accepted minimum standards for infrastructure* which must be

respected in order for a school facility to be safe and operational for students and teachers. Minimum standards are essential for monitoring the conditions of education infrastructure, for identifying investment needs and for promoting equal access to school facilities at a certain quality level. Also, minimum standards are important for economic reasons, for example, minimum standards can be designed to reduce maintenance and utilities costs. Compliance with minimum standards is a fundamental measure of the quality of education infrastructure.

The clean air in the classrooms is essential for the health of the students, but also for maintaining their attention. Studies show that in many schools ventilation is inadequate, which endangers the health and comfort of students (Daisey, Angell and Apte 2003). Natural light influences students' performance. The data show that natural light regulates the sleep cycle and, implicitly, influences the attention level of the students (Rea, Bullough and Figueiro 2001). Studies show that natural light influences learning ability, having a role in the production of certain hormones that facilitate learning (Kuller and Lindsten 1992; Figueiro and Rea 2010). In fact, the optimal level of natural light in classrooms is still a subject under research (Tanner 2009).

The aforementioned individual environmental factors are important, but recent research in schools across the UK provides concrete data on the greater relevance of the holistic impact of education infrastructure on students. This research starts from the idea that the built environment has a complex effect on students, *felt simultaneously through multiple sensory pathways* and does not focus on a one-dimensional way on separately measurable dimensions, such as temperature, light, acoustics and air quality (Barrett et al. 2015).

Perception about quality influences the results of students and teachers. In the absence of direct measures regarding the conditions of the education infrastructure, some researchers have based their studies on subjective evaluations regarding the quality of the education infrastructure. These studies show that poor quality of school facilities is strongly associated with high absenteeism and higher expulsion rates and deviant behaviours, mainly in secondary schools (Boese and Shaw 2005; Branham 2004; Kumar, O'Malley and Johnston 2008).

Schools in communities with a predominantly Roma population tend to be overcrowded, leading to a two- or three-shift mode of operation due to lack of space (UNICEF 2012). The same situation is generally valid in very poor communities (for example, in the NE region, even if there is no significant Roma population). Poor quality of infrastructure in ethnically segregated schools is a major problem, as many Roma children and young people live in overcrowded spaces, poor neighbourhoods, old and unattended blocks or social housing that, in turn, do not meet the standards (Gatti et al. 2016). Under these conditions, educational units may be among the few or even the only places where children from vulnerable communities could have access to physical and hygienic conditions appropriate to the teaching and learning process.

In conclusion, we consider that school infrastructure plays an important role in ensuring and improving the participation in education and the quality of education:

- Easy access to school infrastructure is an elementary precondition for participation in education. As a result, attention should be paid to the construction and/ or extension of school infrastructure (including for early education) in isolated areas with difficult access.
- Access to a modernized infrastructure that meets the hygienic and safety conditions of students (including lighting, ambient temperature, access to water, toilets and electricity) is a precondition for improving learning outcomes.
- Access to good quality infrastructure improves the well-being which, in turn, contributes to improving learning outcomes.⁶

3.3. Collection of quantitative and qualitative data

As the analysed projects were contracted in 2018, monitoring reports (in progress) exist in very few cases (only for regional/ multiregional projects having MEN as beneficiary). As a result, the quantitative data regarding the implementation of the projects are limited, and the relevant information in this regard is collected, mainly, through the qualitative methods.

For **quantitative data collection** mainly the following were used: public sources - databases and public reports:

- The official data published by INS - school statistics, comparison between 2014 and 2017⁷:
 - The school population, by education levels (preschool, primary, secondary, high school, vocational).
 - School population by counties and localities.
- Status reports prepared by MEN, through ISE⁸:
 - Gross enrolment rates by education levels.
- Data published by the educational units, on the ARACIP platform (Annual reports of internal evaluation of the quality of education published by the educational units)⁹.
 - School population at the educational unit level (where the data exist in the Reports published by the educational units).
- The funding applications of the 39 projects analysed, for the following data:
 - The concrete investment objectives (the educational units targeted for the intervention, especially in the case of regional/ multiregional projects).
 - Location of the beneficiary in the more developed Regions, respectively, the less developed Regions.
 - Requested budgets.
 - Estimated output/ immediate performance indicators.
- ROP (version tested in March 2016) for data related to:
 - Indicative budget allocation for Axis 10, for each SO.
 - The result indicators specific to axis 10, for each SO.

⁶ For example, a summary to: Action for Children/ NEF (2009). Backing the Future: why investing in children is good for us all (https://www.actionforchildren.org.uk/media/3254/backing_the_future.pdf)

⁷ <http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table>

⁸ V. Annex xx - Specialty literature

⁹ <http://beta.aracip.eu/>

These quantitative data targeted the following projects:

Table XX. Selected projects

No. Crt.	Project title	Beneficiary	MySmis code
1.	Kindergarten Construction South-East Region	MEN-UMPMRSU	125154
2.	Kindergarten Construction North-East Region	MEN-UMPMRSU	125152
3.	Kindergartens construction Bucharest Ilfov	MEN-UMPMRSU	125074
4.	Kindergarten Construction South - Muntenia Region	MEN-UMPMRSU	125155
5.	Kindergarten Construction North-West Region	MEN-UMPMRSU	125153
6.	Kindergarten Construction South-West Region	MEN-UMPMRSU	125156
7.	Kindergarten Construction West Region	MEN-UMPMRSU	125157
8.	Kindergarten Construction Centre Region	MEN-UMPMRSU	125151
9.	Extension, modernization and endowment of the full day program kindergarten Strada Luncii, Municipality of Orăștie, Hunedoara county	ATU Orăștie	121605
10.	Rehabilitation, extension and endowment of the Kindergarten with the normal program Luminița, City of Siret, Suceava county	ATU Siret	120303
11.	Extension, rehabilitation, modernization and endowment of the kindergarten with normal program from Lungești village, Lungești commune, Vâlcea county	ATU Lungești	121743
12.	Schools construction	MEN-UMPMRSU	125158
13.	Schools construction Bucharest-Ilfov	MEN-UMPMRSU	125145
14.	Construction of a primary school in the town of Chitila	ATU Chitila	120404
15.	Rehabilitation and extension of the Secondary School in Călimănești, Mureș county	ATU Călimănești	120643
16.	Rehabilitation and modernization of the "Lucian Blaga" High School, Bistrița Municipality, Bistrița-Năsăud county	ATU Bistrița	120277
17.	Extension, rehabilitation, modernization and endowment of the School with classes I-VIII from Reșca village, Dobrosloveni Commune, Olt county	ATU Dobrosloveni	122612
18.	Demolition of the existing building and construction of the school with classes I-IV in Ciacova town, Timiș county	ATU Ciacova	120335
19.	Consolidation, modernization and extension of the school with classes I-IV from Obad, Ciacova town, Timiș county	ATU Ciacova	120337
20.	Construction of the secondary school ATU Hateg Town, Hunedoara county	ATU Hațeg	120284
21.	Extension, rehabilitation, modernization and endowment of Osica de Jos Secondary School, from the village of Osica de Jos, Osica de Jos commune,	ATU Osica de Jos	122614

	Olt county		
22.	Rehabilitation, modernization of buildings and equipping of the educational infrastructure of the secondary school "Andrei Șaguna" - Deva Municipality, Hunedoara county	ATU Deva	121314
23.	Intervention works for the modernization and extension of the Stoenesti Secondary School - ATU Stoenesti Commune, Vâlcea County	ATU Stoenesti	122699
24.	Rehabilitation, endowment of the sports hall and construction of another floor, extension of the annex of the sports hall at the "Bethlen Gabor" Secondary School in Odorheiu Secuiesc, Harghita County	Odorheiu Secuiesc	120298
25.	Rehabilitation and modernization of the secondary school no. 4, Bistrița municipality, Bistrița-Năsăud county	ATU Bistrița	120276
26.	Rehabilitation and extension of buildings for the General School with classes 0-VIII in Giroc Commune, Timiș county	ATU Giroc	120304
27.	Rehabilitation and extension of the "Kajoni Janos" secondary school, Ciceu, Harghita County	ATU Ciceu	120357
28.	Construction and equipment of workshops, laboratories and amphitheater within the "Lațcu Voda" Technical College, Siret town, Suceava County	ATU Siret	120290
29.	Consolidation and modernization of C1 - building within the "Theodor Pietraru" forestry college - Brănești Commune, Ilfov county	ATU Brănești	121525
30.	Rehabilitation, modernization and endowment of the "Nicolaus Olahus" technological High School in the Orăștie Municipality, Hunedoara county	ATU Orăștie	122221
31.	Improvement of the educational infrastructure at the "Brătianu" Technological High School - Drăgășani Municipality, Vâlcea county	ATU Drăgășani	121886
32.	Modernizing and equipping of the educational infrastructure of the "Mihai Eminescu" Technological High School, Commune of Dumbrăveni, Suceava county	ATU Dumbrăveni	120610
33.	Improvement of the educational infrastructure for the "Miron Nicolescu" Technical College from bd. Metalurgiei no.89. Municipality of Bucharest	ATU Sector 4, Bucharest	123005
34.	Modernization of the "Hoia" educational infrastructure for the development of didactic and practical activities destined to agricultural education	U.S.A.M.V Cluj	119837
35.	Consolidation, rehabilitation, modernization, interior modifications and renovation of the B building - The Faculty of Horticulture within the USAMV	U.S.A.M.V Bucharest	122018

36.	Extension of existing educational spaces for the Faculty of Arts and Design and the Faculty of Music and Theater	West University - Timisoara	122196
37.	Company location, sanitation and provision of educational spaces	University of Craiova	119863
38.	Rehabilitation, change of destination from administrative headquarters in educational spaces and conservation of historical monument	Technical University of Cluj	119834
39.	Consolidation, restoration, internal modifications, restoration of the installations and external rehabilitation of the Administrative Building S + P +1e, B Building	University of Bucharest	121728

For the collection of **qualitative data**, the tools described above were used, obtaining information on:

- The strengths and weaknesses of the educational infrastructure in Romania.
- Inter-institutional cooperation in the development of educational infrastructure.
- Results and effects (obtained so far or estimated) of the projects under implementation.
- Factors that influenced, positively or negatively, the writing, selection, contracting and implementation of projects.
- Continuity and synergy with other similar interventions.
- Sustainability of interventions - especially given demographic developments.
- Lessons learned that could be used to increase the effectiveness, efficiency, relevance and sustainability of infrastructure projects.
- What are the barriers and risks in the implementation of the projects, which are related to the general contextual factors (including the normative framework in force).

The qualitative assessment tools were applied as follows:

Table XX. Application of research tools

Tool	Target groups
Individual interviews	50
Focus Group	8
Panel of experts	<ul style="list-style-type: none"> • Panel with education experts • Panel with public administration experts
Case study	<ul style="list-style-type: none"> • Kindergarten Construction South-East Region; • Extension, modernization and endowment of the full day program kindergarten Strada Luncii, Municipality of Orăștie; • Extension, rehabilitation, modernization and endowment of the kindergarten with normal program from Lungești village, Lungești commune, Vâlcea county; • School construction 7 regions;

	<ul style="list-style-type: none"> • Construction of a primary and secondary school in the town of Chitila; • Rehabilitation and extension of the Secondary School in Călimănești, Mureș County; • Construction and endowment of workshops, laboratories and amphitheater within the "Lațcu Vodă" Technical College, Siret town, Suceava county; • Consolidation and modernization of C1 - building within the "Theodor Pietraru" forestry college - Brănești Commune; • Modernization of "Hoia" educational infrastructure for the development of didactic and practical activities for agricultural education, Cluj Napoca.
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3.4. Limitations in conducting the evaluation and method of solving them

The early stage of implementation of many contracts substantially limited the analysis of the progress in the implementation, of the achievements made and of the way in which sustainability is ensured. In the absence of progress and monitoring reports, particularly for ATU projects, the evaluation results were built predominantly on the basis of estimates resulting from contractual commitments and on information provided in interviews and focus groups.

The large number of evaluations that took place in parallel has considerably limited the availability of certain groups of participants in the evaluation (especially at the level of some RDAs), and this fact, coupled with the incipient phase of project implementation, has sometimes led to resistance and delays in carrying out field data collection. Combining interviews for several studies was a practical way to approach and overcome this situation.

The limited access to quantitative data (especially SIIR data) within a reasonable time, considering the planning of the evaluation activities, reduced the number of data sources, and, implicitly, the possibility of analysis. However, alternative data sources have been identified so as to maintain the robustness of the analyzes.

4. Analysis and interpretation

The improvement of the indicators related to the participation in education and to the quality of education, for all levels of education, depends (among other factors) on improving the capacity of the education infrastructure, using national and European funds, based on projects written and implemented by the eligible beneficiaries.

The success of these projects (analysed in this evaluation report in terms of efficiency and sustainability) depends on the existence of the financial resources, on their allocation according to the identified needs, on the general normative framework and on the institutional and human capacity, at the national level and at the level of the beneficiaries of the interventions¹⁰.

As the analysis is based on the 39 projects contracted and under implementation at the time of its commencement and none of these projects was completed, it was not possible issuing value judgments regarding the effectiveness of the intervention in reaching the proposed target values for the PA 10 corresponding indicators. The analysis is limited to evaluating conditions, resources, interventions, and only partial ones, based on an estimate related only to the increase of the schooling capacity as it would result based on the target values related to the applications for funding.

4.1. Evaluation Question 1: To what extent have the ROP interventions contributed to the achievement of the three specific objectives in the field of education and to the achievement of the targets of the related outcome indicators?

The contribution of the ROP intervention to the achievement of the three specific objectives of this Axis was determined on the basis of four analysis dimensions:

- increasing the rate of childcare in nurseries
- increasing the enrolment rate in pre-school education
- increasing the enrolment rate in primary and secondary education
- increasing the enrolment rate in vocational and technical education.

A. Collected Data

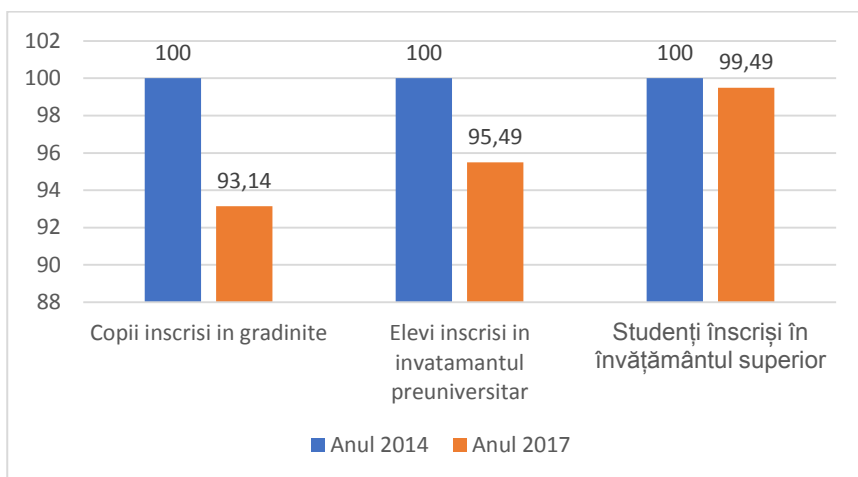
In order to determine the contribution of the ROP intervention to the achievement of the three specific objectives of this Axis, we started from the analysis of demographic developments at national level.

For all levels of education, during the (2104-2017) analysed period for which data are available from the National Institute of Statistics (INS), there was a decline in the school population (respectively, the number of children enrolled in kindergartens, the number of students enrolled in pre-university education and the number of students enrolled in higher education).

¹⁰ V. Annex **XX** The theory of change (reconstructed after evaluation), which was the basis of data analysis and interpretation

To illustrate the evolutions, we preferred a percentage comparative approach, considering the level of the school population in 2014 as 100%, and the level of the school population in 2017 as a percentage of the population existing in 2014 (Figure 4).

Figure 2 - Evolution of the school population at national level

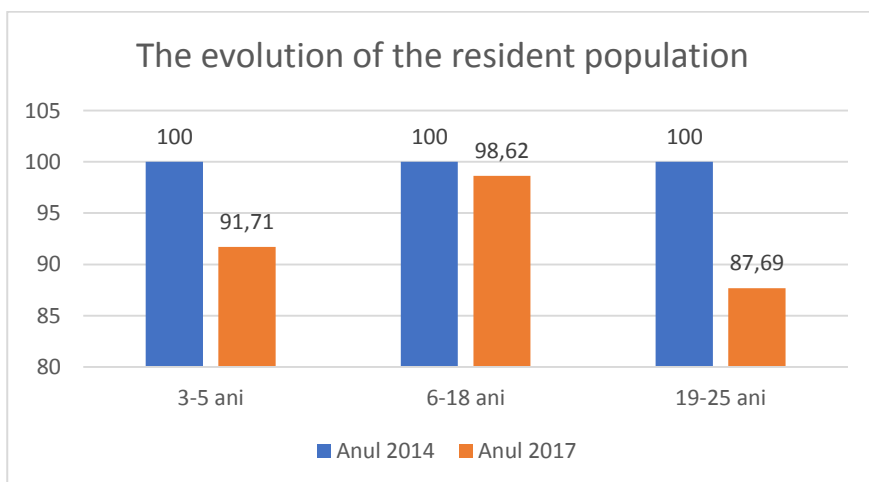


Data source: INS (National Institute of Statistics)

It can be seen that the largest reduction of the school population is registered at the level of pre-school education, getting more reduced as the school progresses. As a result, we predict a spread, in the coming years, of this decline of the school population also at higher levels of education (pre-university and higher education), so this fact will have to be taken into account for the subsequent analyzes and evaluations of PA 10 funded interventions.

However, comparing these data with those regarding the resident population (Figure 5), we can observe a differentiated evolution, even though the resident population decreased significantly between 2014 and 2017.

Figure 3 - Evolution of the resident population, by age groups

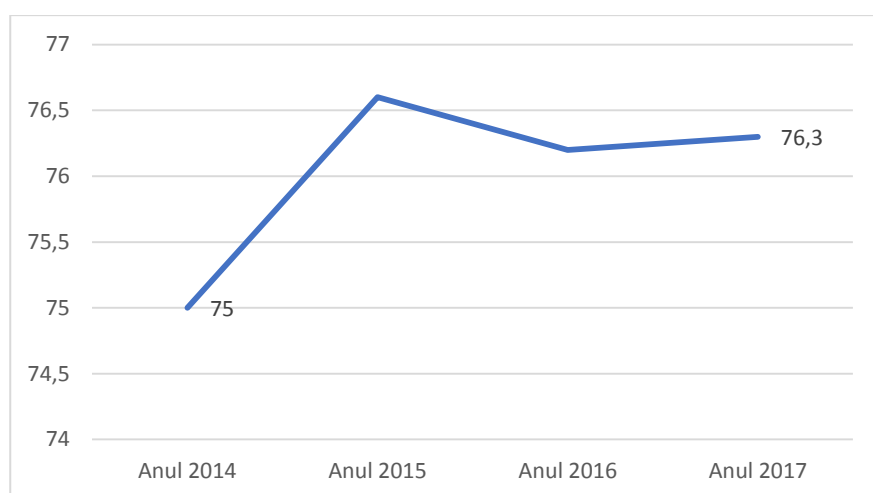


Data source: INS (National Institute of Statistics)

In the preschool and higher education, the decrease in the number of pre-schoolers, respectively of the enrolled students, is **smaller** than the decrease of the resident population, and in pre-university education (primary, secondary, high school, vocational and post-secondary) the decrease in the number of enrolled students is **higher** than the decline of the resident population.

This explains, of course, also the differentiated evolution of the gross enrolment rate during the analysed period.

Figure 4 - Gross rate of school enrolment from primary to higher education, as a ratio of the population aged 6-23 years



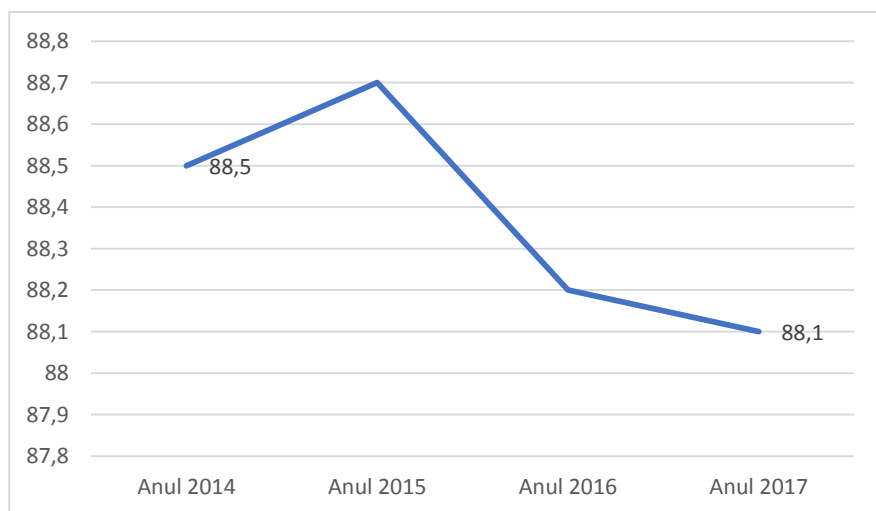
Data source: MEN and INS

Also, the evolution of the school population must be correlated with the evolution of the gross enrolment rate in the respective levels of education¹¹. In Figure 6 it can be seen that on the whole of the school population that can benefit from interventions through the ROP, the gross enrolment rate increased by 1.3% during the considered period.

As higher education has a special situation, being selective, we also analysed the general evolution of the gross enrolment rate in education, specifically for pre-university education (Figure 7), including for preschool education, not included in the statistics presented in Figure 5.

¹¹ There are differences, in the reference literature, even by 5pp, regarding the indicator "Gross enrollment rate" for all levels of education. On the one hand, there are the reference data from the Regional Operational Program 2014-2020 (and the related annexes) - the approved version, March 18, 2016 (http://www.fonduri-ue.ro/images/files/programe/DEZV_REG/POR_2014/POR_2014-2020_aprobat_2016.rar p. 61) on the other hand, there are the annual status reports prepared by the MEN (for example, Report on the state of pre-university education in Romania). 2017 -2018 - http://laviniacosma.web-staging.eu/2018/wp-content/uploads/2018/11/Starea-inv-preuniv_2017-2018-fin4.pdf, p.6-8). In this Report we used the evolution of the gross rates from the MEN Report for 2018 (with figures up to 2017).

Figure 5 - The gross rate of school enrolment in pre-university education (from pre-school to high school) as a ratio of the population aged 3-18 years

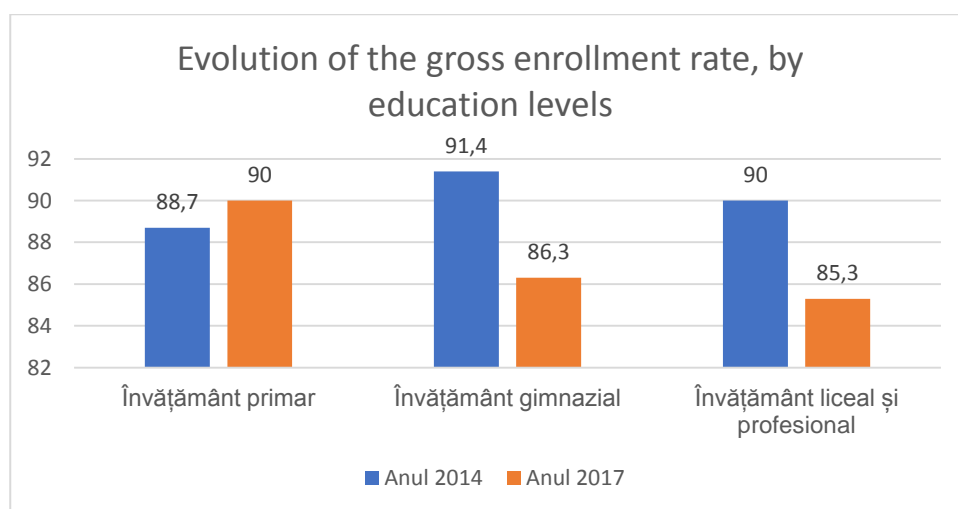


Data source: MEN and INS

A decrease of about 0.4% between the two reference years (2017 compared to 2014) can be observed - an evolution that must be taken into account when analyzing the results of the interventions through the ROP.

The analysis of the evolution of the gross enrolment rate, by education levels (Figure 8) indicates that due to its general decrease, however, an improvement of the situation, during the analysed period, can be found for the primary education (together with the improvement of the gross rate for population of 3-5 years). The decrease, as a whole, is due to the negative evolution of the gross enrolment rate in high school and vocational education and, especially, in secondary education.

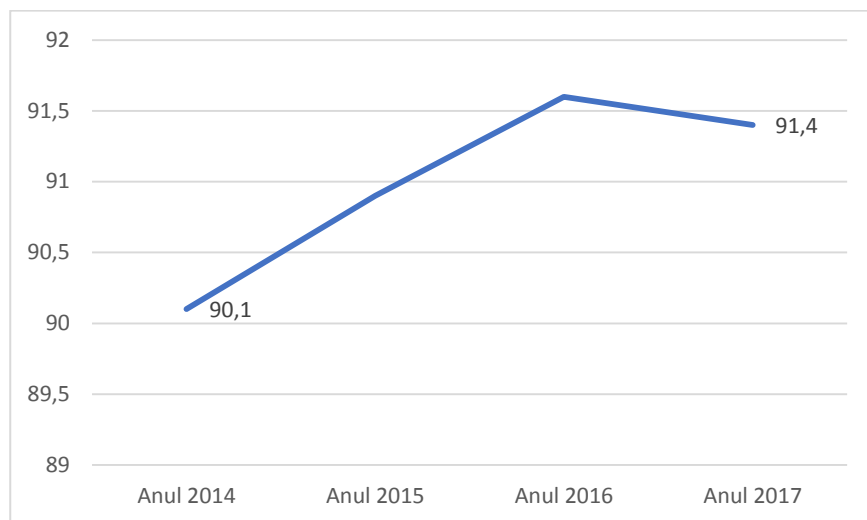
Figure 6 - Evolution of the gross enrolment rate, by education levels



Data source: INS and MEN

The decrease of the school population related to the preschool level of education, of almost 7%, must be put in the context of the evolution of the gross enrolment rate in the preschool education, slightly increasing (1.3%) in 2017, compared to 2014 (Figure 9).

Figure 7 - Gross enrolment rate in pre-school education (3-5/ 6 years)



Data source: MEN and INS

B. ANALYSIS OF DATA

Based on the above data, taking into account the tendency observed, we predict a propagation, in the following years, of the decline of the school population (higher at pre-school education) and at higher levels of education (pre-university and higher education), so this should be taken into account for further analyzes and evaluations of PA 10 funded interventions.

In the following rows, we will analyze, by comparison, the evolution of the school population at the level of the Development Regions and, as the case may be, of the counties that have benefited from interventions on ROP PA 10, as well as of the localities and/ or of the educational units built or rehabilitated by ROP, for the three specific objectives of PA 10 and the three categories of beneficiaries of the funded projects (MEN - regional and multiregional projects; ATU; higher education institutions).

The contribution of interventions funded from PA 10 to increase the rate of enrolment in nurseries

None of the 39 interventions (analysed projects in progress) had as objective the construction or rehabilitation of nurseries. The status of nurseries, as educational institutions, is still unclear: the specific legislation in force, developed under the coordination of the Ministry of Health and the Ministry of Labor, considers them, in particular, care institutions. On the other hand, the education legislation foresees the existence of the "pre-preschool" level of education, but, for this level, there is neither a curriculum nor specific standards for evaluating the quality of this

type of educational institution. We also remind that the funding of nurseries based on standard cost is proposed to enter into force from the 2019-2020 school year.

The contribution of the interventions financed from PA 10 to the increase of the enrolment rate in the preschool education

The analysed data confirm the need for interventions aimed at increasing the degree of children's enrolment in pre-school education, especially given the decline in the gross enrolment rate, in 2017 compared to 2016.

Regarding the investments in the school infrastructure - kindergartens - there are two categories of beneficiaries for the analysed projects:

- **Eight projects** have, as a beneficiary, MEN in partnership with the respective ATU. All these projects are **regional** and aim at the construction/ rehabilitation of kindergartens. These projects have financed works, many of which had already been started (about 50% even completed¹²), representing the latest investment objectives foreseen in the School Infrastructure Rehabilitation Project, a project co-financed by the European Investment Bank (EIB), the Development Bank of the Council of Europe (BDCE) and the Government of Romania based on the F/ P 1.450 Loan Framework Agreement. The implementation period of this framework agreement was 2003-2018, but was extended until 2019. Through these projects, it was requested the reimbursement of the eligible expenses incurred, both by the beneficiaries and by the ATU partners, starting with January 1, 2014, for the objectives included in the respective financing contracts.
- **The other three projects** have ATU as beneficiaries¹³.

As a result, there are significant differences regarding contextual factors:

- The projects that had the MEN as the beneficiary aimed at the construction/ rehabilitation of school units established long before obtaining the ROP funding - which explains the relative mismatch with the demographic evolution of the last years (see below). The selection criteria for the included educational units were, at that time: the number of children; positioning of the unit in a disadvantaged area; improper condition of the building¹⁴.
- The projects that have ATU as beneficiaries were selected according to the criteria established by the ROP.

As a result of this difference, we will analyze the evolution of the school population (children enrolled in kindergartens and pupils enrolled in pre-university education) in a different way, for the two major categories of beneficiaries.

The situation of **children enrolled in kindergartens**, at the national level, at the level of the counties that have benefited from the interventions and at the level of the educational units or

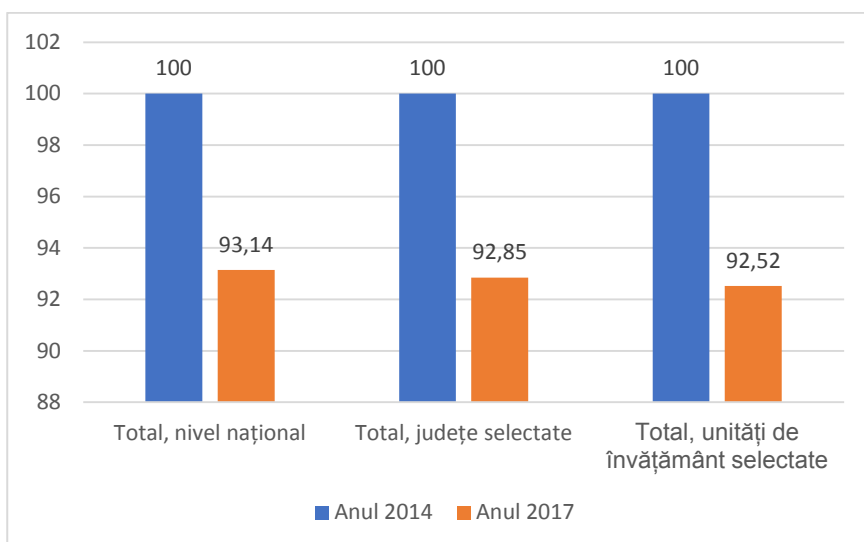
¹² Quantitative data from monitoring reports and qualitative data from interviews and focus groups.

¹³ There are no monitoring reports for these projects.

¹⁴ Qualitative data from interviews.

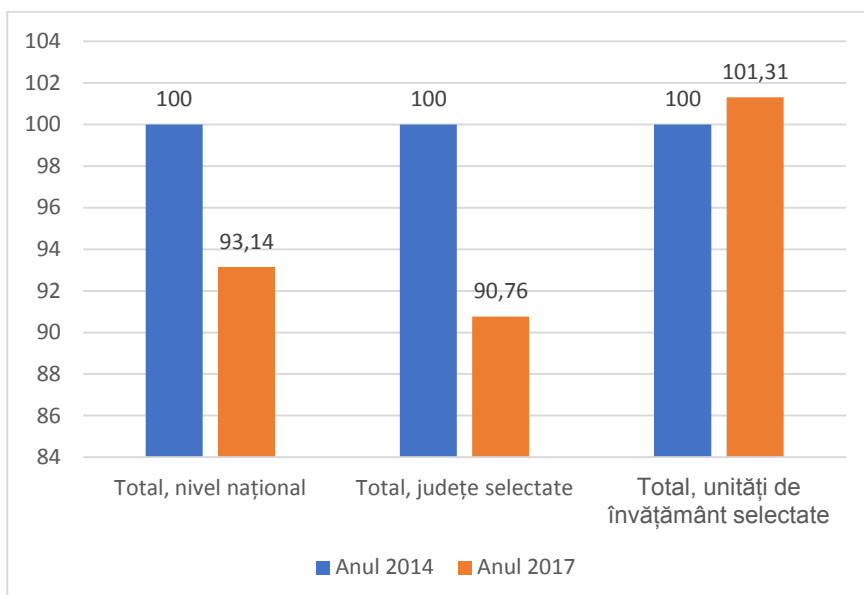
the localities¹⁵ in which the respective investments were made, is presented in the graphs below (Figures 10 and 11).

Figure 8 - Evolution of the school population - children enrolled in kindergartens - projects with MEN as beneficiary



Data source: INS and ARACIP

Figure 9 - Evolution of the school population - children enrolled in kindergartens - ATU beneficiaries



Data source: INS and ARACIP

¹⁵ Where there was no data regarding the educational unit, we considered the evolution of the school population at the locality level, considering that, in most of these situations, there is only one educational unit in the respective locality.

From the data presented in Figures 8 and 9 it can be observed that, against the general decrease of the school population, in the counties selected for the interventions the decrease of the school population was greater than at national level. On the other hand, it can be observed that, while in the case of the educational units built/ rehabilitated through the MEN projects, the decline of the school population is even greater than that of the counties in which these units are located, in the case of the projects with ATU beneficiaries, the situation is the opposite: at the level of the selected units/ localities, during the analysed period, a **growth** of the school population was registered.

On the other hand, we can see that the demographic factor plays a much more important role at the ATU level, which, in our opinion, shows the importance of the initiative and of the administrative capacity at the local level, in order to improve the quality of the educational services.

The immediate achievement indicator related to the 11 projects aimed at investments in kindergartens is "The capacity of the educational infrastructure that benefits from support - preschool education". Following the analysed interventions, a number of 17,958 children will learn in rehabilitated or newly built spaces, of which 17,611 from less developed regions¹⁶, 145 pre-schoolers with disabilities and 2808 belonging to the disadvantaged categories.

In ROP (approved version March 18, 2016)¹⁷, p. 68-71, the final value of this indicator is established, for 2023, at 24,000 children in less developed regions and 6,000 children in developed regions. On this basis, the projected level of achievement of this indicator, based on the projects under implementation, is presented in Table 3.

Table 1 - The predicted level of fulfillment of the immediate achievement indicator resulted from the 11 projects for kindergartens contracted at the cut-off date of February 25, 2019

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage
ROP Target Group	30,000	6000	20.00	24,000	80.00
Target group - based on geographic location	17,958	317	1.77	17,641	98.23
Target group - beneficiary	17,958	347	1.93	17,611	98.07

¹⁶ We operate the differentiation, regarding the achievement of the result and budget indicators, because in the official ROP documents these differentiations exist. For this differentiation, we analyzed the financing applications as follows: at the default indicator related to the funding request "Capacity of the educational infrastructure benefiting from support" (for the respective level of education), we considered the people in the target group as belonging to more or less developed regions, in two cases: 1. If, apart from the total number of persons benefiting from the intervention, in the application for funding the heading "Less developed regions" has been properly completed. 2. Situation of the respective locality in an officially defined more developed, respectively less developed region. We operate this differentiation because we do not have the information regarding the subsequent way of reporting the target group (by the location of the education unit or by the application for funding)

¹⁷ http://www.fonduri-ue.ro/images/files/programe/DEZV_REG/POR_2014/POR_2014-2020_aprobat_2016.rar

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So, compared to the target group established in the ROP (30,000 people), the target group estimated to be achieved on the basis of the declaration of the beneficiaries of the 11 projects contracted at the cut-off date of February 25, 2019 is of 17,958 persons, **which indicates a level of achievement of the indicator, resulting only from these projects, of almost 60%.**

Regarding the budgetary allocations related to the fulfillment of this specific objective, for the indicator "Capacity of the educational infrastructure benefiting from support - preschool education", the requested budgets, in the analysed 11 financing applications, comparing the amounts allocated through the ROP¹⁸ and those requested through the financing applications, for kindergartens, the situation is presented (at the RON/ EUR exchange rate for July 2019) in Table 4.

Table 2 - The budgetary allocations (in EUR) related to reaching the target value for the indicator "Capacity of the educational infrastructure benefiting from support - preschool education"

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage
ROP allocated budget	94,652,128	15,503,190	16.38	79,148,938	83.62
Requested budget - based on geographical location	105,113,005	2,722,083	2.59	102,390,922	97.41
Requested budget - declaration of the beneficiary	105,113,005	2,949,821	2.81	102,163,184	97.19

The budget requested through the analysed projects exceeds the budget initially allocated to kindergarten investments (**111% compared to the forecast budget**).

The contribution of the interventions financed from PA 10 to the increase of the enrolment rate in the preschool education

Also for investments in school infrastructure (schools) - there are two categories of beneficiaries, already mentioned:

- **Two projects have as beneficiary MEN**, in partnership with the respective ATU, one of the two projects being regional (Bucharest-Ilfov region, a single education unit), the

¹⁸ http://www.fonduri-ue.ro/images/files/programe/DEZV_REG/POR_2014/POR_2014-2020_aprobat_2016.rar

second being multiregional, with investments in the other seven Development Regions. These projects have financed works, many of which had already been completed, representing the latest investment objectives foreseen in the School Infrastructure Rehabilitation Project, a project co-financed by the European Investment Bank (EIB), the Development Bank of the Council of Europe (BDCE) and the Government of Romania based on the F/ P 1.450 Loan Framework Agreement. The implementation period of this framework agreement was 2003-2018, but was extended until 2019. Through these projects, it was requested the reimbursement of the eligible expenses incurred, both by the beneficiaries and by the ATU partners, starting with January 1, 2014, for the objectives included in the respective financing contracts.

- **The other 14 projects** have ATU as beneficiaries.

As a result, there are significant differences regarding the contextual factors:

- The projects that have the MEN as beneficiary aimed at the construction/ rehabilitation of school units established long before obtaining the ROP funding - which explains the relative mismatch with the demographic evolution of the last years (Figures 10 and 11). The selection criteria for the included educational units were, at that time: the number of children; positioning of the unit in a disadvantaged area; improper condition of the building.
- The projects that have ATU as beneficiaries were selected according to the criteria established by the ROP.

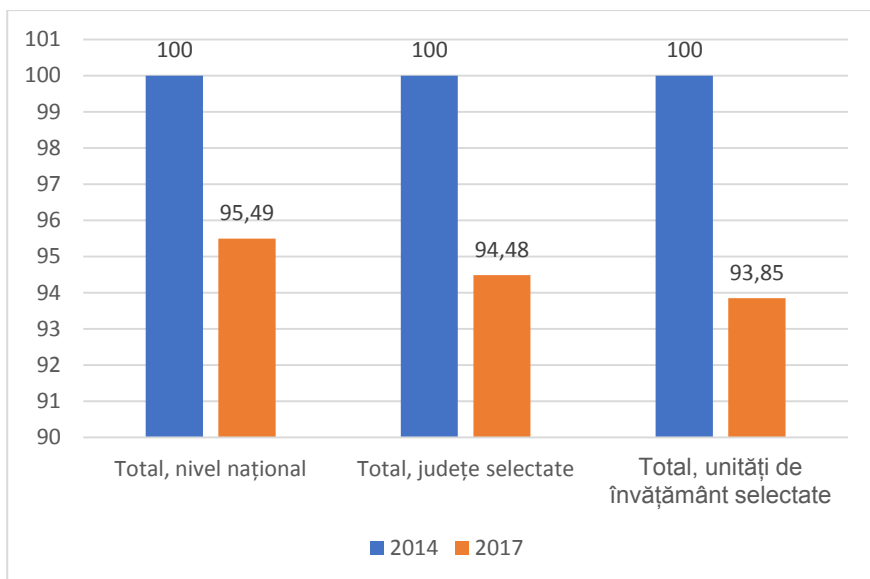
As a result of this difference, we will analyze the evolution of the school population (pupils enrolled in pre-university education) in a different way, for the two major categories of beneficiaries.

The situation **of the school population, of pre-university level**¹⁹, at the national level, at the level of the counties that have benefited from the interventions and at the level of the educational units or the localities²⁰ in which the respective investments were made, it is presented in Figures 12 and 13.

Figure 10 - Evolution of the school population, pre-university education - beneficiary MEN projects

¹⁹ We considered the school population in the entire pre-university education, since a number of educational units have, besides the primary and secondary school levels, other levels of education. As a result, all the students of the education unit benefit from the (built/ rehabilitated) infrastructure.

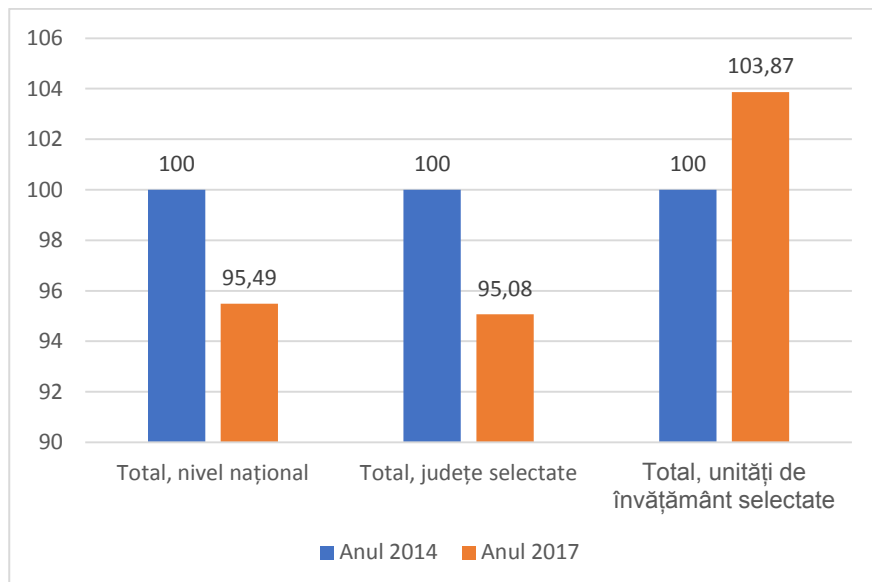
²⁰ Where there was no data regarding the educational unit, we considered the evolution of the school population at the locality level, considering that, in most of these situations, there is only one educational unit in the respective locality.



Data source: INS and ARACIP

It can be observed, as in the case of kindergarten construction, that, against the general decrease of the school population, in the counties selected for interventions the decrease of the school population was greater than at national level, both in the case of kindergartens and, especially, of schools. On the other hand, it can be observed that, while in the case of the educational units built/ rehabilitated through the MEN projects, the decline of the school population is even greater than that of the counties in which these units are located, in the case of the projects with ATU beneficiaries, the situation is the opposite: at the level of the selected units/ localities, during the analysed period, a **growth** of the school population was registered.

Figure 11 - Evolution of school population - pre-university education - ATU beneficiaries



Data source: INS and ARACIP

As with pre-school education, we can see that the demographic factor plays a much more important role at the ATU level, which, in our opinion, shows the importance of the initiative and of the administrative capacity at the local level, in order to improve the quality of the educational services.

The immediate achievement indicator, related to the 16 projects aimed at investments in schools, is "The capacity of the educational infrastructure that benefits from support - school education". Following the interventions analysed, a number of 25,179 students will learn in rehabilitated or constructed spaces, of which 21,899 from less developed regions, 150 students with disabilities and 1,426 belonging to the disadvantaged categories. By the way the Applicant's Guide was made, these projects also respond to the educational needs of some vulnerable groups. An example of a robust substantiation of the need and of the way of addressing vulnerable groups is represented by the project "Primary and secondary school construction in Chitila town" (Annex 8.2).

In ROP (approved version March 18, 2016, p. 68-71), the final value of this indicator is established, for 2023, at 24,000 children in less developed regions and 6500 children in developed regions. On this basis, the predicted level of achievement of this indicator, according to the calculation mode, is presented in Table 5.

Table 3 - The predicted level of fulfilment of the immediate achievement indicator resulted from the 16 projects for schools contracted at the cut-off date of February 25, 2019

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage

ROP Target Group	30,500	6500	21.31	24,000	78.69
Target group - based on geographic location	25,179	878	3.49	24,301	96.51
Target group - beneficiary statement	25,179	3280	13.03	21,899	86.97

So, compared to the target group established in the ROP (30,500 people), the target group estimated to be achieved on the basis of the declaration of the beneficiaries of the 16 projects contracted at the cut-off date of February 25, 2019 is of 25,179 persons, **which indicates a level of achievement of the indicator, resulting only from these projects, of almost 82.55%.**

Regarding the budgetary allocations related to the fulfilment of this specific objective, for the indicator "Capacity of the educational infrastructure benefiting from support - school education", the requested budgets, in the analysed 16 financing applications, comparing the amounts allocated through the ROP²¹ and those requested through the financing applications, for schools, the situation is presented (at the RON/ EUR exchange rate for July 2019) in Table 6.

Table 4 - The budgetary allocations (in EUR) related to reaching the target value for the indicator "Capacity of the educational infrastructure benefiting from support - school education"

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage
ROP allocated budget	96,000,000	10,000,000	10.42	86,000,000	89.58
Requested budget - based on geographical location	51,555,240	5,373,754	10.42	46,181,485	89.58
Requested budget - declaration of the beneficiary	51,555,240	18,759,653	36.39	32,795,586	63.61

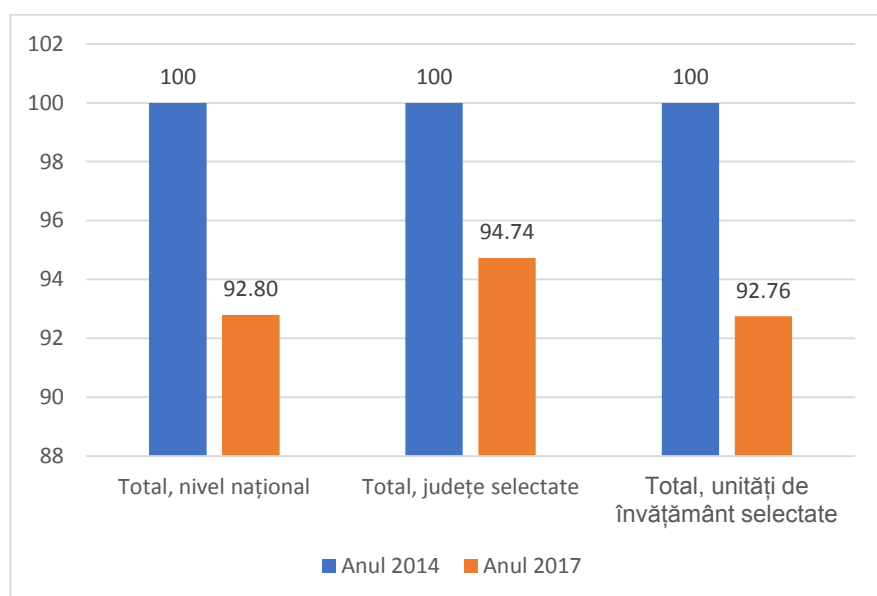
As shown in Table 6, the total budget attracted at the cut-off date of February 25, 2019 through the 16 projects **represents 53.7% of the total budget allocated to schools through the ROP.**

²¹ http://www.fonduri-ue.ro/images/files/programe/DEZV_REG/POR_2014/POR_2014-2020_aprobat_2016.rar

The contribution of the interventions financed from PA 10 to the increase of the enrolment rate in the vocational and technical education

All the 6 projects analysed have ATU as beneficiary. Regarding the evolution of the school population studying in high school, vocational, post-high school and technical education, we present, in Figure 14, in a comparative manner, the evolution of the school population at national level, in the counties where the 6 educational units that benefit from interventions through the ROP are located, as well as at the level of the respective units.

Figure 12 - Evolution of the school population - high school, professional, post-secondary and technical education (projects with ATU beneficiaries)



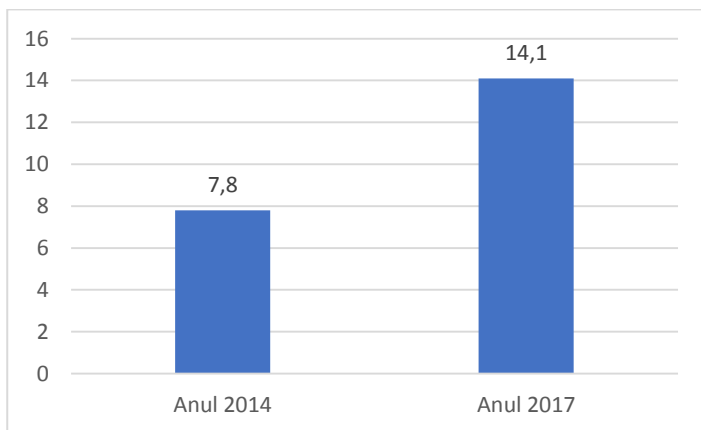
Data source: INS and ARACIP

In Figure 13 it can be observed that the decline of the school population in the selected counties is lower than that registered at the national level, while at the level of the schools that benefited from interventions through the ROP, the decline is similar to the one registered at the national level. Given that the construction/ rehabilitation projects are underway (none being completed), we cannot now judge the respective interventions from this perspective.

As we do not have data on gross enrolment rates in high school - on branches, profiles and specializations, we can consider that the gross enrolment rate in vocational education is a proxy indicator for the gross enrolment rate in vocational education in a broad sense (vocational education, technological high school education, post-secondary education).

As it can be seen in Figure 15, in recent years the interest of the beneficiaries for this type of education has increased (the gross enrolment rate has become almost double).

Figure 13 - Gross enrolment rate in vocational education



Data source: INS and MEN

The immediate achievement indicator related to the 6 projects aimed at investments in vocational and technical education units, is "The capacity of the educational infrastructure that benefits from support - vocational and technical education".

Following the analysed interventions, a number of 2772 students will learn in rehabilitated or constructed spaces, of which 238 from less developed regions, 18 students with disabilities and 233 belonging to the disadvantaged categories.

In ROP (approved version March 18, 2016, p. 68-71)²² the final value of this indicator is established, for 2023, at 10,185 children in less developed regions and 1940 children in developed regions. On this basis, the predicted level of achievement of this indicator, according to the calculation mode, is presented in Table 7.

Table 5 - The predicted level of achievement of the immediate achievement indicator resulted from the 6 projects for vocational and technical education at the cut-off date of February 25, 2019

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage
ROP Target Group	12,125	1940	16.00	10,185	84.00
Target group - based on geographic location	2772	1115	40.22	1657	59.78
Target group -	2772	2534	91.41	238	8.59

²² http://www.fonduri-ue.ro/images/files/programe/DEZV_REG/POR_2014/POR_2014-2020_aprobat_2016.rar

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The estimated level of achievement of the target value of the immediate achievement indicator for the six projects **represents 23% of that estimated by the ROP.**

Regarding the budgetary allocations related to the fulfillment of this specific objective, for the indicator "Capacity of the educational infrastructure benefiting from support - vocational and technical education", the requested budgets, in the analysed 6 financing applications, comparing the amounts allocated through the ROP²³ and those requested through the financing applications, for schools, the situation is presented (at the RON/ EUR exchange rate for July 2019) in Table 8.

Table 6 - The budgetary allocations (in EUR) related to reaching the target value for the indicator "Capacity of the educational infrastructure benefiting from support - vocational and technical education"

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage
ROP allocated budget	31,550,000	4,550,000	14.42	27,000,000	85.58
Requested budget - based on geographical location	10,101,320	6,045,672	59.85	4,055,647	40.15
Requested budget - declaration of the beneficiary	10,101,320	9,533,995	94.38	567,325	5.62

As shown in Table 8, the total budget requested at the cut-off date of February 25, 2019, through the six contracted projects **represents 32% of the budget allocated to this type of intervention (SO 10.2).**

Specific objective 10.2 has as an indicator also the "Capacity of the educational infrastructure that benefit from support - lifelong learning", with a target group of 315 persons for less developed regions and 60 for developed regions. This indicator would be realized through the interventions financed from the general allocations for this specific objective, and presented above.

It should be mentioned that none of the 6 analysed projects explicitly includes investment objectives associated with this indicator. Only one of them mentions as a favorable context factor the existence of a partnership between the local authorities and employers for the

²³ http://www.fonduri-ue.ro/images/files/programe/DEZV_REG/POR_2014/POR_2014-2020_aprobat_2016.rar

implementation of continuous training programs, but without correlating the intervention with this indicator.

So, considering only the 6 analysed financing applications, the level of achievement of this indicator is 0 - both for the target group and for the budget allocations.

On the other hand, the equipment, workshops and, in general, the respective infrastructure can be used later, for continuous vocational training and in general for adult education, so it remains for the final evaluation of the ROP to determine whether the infrastructure for vocational and technical education was used or not also for lifelong learning (continuous training/ adult education).

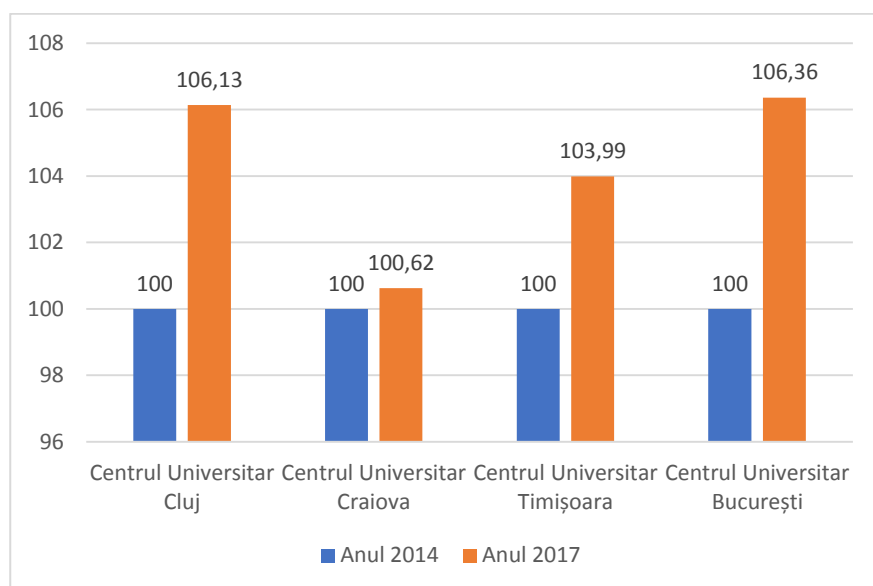
The contribution of the interventions financed from PA 10 to the increase of the share of the population aged between 30-34 years with tertiary level of education

Regarding higher education, we must first distinguish between developments in public education, which recorded a **growth** of the number of students in the considered period (101.56% in 2017 compared to 2014), compared to the private one, which registered a decrease in the number of students (87.1% in 2017 compared to 2014).

As the interventions, for SO 10.3, targeted public institutions, we will refer, for comparisons, to the figures related to the evolution of the number of students enrolled in public education.

Higher education institutions that have benefited from interventions through the ROP are located in the major university cities. As a result, we will make, first of all, a comparison between the evolution of the number of students at national level and the evolution of the number of students in the four university centres where they operate.

Figure 14 - The evolution of the number of students in the four university centres

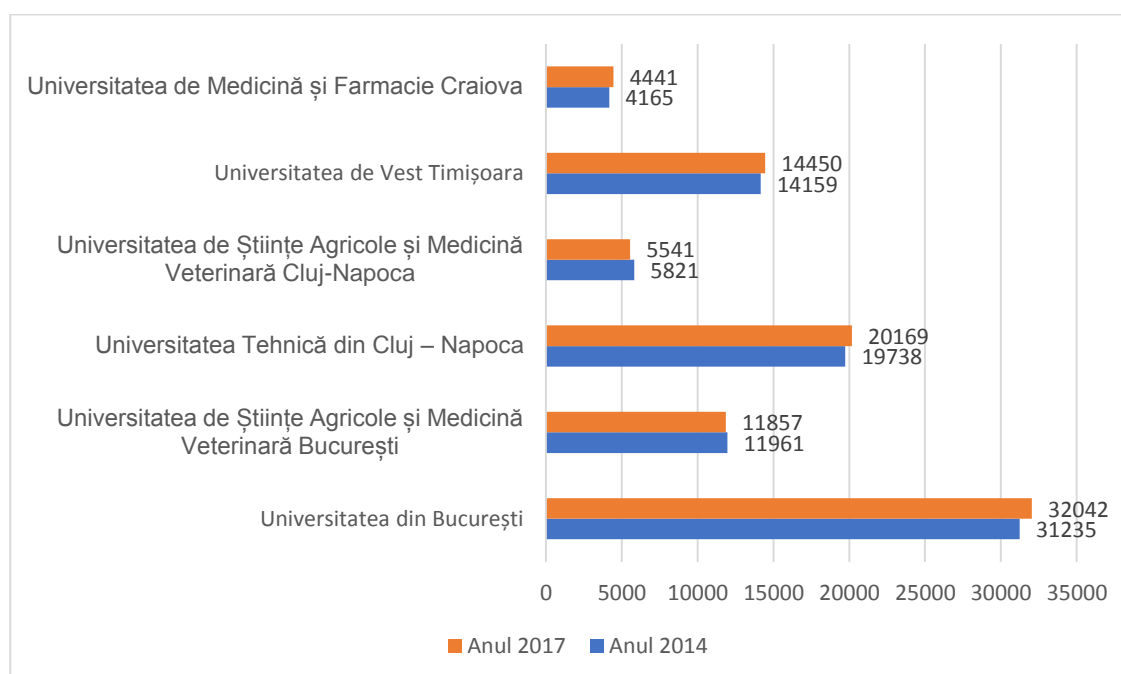


Data source: INS (National Institute of Statistics)

It can be observed, in Figure 16, that in three of the four university centres (the exception being the Craiova University Centre), the number of students increased more than the growth registered at national level, in the public higher education and, therefore, the investments are justified also demographically.

In Figure 17 it can be seen that at 4 of the 6 universities, the number of students enrolled (for the bachelor's, master's and doctoral programs) has increased, but it decreased at the two universities of agricultural sciences and veterinary medicine (possibly due to the lack of attractiveness of the respective qualifications).

Figure 15 - The evolution of the number of students at the level of the 6 higher education institutions²⁴ that received funding



Data source: Integrated Educational Register

The immediate achievement indicator related to the 6 projects targeting investments in higher education institutions is "The capacity of the educational infrastructure that benefits from support - university education". As a result of the analysed interventions, a number of 15,718 students will learn in rehabilitated or constructed spaces, of which 4 students with disabilities and 1792 belonging to the disadvantaged categories.

In the ROP (approved version March 18, 2016), pp. 68-71, the final value of this indicator is set, for 2023, at 10,000 students for beneficiaries from developed regions and 25,000 students for beneficiaries from less developed regions. On this basis, the predicted level of achievement of this indicator, according to the calculation mode, is presented in Table 9.

²⁴ According to the Integrated Educational Register - <https://rei.gov.ro/statistici-universitati-13>

Table 7 - The predicted level of achievement of the immediate achievement indicator resulted from the 6 projects for higher education at the cut-off date of February 25, 2019

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage
ROP Target Group	35,000	10,000	28.57	25,000	71.43
Target group - based on geographic location	15,718	4172	26.54	11,546	73.46
Target group - beneficiary statement	15,718	15,718	100	0	0

The estimated level of achievement of the target value of the immediate achievement indicator for the six projects is **45% compared to the one predicted by the ROP**.

Regarding the budgetary allocations related to the fulfillment of this specific objective, for the indicator "Capacity of the educational infrastructure benefiting from support - higher education", the requested budgets, in the analysed 6 financing applications, comparing the amounts allocated through the ROP²⁵ and those requested through the financing applications, for schools, the situation is the following (at the RON/ EUR exchange rate for July 2019).

Table 8 - The budgetary allocations (in EUR) related to reaching the target value for the indicator "Capacity of the educational infrastructure benefiting from support - higher education"

	Total	More developed regions - numerically	More developed regions - percentage	Less developed regions - numerically	Less developed regions - percentage
ROP allocated budget	74,500,000	12,500,000	16.78	62,000,000	83.22
Requested budget - based on geographical location	22,518,357	7,809,007	34.68	14,709,349	65.32
Requested budget - declaration of the beneficiary	22,518,357	22,518,357	100.00	0,00	0.00

²⁵ http://www.fonduri-ue.ro/images/files/programe/DEZV_REG/POR_2014/POR_2014-2020_aprobat_2016.rar

The budget requested by the six universities beneficiaries generally represents **about 30% of the budget allocated through the ROP**, for this type of interventions (SO 10.3).

C. Results of the analysis (findings)

- In general, it is found that **the analysed projects contribute to the achievement of the specific objectives of PA 10**. The projects that have MEN as beneficiary, in partnership with ATU, which accumulate most of the budget related to the specific objective of SO 10.1 and which are the most advanced as a level of achievement, already demonstrate their effectiveness in achieving the investment objectives, especially taking into account the continuity of the investment process, the respective projects continuing and finalizing previous interventions. In the case of these projects, most of the investment objectives are completed, a good part of the expenses incurred by the beneficiary (MEN) being also reimbursed.
- However, it is noted that, for the time being (except for kindergarten projects), all other investment categories have beneficiaries who are located, in a larger proportion than the ROP provides, in more developed regions.
- There are no interventions that target investments in **nurseries** (SO 10.1).
- At the level of investments in kindergartens (SO 10.1.), the analysed projects can contribute to the achievement of the ROP indicator "Capacity of the educational infrastructure that benefits from support - preschool education" in proportion of about 60%, considering that the requested budget exceeds the initial allocated budget (111 %).
- Regarding the investments in schools (SO 10.1), the analysed projects can contribute to the achievement of the ROP indicator "Capacity of the educational infrastructure benefiting from support - school education" in proportion of over 82%, with a requested budget of almost 60%.
- Regarding the investments in vocational and technical education (SO 10.2), the analysed projects can contribute to the achievement of the ROP indicator "Capacity of the educational infrastructure benefiting from support - vocational and technical education" in proportion of over 23%, with a requested budget of almost 32 %.
- Regarding investments in vocational and technical education and lifelong learning (SO 10.2), there are no projects that can explicitly contribute to the achievement of the ROP indicator "Capacity of the educational infrastructure that benefits from support - lifelong learning", even if, implicitly, the new/ rehabilitated infrastructure can be used also in adult education (respectively, in continuous vocational training).
- Regarding the investments in higher education (SO 10.3), the analysed projects can contribute to the achievement of the ROP indicator "Capacity of the educational infrastructure benefiting from support - university education" in proportion of over 45%, with a requested budget of almost 30%.

4.2. Evaluation Question 2: What types of interventions have proven to be effective and why? Are there good examples of ROP interventions/ mechanisms in the field of education?

The comparative analysis of the effectiveness of the interventions within the PA 10 was done on three dimensions:

- Existence of differences between the effects of certain types of interventions (for example, constructions, re-qualifications, equipment, etc.);
- Existence of differences between the effects of interventions between certain types of beneficiary educational units;
- Existence of interventions that can be considered examples of good practice.

A. Collected Data

Regarding the investments in the school and university infrastructure, there are the three categories of beneficiaries, already mentioned:

- 10 projects have as beneficiary MEN through the UPMRSU, in partnership with the respective ATU, which financed works, mostly completed, provided for in the two projects co-financed by the European Investment Bank (EIB), the Development Bank of the Council of Europe (ECB) and the Government of Romania.
- 23 projects have ATU as beneficiaries.
- 6 projects have universities as beneficiaries.

As a result, there are significant differences regarding the contextual factors:

- The projects that have the MEN as beneficiary aimed at the construction/ rehabilitation of school units established long before obtaining the ROP funding - which explains the relative mismatch with the demographic evolution of the last years (Figures 10 and 11). The selection criteria for the included educational units were, at that time: the number of children; positioning of the unit in a disadvantaged area; improper condition of the building.
- The projects that have ATU and Universities as beneficiaries were selected according to the criteria established by the ROP.

Starting from the limitations, already mentioned, regarding the available data (especially quantitative data, which refers to the implementation of the respective projects), the analysis performed was based, above all, on the data collected with qualitative instruments.

B. Analysis of data

The interventions covered by this report can be differentiated, first of all, according to the beneficiary, since there are specific elements determined by **the type** of beneficiary:

- MEN, in partnership with ATU
- ATU

- Universities.

Projects with MEN as beneficiary are continuations and completions of other, older projects, namely the Early Education Reform Project (PRET), a project co-financed by the Development Bank of the Council of Europe (DBCE) and the Government of Romania under the Loan Agreement F/ P-1573 - for kindergartens, respectively the School Infrastructure Rehabilitation Project (PRIS), a project co-financed by the European Investment Bank (EIB), the Development Bank of the Council of Europe (DBCE) and the Government of Romania based on the F/ P 1.450 Loan Framework Agreement.

According to the respective loan agreements, through these projects was financed, until January 1, 2014, the construction/ rehabilitation/ modernization and furnishing of a number of kindergartens, respectively of schools. The investment objectives in the educational infrastructure not finalized to date were eligible to be financed through the ROP, these being the subject of the 10 projects managed by the MEN.

Between the elaboration of the financing applications and the signing of the financing contracts, the number of educational units included in the approved projects was reduced - but not by much - by 2-5 units (with the corresponding reduction of the budgets), for the multiregional projects. The reasons for this reduction were usually related to the partner ATU, which either did not meet the set eligibility criteria (for example, they had state debt), either they did not provide the required documents within the deadlines²⁶.

The integration with another project and, as a result of this fact, the continuity in the design, implementation and management, favored both the planning and the general management of the project (including the monitoring), the partner ATU as well as the educational units being already selected for this intervention.

The targets regarding the investment objectives were very clear (having been already established by the previous projects) and, analyzing the level of achievement mentioned in the monitoring report, we consider that they have been realistically established: the implementation schedule has been respected and there is no risk that the investments will not be finalized, a proof, in this respect, being the high percentages of achievement, at the date of the last monitoring report (June 30, 2019): between 31.42% and 99.31%. Only 3 out of 10 projects have an achievement level of less than 50%, while three have an achievement level of over 80% (the multiregional project on schools having an achievement rate of 99.31%).

Since the equipment purchased by the Town Hall was not subject to accounting monitoring by the UMPMPRSU, and the expenses related to these equipment were not requested to be reimbursed within the Reimbursement Requests, the UMPMPRSU does not have the status of the purchased equipment nor any data related to this aspect. Most of the investments (with related expenses) are made, but they were not included in the reimbursement request.²⁷

Currently, the registration of ATU partners in MySMIS (precondition for recording ATU expenses and for their reimbursement) is ongoing, but difficulties are anticipated, especially regarding

²⁶ Interview with project managers

²⁷ Ibid.

the ability of small ATU local councils to carry out these operations - thus there is a risk as a part of the investments that fall under the responsibility of ATU not to be reimbursed.²⁸

Considering that, through the project, the expenses already incurred are reimbursed, especially for the contracts concluded until 14.09.2018, the values entered in the application for financing were the amounts actually contracted. As a result, considering that most of the investment objectives were completed during the project eligibility period, there are no (and we believe that there will not be) significant variations between the approved budget of the project and the executed one.

For all the projects, the signing of the financing contract was followed, almost immediately, by the submission and approval of a reimbursement request - which denotes an efficient project management. In general (starting from the analysed case studies) we can say that the amounts declared as ineligible and non-reimbursed represent a small percentage of the projects budget, the main reasons being: lack of supporting documents, works execution in 2013 (so, outside the eligibility period), differences in amounts between paper documentation and MySMIS, differences between invoiced value and the value of the performed works, etc.

We consider that these problems are minor, the deviations from the project being minimal. One factor that contributed to the implementation of the project without major problems was the beneficiary's experience in such projects (UMPMPRSU has existed, under different names, for over 20 years), as well as its integration into a wider policy, i.e. the continuation and completion of another project funded with European support. On the other hand, since the financing contract was signed at the end of 2018, there were delays in carrying out information and publicity activities and those related to project management.

Another issue reported is the one related to the institutional capacity of the partners (already mentioned above) - regarding the difficulties of registering in MySMIS and of entering the data, including financial ones - especially from the local councils of the small ATU.

The projects with ATUs and Universities as beneficiaries were all initiated in the period after the approval of the ROP, so the applications for financing were submitted in 2018, and the works are not finalized, at any of the planned investment objectives.

Being individual projects, with a relatively small budget compared to that of the multiregional projects managed by the MEN, the contribution of the respective investments in achieving the objectives and the general indicators of the ROP is, of course, lower and also due to the incipient stage of achievement of the respective investments (in some cases, under 1%).

As a result, having no information on the efficiency and efficacy of the investment (apart from estimating the unit cost), we cannot estimate the real impact, the actual contribution to the achievement of the indicators related to Axis 10 of the ROP. To this situation it also contributed the fact that there were no requests for reimbursement, and that monitoring focused mainly on the initial stages of preparation and organization of the implementation.

The only accessible element of effectiveness at this stage is the unit cost (i.e., the estimated amount to be spent per member of the target group - preschool, pupil, student), but in this case

²⁸ Interviews with project managers, focus groups with beneficiaries

we cannot evaluate this indicator of the intervention, considering the diversity of the typology of the related investments. We reiterate that, at the level of projects with ATU beneficiary, the unit costs are higher than those whose beneficiary is MEN.

Also, analyzing the location of the projects (developed regions/ less developed regions), most of the projects were located, according to the funding requests, in more developed regions, contrary to the ROP spirit, which favors investments in less developed regions.

The projects with Universities as beneficiaries were all initiated in the period after the approval of the ROP, so the applications for financing were submitted in 2018, and the works are not finalized at any of the planned investment objectives. As a result, they have characteristics similar to those carried by ATUs:

- As individual projects, the contribution of the respective investments in achieving the general objectives and indicators of the ROP is only estimated.
- They are in the early stages of realization.
- Having no information on the efficiency and efficacy of the investment (apart from estimating the unit cost), we cannot estimate the real impact, the actual contribution to the achievement of the indicators related to Axis 10 of the ROP.

Another element we considered is the cost per member of the target group. In this sense, for the 9 projects analysed as case studies:

- In the case of kindergartens, from the three case studies analysed, the estimated unit cost is similar, both for projects with MEN beneficiary (29,665 lei/ preschool from the target group) and for projects with ATU as beneficiary (35,848/ preschool, respectively 27,283 lei respectively/ preschool).
- In the case of schools, the multiregional project with MEN as beneficiary has, by far, the lowest unit cost (4,901 lei/ student), the others having an estimated unit cost of 35,803 lei/ student, respectively of 31,171 lei/ student).
- For the professional and technical education units considered as case studies, the estimated unit cost was 10,970 lei/ student, respectively 7,806/ student.
- Within the university considered as a case study, the estimated value of the unit cost was of 5,080 lei/ student.

It is obvious that each investment was made under specific conditions, starting with the land and ending with the level of thermal insulation, with the type of equipment and furniture purchased. As a result, we offer the above figures for information purposes only.

The beneficiaries of the projects²⁹, from all the categories mentioned above, revealed a number of strengths and weaknesses of the process - especially regarding the stages of selection of applications, contracting and development of the investments.

- As strengths, which contribute to increasing the efficiency and efficacy of investments, we can list:

²⁹ Interviews and focus groups with beneficiaries

- Selection stage: the process was carried out without major problems, the possible unclear situations were clarified on the way, the guides were changed, in the direction of clarifying some aspects.
- Good collaboration with some RDAs and with the MA, as well as with MEN (for centralized projects).
- Previous experience of the project team.
- As weaknesses, problems that affect the efficiency and efficacy of the investments:
 - The technical evaluation of the projects encountered difficulties due to the lack of personnel.
 - Some procurement procedures had to be resumed, several times, either due to the lack of bidders or due to changing conditions (for example, wage changes in the field of construction).
 - The affiliation procedures of ATU partners in MySMIS are time consuming.
 - Legislative instability and differences in the interpretation of the legislation in force, at the level of localities, counties and regions - for example, regarding ISU, DSP or ISC procedures.

The vast majority of the stakeholders consulted for this evaluation consider the collaboration with the MA and with the RDAs as being both a strength and a weak point - there are different opinions in this respect, depending on the particular situation of each project.

From the analysis of the collected data, we have noted two examples of good practice in school construction, since, on the one hand, **they address, in particular, vulnerable groups** (being, in this sense, consonant with the spirit of ROP), being, on the other hand, well founded on demographic data.

The two characteristics (data foundation and focus on vulnerable groups) can be considered as desired, for the entire Axis 10.

Box 1 - Example of addressing vulnerable groups - the project "Construction of primary and secondary schools in Chitila town"

It should be noted that from the school population of Chitila, in the 2017-2018 school year, 26.19% (364 students) are children belonging to vulnerable groups: children with disabilities who attend kindergarten/ school -10; children from single-parent families - 83; children with at least one parent abroad - 52; children with CES declared and certified or with a school orientation certificate -13; children from low socio-economic status families - 147. Out of the total, 282 are undeclared Roma children, most of them, approximately 41% children in the 6-10 age group, 36% being in the 0-5 age group, and 23% between 11 and 15 years. Also, 22.79% of the students are in educational risk situations.

Of the total number of children enrolled in a form of education, 9.56% of them had a poor school situation in June 2017, they came from an disadvantaged environment, meaning that they have at least one parent left abroad, they are in grandparents care, they come from single-parent families, from families with a poor financial situation, from the marginalized

area of the city (according to the World Bank Atlas on marginalized areas). The number of children who had at least one corigence is 92 students, representing about 5.74% of the total number of children enrolled in the primary and secondary school cycles. For them, in the future school that will be carried out through this project, the program "School after school" will be mainly organized.

There are also children who leave school quickly, especially between primary and secondary school, thus increasing the dropout rate. The reasons for leaving school early are: poverty, dismemberment of the family, the model offered by parents or siblings, involvement in activities at the limit of the law, early entry into the labour market, for those who manage to do so despite the lack of qualification and the fact that they do not have the legally allowed aged to enter the labour market. The teachers consider that early school leaving is the result of the "parents mentality", of the low respect they have for the school. For students between the ages of 12-16 years, who have dropped out of school or exceeded by at least 4 years the age corresponding to the unfulfilled grade, i.e. about 12% of the city's population, those who are the future working resources within the active population, able to work but without a qualification, the program "Second chance" will be organized within the newly built school.

(Source: Case study for the project "Primary and secondary school construction in Chitila town")

Another good practice case that we have considered is an investment in vocational and technical education, as the respective infrastructure can be used subsequently for continuous vocational training and, in general, for adult education, contributing to the improvement of the labour market, at least locally (see also the case study presented in Annex 8.4).

Box 2 - Potential for impact on the labour market at local level - the case of the "Lațcu Vodă" Technical College, the town of Siret, Suceava county

The estimated indirect benefits of this project are important. The project is also addressed to other entities, such as: Siret Industrial Park/ ATU Siret town, because through the qualitative growth of educational activities and especially by equipping the school unit with new technologies, the level of qualification of the graduates will increase. The project will develop the skilled workforce according to the demands of the labour market. The companies present in the area and the companies that intend to invest in the area will have a very important advantage through the existence of the skilled workforce and able to use new technologies.

(Source: Case study for the project "Construction and equipment workshops, laboratories and amphitheater within the "Lațcu Vodă" Technical College, Siret town, Suceava county")

This feature (investments with multiple addressability and multi-level impact) can be considered as desired for the entire Axis 10.

C. Results of the analysis (findings)

- There are significant differences between centralized interventions (such as those with MEN as beneficiary) and decentralized ones (with ATUs and Universities as beneficiaries).
- The centralized ones have lower unit costs (per preschool/ student) than the decentralized ones.
- Being the continuation of some older interventions, we consider that, at the end of the implementation period of the centralized projects, all the investment objectives will be finalized - which we cannot say at the moment regarding the decentralized projects.
- The lack of monitoring of the tasks entrusted to the local public administration authorities (at the level of the ATU beneficiary), as well as the lower institutional experience and capacity (for example, regarding enrolment in MySMIS) can affect the effectiveness of decentralized projects, in the absence of adequate support.
- Collaboration between all the essential actors (beneficiaries, MA, RDA) is essential for achieving the investment objectives.
- Previous experience in carrying out investment projects and the existence of qualified human resources (project team) is also very important.
- There are a number of obstacles in implementation (especially regarding the compliance with approved budgets and deadlines) regarding the legal instability and differences of interpretation of the legislation in force, at the level of localities, counties and regions - for example, regarding the procedures related to fire safety, public health, construction discipline.

4.3. Evaluation question 3: What is the degree of sustainability of the educational dimension of the actions promoted through the ROP PA10?

The analysis of the sustainability of the interventions financed by PA 10 was carried out in relation to the following dimension:

- Involvement of beneficiaries in capitalizing, continuing and integrated approach of the results of the intervention after the cessation of the financial support.

A. Collected Data

At the date of this evaluation report, as the projects are in implementation (none being finalized), information regarding the effective insurance of sustainability cannot be provided.

As a result, in addition to the quantitative data already presented above, the information analysed comes mainly from the application of qualitative research tools and from the analysis of the intentions stated by the beneficiaries/ partners in the financing applications with regard to the sustainability.

B. Analysis of data

According to the applications for funding, after the cessation of financing, the results of the projects (i.e. investments) will be financially supported through the same institutional mechanisms that work at present, respectively the administrative (and investment) expenses will be covered from the local budget, from the MEN budget, respectively, for the projects that have the Universities as beneficiaries, from their budgets. There will be no need for new relevant institutional agreements with third parties for project implementation and facilities exploitation.

At the completion of the projects, with the final reception, the steps for registration of investments in the accounting documents will be performed and the budget of the year following the implementation will be appropriately substantiated, including the expenses necessary for the operation of the installed installations and the maintenance of the works carried out and of the purchased equipment. The costs related to the operation and maintenance of the investment were taken into account in the estimates for the period after the completion of the project. The beneficiaries and partners will ensure, from the local budget, the coverage of the current maintenance expenses and the capital repairs.³⁰

During the operational period, the beneficiaries and partners will permanently monitor the functioning of the investment within the normal parameters, will detect the malfunctions and will promptly take remedial measures. In this sense, whenever required, the beneficiaries and partners will include amounts in their own budgets and will support the coverage of all the expenses associated with the operation of the project.³¹ An example of how the sustainability of a project for the rehabilitation of a rural kindergarten is estimated and assumed by contract can be traced in the Case Study "Extension, rehabilitation, modernization and endowment of the kindergarten with normal program in the village Lungești, Lungești Commune, Vâlcea County" (Annex 8.5).

Box 3 - Assuming sustainability at the local level - the case of the kindergarten with the normal program from Lungești village, Lungești commune, Vâlcea county

The investment objective will be financially supported, after the cessation of financing through the allocation of financial resources, according to the needs arising during the operation and maintenance of the investment. The realization of the interventions provided by this project will not only reduce the operating costs of the concerned infrastructure, thus reducing the pressure on the local budget (which provides the financial resources necessary for the operation), but it will also make possible the functioning of the building in the coming years without the need for new significant investments to ensure the thermo-energy efficiency of the building. This will be ensured by the quality of the technical solution (works, high performance materials) designed and described in detail in the Documentation for the approval of the Intervention Works (DALI).

³⁰ The financing applications of the projects contracted at the cut-off date of 25.02.2019

³¹ The financing applications of the projects contracted at the cut-off date of 25.02.2019 and interviews with the project managers of the project beneficiaries.

From an institutional point of view, the sustainability of the project "Extension, rehabilitation, modernization and endowment of the kindergarten with normal program from Lungești village, Lungești commune, Vâlcea county" is ensured through the personnel structure and the capacity of the building manager to mobilize human resources adequate for the project purpose and objectives.

In determining the net cash flow, all (eligible and ineligible) costs and all sources of financing (for both investment and operation) were taken into account. The cumulative net cash flow is zero, the infrastructure subject to modernization is in the administration of ATU Lungești Commune and does not have the purpose of carrying out activities that generate net income. Thus, the operational costs will be fully covered by revenues in the form of operating subsidies from the local budget of the ATU Lungești Commune, depending on the needs.

Regarding the way in which the costs associated with the operation of the project will be ensured under optimal conditions after the cessation of the requested financing, financial resources will be created. These financial resources needed to support the operation and maintenance of the infrastructure undergoing modernization are operating subsidies.

Thus, after the implementation of the project, in the local budget they will be included the necessary funds for the maintenance and operation of the Lungești Kindergarten with normal program.

It is estimated that maintenance and operating expenses will increase over the period of operation of the infrastructure with the maintenance costs of the works proposed by the project as follows:

- Interventions on the facade of the building - every 5 years;
- Interventions at the terrace level - every 5 years;
- Windows repair works - annually, starting with the expiration of the warranty term;
- LED replacement works - annually, starting with the expiry of the warranty period;
- Photovoltaic and solar panel cleaning services.

Expenditure on raw materials and consumables, water, sewerage, sanitation, logistics and other operational expenses were considered equal in both the non-investment and the investment version.

(Source: "Extension, rehabilitation, modernization and endowment of the kindergarten with normal program from Lungești village, Lungești commune, Vâlcea county")

The need for the most accurate and realistic estimation of the impact of the investment on the local budget (and on the beneficiary's budget in general) is an essential condition of the sustainability of any project. Without such a correct estimate, there is a danger of the lack of resources for exploiting and maintaining the investment, which can lead to its degradation and failure to meet the requirements set out in the financing contract regarding sustainability. **This emphasis on a more accurate estimate of the resources needed can be considered as desired for the entire Axis 10.**

From the already presented quantitative data, it can be observed that the financial allocations are not, in all cases, in line with national priorities, the proportion of the funds allocated to the investment objectives in less developed regions and counties, being in the case of SO 10.2. and SO 10.3, lower than that established by ROP.

Another element that, in the opinion of the participants in the interviews and focus groups, positively influences the sustainability of the projects, from the perspective of the mentioned above criterion (of the involvement of the essential actors) is the inclusion of the ROP intervention in the local development projects and in the national and regional strategies.

C. Results following the analysis (findings)

- The sustainability of interventions can be ensured if supported by already existing mechanisms, without the need to create new ones or to modify the existing ones.
- The sustainability of the interventions can be increased by a more accurate calculation of the budgetary impact (at the beneficiary level) of the necessary costs.
- There is a need for a more focused reorientation of future calls for Axis 10, on less developed regions.
- It is important to note that one factor that differentiates ATUs and universities projects in the direction of increased sustainability is their integration into local (for ATU beneficiary projects) or institutional (for universities beneficiary projects) development projects.
- Also, the existence of high standards rehabilitated school and university structures may contribute to stopping the decline and stabilizing the school population³².

4.4. Evaluation question 4: Is the sustainability of the effects different depending on certain elements, for example demographic evolution, socio-economic context or location?

Two factors that influence the sustainability of the interventions were considered:

- demographic evolution, and
- geographical location (rural/ urban)
- capacity of the beneficiary (small ATU/ large ATU).

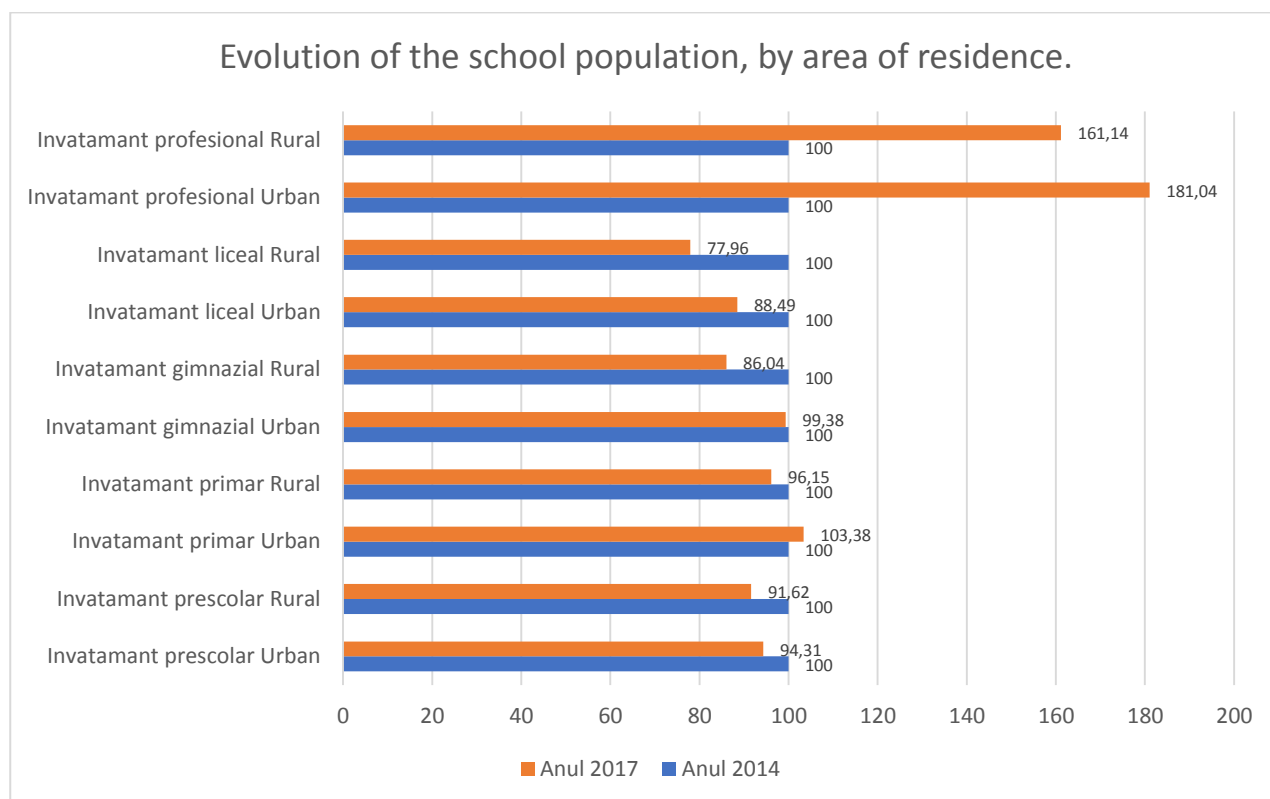
A. Collected Data

Regarding the influence of external factors on the sustainability of the projects, at the date of this evaluation report, as the projects are in implementation (none being finalized), only preliminary and limited information can be provided.

³² According to the statements of the participants in focus groups and interviews. For the reasons already presented, any attempt to effectively assess sustainability is premature.

We can, however, draw a series of conclusions, based on the analysis of the quantitative data to which we had access regarding the evolution of the school population and the evolution of the gross enrolment rate. In this sense, we also add here the differentiation by areas of residence - rural and urban. From the figure below, the school population decline³³ was higher in the rural area, compared to the urban area, the biggest difference being found in high school education:

Figure XX. Evolution of the school population, by area of residence



One of the causes of this situation can be (and the testimonies of the participants in interviews and focus groups confirm this fact), besides other factors, also the poor quality of the school infrastructure.

As a result, in addition to the quantitative data already presented above, the information analysed comes mainly from the application of qualitative research tools and from the analysis of the intentions stated by the beneficiaries/ partners in the financing applications with regard to the sustainability.

B. Analysis of data

From the point of view of the location of the beneficiaries in the rural or urban area, out of the 39 analysed projects, the 10 centralized projects target pre-school, primary and secondary schools predominantly from the rural area (over 80%).

³³ The decline of the school population was recorded at all levels of education, with the exception of vocational education.

Of the other 29 projects, there are:

- 1 project with ATU beneficiary from rural area, for construction/ rehabilitation of kindergartens (SO 10.1.);
- 5 projects with ATU beneficiary from rural area, for construction/ rehabilitation of schools (SO 10.1);
- 2 projects with ATU beneficiary from rural area, for construction/ rehabilitation of vocational and technical education units (SO 10.2)

If, in terms of efficiency, the projects managed by MEN can be considered as examples of good practices by integrating with previous policies/ projects and through the experience of the management team at the level of the beneficiary, regarding sustainability, there is a number of question marks determined by demographic developments. In the vast majority of the educational units subject to the interventions, during the analysed period (2014-2017) there was a **decline** of the school population; one of the causes could be the selection of the educational units long before the realization of the investments. There are many educational establishments (schools and kindergartens) that have registered a major decline of the school population, some (especially kindergartens) reaching a number of pre-schoolers or students less than 50, one of the units registering, in 2017, less than 10 pre-schoolers enrolled. We remind that these projects continue (and finalize) previous projects, initiated in 2003, the educational units being selected, as investment objectives, long before the project approval and before the financing contract was signed. As a result, on the one hand, the selection criteria were those valid at the initial moment (after signing the agreement and its approval, by law, in 2003), being partly in line with those related to the ROP - especially regarding demographic developments.

The inadequacy to the demographic situation of the projects initiated in the previous planning period (based on the loan agreements mentioned above) shows the need to revise, at least periodically, the criteria that were the basis for granting the financing. In addition, the slow pace of implementation of the original projects created problems for the 2014-2020 ROP, problems for which it is not responsible, but which were "rolled over" in the current financial programming, problems that may question the sustainability of some investment objectives. Given that, in many cases, the least developed regions and counties have been the main sources of migration - both internally, to the more developed areas, and externally, to other Member States of the European Union, we can conclude, on the one hand, the fairness of choosing those counties (with the respective educational units) as targets for interventions (being less developed, therefore, with higher investment needs). On the other hand, however, large differences can be observed between the development regions - which may indicate a better ability to forecast demographic developments in some regions over the others.

In addition, based on the evolution of the school population (at least for some education units - for example, those with a school population below 100 students), question marks regarding the sustainability of the investment can be raised in the medium and long term (see more below, the Conclusions chapter).

In exchange, the projects with ATU as beneficiary are shown to be more sustainable, given the demographic developments: overall, at the level of the respective localities and/ or of the educational units, there is an increase of the school population during the analysed period, their better foundation being evident in this regard.

C. Results following the analysis (findings)

- The general demographic evolution has negatively influenced the sustainability of the intervention through the ROP, especially those initiated long time ago (these are the centralized projects).
- The investment objectives, which have ATUs as beneficiaries, respond better to the requirements related to sustainability, being elaborated on the basis of local needs, identified including by consulting the inhabitants of the respective neighbourhoods or localities (this being confirmed by the analysis of the evolution of the school population presented above).
- Investment objectives in school infrastructure, which are part of local development strategies, are more likely to be sustainable, as they are linked to other investment objectives - for example, access roads - and other sources of funding - for example PNDL.
- There is a small proportion of projects, which have ATU from rural areas as beneficiaries - one of the probable causes being the lack of resources (including institutional capacity).

5. Conclusions, recommendations and lessons learned

Conclusions

Evaluation Question 1: To what extent have the ROP interventions contributed to the achievement of the three specific objectives in the field of education and to the achievement of the targets of the related outcome indicators?

- The interventions subordinated to the analysed projects will significantly contribute to the implementation of the SO 10.1, which refers to the investments in kindergartens and schools - a good part of the budget being already contracted, of this a significant proportion being also reimbursed.
- The field data indicate that there is a risk that in some situations the investments made by ATU may not be fully carried out (at least for some investment objectives), or may be quite delayed due to lack of capacity and, in particular, of qualified human resources necessary to carry out such projects. For centralized projects (with MEN as beneficiary), the risk was invoked that part of the ATU partners' expenses will not be registered in MySMIS - and therefore, will not be reimbursed - as the affiliation process is cumbersome (as stated by the project managers).

- The unit cost (per preschool/ pupil/ student) is different from one project to another. The unit cost (for example, the cost of one square meter of built surface) can be indicative only if the constructions are similar. From the discussions with the experts of the central public administration, it turned out that the imposition of maximum prices led to the impossibility of making some investments, due to the large differences of conditions, (such as soil quality, average values of outdoor temperature during the school year, the distance to which the materials have to be transported, the quality of transport infrastructure and much more). At the same time, the imposition of maximum prices created the risk that some investments would be made with poor quality materials, with an effect on the subsequent costs for the maintenance of the respective infrastructures.
- The legislative instability affects the smooth running of the approved projects. We can mention, here, as examples of legislative changes that, in the opinion of the representatives of the beneficiaries of projects, considerably slow down the pace of project implementation:
 - Changes regarding public procurement procedures and their difficulty.
 - The major changes, in the last years, from the salary legislation, which have led to the increase of the real costs of contracting some construction works, above the level anticipated in the financing applications.
 - Changes regarding the ISU legislation or the construction discipline. For example, works started on the basis of fire safety notices, issued before 2016, are in danger of not receiving, at the end, the fire safety authorization, especially when additional funds cannot be allocated for redesign or to bring the investment to the parameters provided in the new regulations.

Evaluation Question 2: What types of interventions have proven to be effective and why? Are there good examples of ROP interventions/ mechanisms in the field of education?

- As all the projects were approved during 2018 and none of the projects is finalized, it is not possible to strictly estimate the achievement of the target values, established for the ROP PA 10 indicators, regarding the increase of the degree of participation in education (gross enrolment rate for pre-school education, primary and high school, technical and professional and higher education). Even if we can predict an increase in the gross enrolment rate in education or, at least, a less pronounced decrease (for most investment objectives), a subsequent impact assessment is needed, using a specific methodology - for example, the counterfactual analysis.
- Moreover, the impact of the negative evolution of the school population, for all levels of education, on the participation rate cannot be anticipated. Until 2017 (the last year for which INS provided statistical data), the decrease of the school population was correlated with an increase of the gross enrolment rate, until 2016, followed by a decrease in 2017.

There is not enough data to extrapolate this trend of decreasing of the gross enrolment rate, started in 2017 compared to 2016.

- Based on the situation of the centralized projects, the experience of the management team of the infrastructure projects made the difference, especially the thorough knowledge of each investment objective in particular and of the legislation that favors or, on the contrary, hinders the optimal development of the respective projects.
- From this point of view, the beneficiary and partner ATUs face the lack of specialized technical personnel in the field of construction.
- Projects with ATU and Universities as beneficiaries (SO 10.1 with ATU beneficiaries, 10.2. with ATU beneficiaries and SO10.3. with Universities beneficiaries), could not be evaluated from the point of view of the effectiveness, as they are in the early stages. As a result, intentions regarding increasing schooling capacity were considered.
- Large centralized projects (MEN beneficiary, in partnership with ATUs), which accumulate the most consistent part of the budget related to the specific objective SO 10.1, can be considered effective (they are the most advanced, as level of achievement) and efficient (unit costs are lower) in achieving the investment objectives. Most of the investment objectives are completed, a good part of the expenses incurred by the beneficiary (MEN) is also reimbursed. As a result, if we refer strictly to the relationship between objectives and results, these projects are the most advanced.

Evaluation question 3: What is the degree of sustainability of the educational dimension of the actions promoted through the ROP? (sustainability)

- On the educational dimension, projects are sustainable. Thus, a certain number of pre-schoolers, pupils and students, whose number even if is in decline, will learn in renovated buildings, which will provide them with previously absent comfort and well-being, and will benefit from additional facilities. All of these, according to the profile research, will have an effect on both school and university participation (and, implicitly, will contribute to reducing school/ university dropout) as well as on learning outcomes. We emphasize that education is a fundamental right and a universal service, which must be provided regardless of the number of direct beneficiaries. From this point of view, all the projects are needed: children who are learning in the respective schools, even if their number is decreasing, they will learn in renovated buildings, which will provide them with comfort and a well-being previously absent, and they will benefit from additional amenities. All of these, according to the profile research, we estimate that will have an impact on both school attendance (will contribute to reducing school dropout/ early school leaving), as well as on the learning outcomes.
- From this point of view, correlating the projects that have ATU as beneficiaries with the demographic evolution, we could find they are better founded on the demographic evolution, the educational units or the localities in which they are located having a

positive evolution of the school population, trend contrary to the county, regional and national level.

- Also, the projects have greater chances of sustainability if they are an integral part of the local development strategies, the investment in the educational infrastructure being correlated with the investment in other areas of the local development - such as the transport and telecommunications infrastructure, with the sanitary infrastructure and, not least, with the investment objectives of the economic sectors, which, through the jobs created, will contribute to stabilization, possibly even to the growth of the population and to the reduction of the phenomenon of internal and external migration.

Evaluation question 4: Is the sustainability of the effects different depending on certain elements, for example demographic evolution?

- The school population in the educational units subject to the intervention decreased during the life of the project, in an even greater proportion than the school population at national and the counties level of which the respective ATU is a member. As a result, there is no certainty that the respective educational units are sustainable in the medium and long term, even if, in the short term, based on the analysis of demographic trends, we do not anticipate very big problems. In this regard, in order to increase the chances of increased sustainability, the general design framework should be made more flexible.
- The correlation either with the previous interventions, or with the national, regional and local plans/ strategies, as well as the continuity with regard to the criteria used in selecting the educational units subject to the interventions is a strong point of the interventions. In this regard, the experience of the project management team - including for the multiplication/ scaling of interventions at national level, matters.
- The interest of beneficiaries for the vocational and technical education (in general) has increased³⁴. As a result, we consider that investments in the related infrastructure are sustainable in the long term, especially if the created infrastructure is used from the perspective of lifelong learning.

Recommendations and lessons learned

Effectiveness

- Considering the very different unit cost (per preschool/ pupil/ student) from one project to another and being aware of the diverse conditions in which the constructions approved within the analysed projects are carried out (from the quality of the land, to the thermal regime of the respective localities), in order to increase the efficiency of the investments we recommend ***carrying out annual summaries regarding average costs for different categories of works***, as a guideline for conducting public procurement procedures.

³⁴ See the data presented above regarding the evolution of the school population and the gross enrollment rate in vocational education.

- It is necessary to provide **additional technical support for ATU beneficiaries who do not have institutional capacity**, nor the personnel needed to carry out such projects, especially since the pre-schoolers and students belonging to the disadvantaged categories are usually located in such ATUs.
- It is necessary to ensure the **legislative stability**, or, at least to reduce the impact of legislative changes on the ongoing investments. For example, the amendments made by the Ordinance 114/2018 require further clarifications as to the manner of implementation envisaged for each of them, an in-depth analysis of the extent to which those changes fully comply with European regulations, as well as of the impact it has on the implementation of large investment projects with European funding.
- Beneficiaries are concerned about reducing bureaucracy at all stages of a project. Based on the experience gained in the preparation and implementation of projects funded from the Structural Funds, the beneficiaries consider that an important lesson that should be learned from the current programming period would be that **the project selection process should be simplified in the pre-contracting stage**. Thus, the efficiency of this process could be made by introducing a pre-selection stage, carried out only on the basis of a much simpler application and, only after the project concept is pre-selected, the complete documentation, including the approvals, should be required. This would reduce the risks for potential beneficiaries of investing in a complex application for which there is no certainty of funding. In the case of the permits, as they have a limited period of validity, in case the project is not financed, practically the resources invested by the potential beneficiary in obtaining those permits are lost and, moreover, become imputable, in case of an audit of the Court of Accounts.
- Another measure that beneficiaries would need to increase implementation efficiency concerns **reducing the bureaucracy and improving the functioning of MySMIS**. It is currently required that certain documents be uploaded to MySMIS twice, or there are documents circulating both physically and electronically. Both the beneficiary and the RDA staff consider that the efficiency of the functioning of the MySMIS application should be carefully examined and increased so that it constitutes a tool that will really help them in their activity.
- A more rigorous data base is desired for subsequent calls for Axis 10.
- Also regarding future calls, we recommend that the investments to be financed to have multiple addressability (can be used by several categories of beneficiaries; for example, investments for vocational and technical education can also be used for the continuous professional training of adults).

Sustainability

- The need for **the most accurate and realistic estimation of the impact of the investment** on the local budget (and on the beneficiary's budget in general) is an essential condition of the sustainability of any project.
- Both the projects already contracted, and especially the future ones, need **to be more focused on the vulnerable groups**.
- To prepare a careful analysis of the effects of the intervention ***the systematic monitoring of demographic developments is necessary at the level of localities and educational units benefiting from this intervention***. For planning the impact assessment of the intervention it should be considered whether and to what extent the existence of a quality infrastructure for education has contributed to diminishing the phenomenon of internal and external migration.
- The field visits of the RDAs, as well as the monitoring visits of the ROP MA should include ***monitoring the use of the built/ rehabilitated material base***, in order to avoid changing the destination of the rehabilitated buildings, especially in the case of kindergartens and schools where the school population will fall below 50 pre-schoolers/ students.
- Given that the present evaluation was carried out at an early stage of implementation of ATUs projects (most are not even in the stage of submitting the first reimbursement request), at this level only a process result can be obtained; ***in a more mature stage of project implementation, it will be necessary to carry out an evaluation that will mainly follow the progress of the output and outcome indicators***. Preferably, this evaluation should be performed after the completion and receipt of investments and should include the correlation of the results of the evaluation with the demographic developments.
- The correlation with other projects seems to contribute to the assurance of the premises for the maximum sustainability and impact of the project. The experience of some of the ATUs indicates that ***the development of educational infrastructure projects should be correlated with other infrastructure projects*** (road, public transport, utilities), which is especially important in the case of projects implemented in new, developing neighbourhoods. This correlation requires a strategic vision that goes beyond a single programming framework and continuity in pursuing strategic local development objectives.
- In order to ensure greater sustainability, given the evolution of the gross enrolment rate, for each level of education, we recommend, keeping the good results regarding the inclusion of children in pre-school and primary education and building interventions on this positive evolution, that ***future projects should focus especially on the rehabilitation of the secondary, high school and vocational school infrastructure***. This recommendation is also supported by the fact that, if for kindergartens the initial

budget for the ROP is over-contracted, for schools and for vocational and technical education the budget is sub-contracted.

- Greater flexibility **is needed in the construction solutions**. The imposition of certain constructive solutions, when new, more efficient technologies of construction appear permanently, is not always desirable. In this sense, based on the information gathered from the experts, it would be desirable to focus on results (for example, a certain level of lighting or ambient temperature), leaving the designer to find the best and most efficient solution from the economic point of view.

Lessons learned (from the perspective of effectiveness and sustainability)

- Interventions aimed at providing a public service, especially one with a universal character such as education, **must be addressed in an integrated way**, considering both the purpose of this service and the actors with legal powers in the field. In the present case, given that the attributions regarding the provision of the public education service are shared between the MEN, through the school inspectorates, and the ATUs, through the local councils and the town halls, the collaboration and the communication between the actors is imperative and on a permanent basis, not only in the cases where an approval/ permit is required. For example, given the demographic developments, which could not be foreseen at the time of the project approval (and of issuing the necessary approvals), the progress monitoring and the intermediate evaluations can recommend, to the beneficiaries and the partners, solutions that will ensure both the efficiency and the sustainability of the investment **by consulting local decision-makers**. These solutions can target, for example:
 - If, at a general education unit (primary and secondary school), the school population is decreasing, there may be the solution of accrediting the respective unit also for the vocational education, depending on the local specificity, thus ensuring increased employment opportunities.
 - If (especially in the urban environment) there are differences in the dynamics of the population between educational units, such recommendations may aim at redesigning the school districts or even at reorganizing the entire school network, in order to ensure the full use of the rehabilitated infrastructure (also generating an increased quality of school life), even if these decisions will lead to the closure of some units - which, of course, do not offer similar conditions.
- **Integration of interventions is necessary both "horizontally"** - by correlating, for example, the intervention in the school infrastructure with interventions in the field of employment, poverty reduction, transport infrastructure and utilities - **as well as "vertically"**, by ensuring a logical succession of the interventions (for example, the interventions in the local transport infrastructure and on the utilities, should be prior to the school buildings, which would benefit from the respective roads and utilities). In other words, it would be desirable that the approval of an investment in the education infrastructure to be conditioned by the existence of roads and utilities. In this regard, we

believe it is necessary, including as an eligibility criterion, the evaluation of the local development strategy, especially regarding the (effective, according to the planning) realization of the preconditions and of the logical succession of the interventions. Otherwise, the interventions will not lead to the expected effect. For example, a school that does not have the water supply sources and the waste disposal systems (sewerage or septic tank) established by the law, will not be included in the school network of the locality, as it will not obtain the operating health authorization. Another example, the creation of new spaces for learning, at universities, may generate the need for a greater capacity for dormitories and canteens, or vice versa: the capacity of schooling in amphitheatres and seminar rooms must be correlated with the capacity of workshops and laboratories, with the places in dormitories and canteens etc.

- ***The institutional capacity of the beneficiaries*** (the existence of specialized staff and know-how) to write and carry out projects of such complexity ***it is an essential condition for the success of the interventions***, both at the level of the central authorities and, especially, at the level of the local authorities: the management teams that have conceived and realized projects, have the highest chances that these projects will be both efficient and sustainable. On the other hand, it can be noted that this capacity (including the resources available for its procurement - for example, for consulting services) is lacking precisely where there is a greater need for such interventions, namely in communities where a significant percentage of the population is in situation of risk of poverty, marginalization or social exclusion. As a result, there is a risk that these interventions will not mitigate social disparities, but deepen them, by providing funding in communities that already have resources and the capacity to attract resources. Therefore, it is necessary to develop the mechanism of free technical assistance for project development, especially for beneficiaries from the most disadvantaged areas, considering, for example, priority lists established on the basis of the two Atlases of the disadvantaged areas developed under the coordination of the World Bank³⁵. In extreme cases, it may even be necessary to outsource the management of these projects - given that a fundamental right, such as education, cannot be limited because of the lack of will or the incapacity of the local public administration. These situations can be identified in an eventual pre-selection phase.
- A defining element of institutional capacity is, in this context, ***the ability to manage the documents and data needed to implement the projects and the related reports***. All beneficiaries accused the excessive bureaucracy of reporting (for example, by repeatedly requesting the same document, at each reporting time) and the difficulty of working with the related IT platform (MySMIS). A more efficient debirocratization and computerization (in terms of time spent working with the platform) would reduce the staffing needs of

³⁵ Atlas of Marginalized Rural Areas and Local Human Development in Romania (2016). The World Bank - http://www.mmuncii.ro/j33/images/Documente/Minister/F6_Atlas_Rural_RO_23Mar2016.pdf; Atlas of Marginalized Urban Areas in Romania (2014). The World Bank - <http://documents.worldbank.org/curated/en/857001468293738087/pdf/882420WP0P1430085232B000U00900Atlas.pdf>

the beneficiaries and would facilitate the elaboration, implementation, monitoring and evaluation of projects. For example, the electronic archiving of the submitted documentation would be desirable, at the level of the Managing Authorities or of the Intermediate Bodies, combined with the reporting based exclusively on the progress made (without having to present all the project documentation). A great help in this regard would come from the unification/ interoperability or at least from the inter-communication between the existing databases and documents. For example, the necessary permits for investments (construction, environmental, fire safety approval, etc.) could be verified in the databases of the issuing institutions, without requiring the beneficiary to present (and upload in the application) copies of them. Or, another example, the demographic evolutions can be better predicted by unifying the data from the population record services with those from SIIR (the Integrated Information System of Education in Romania) or Revisal (General Registry of Employees) or from ANOFM (National Agency for Employment). This debirocratization, combined with the computerization of processes, would greatly improve the relations between the beneficiaries, on the one hand, and between the RDA and MA, on the other, without requiring a double (in application and physical) verification and the circulation of documents in order to be modified and signed, in their physical form, when clarifications or errors corrections are requested.

- Facilitating the implementation of infrastructure projects can also be achieved through **clarification and legislative stability** (including regarding beneficiary guides and contract forms) and/ or, if this is not possible, **by making the financing framework more flexible**. For example, the changes in the wage legislation caused the prices of some works to rise, beyond the approved budgets. In this case, it may be necessary, in a relatively short time, to renegotiate the budget of the respective project and to amend the contract for the respective works. Also, it is necessary to apply the same legislation, for the whole life of the project (here, we consider, first of all, the legislation on fire safety, drastically changed in the last 2 years: investments that have received fire safety notice, on the project, before 2016, risk not receiving the fire safety authorization once the investment is put into use). Funding flexibility is also needed for technical reasons: in a renovation/ rehabilitation project, the necessary works are estimated through the project. But, almost every time, the need for additional works or fewer works (type of works and/ or quantity of works) appears - needs that could not be foreseen. In these situations, a less rigid allocation of funds by category of works, by facilitating the transfer of funds from one budget line to another, would greatly facilitate the accomplishment of the works. Clarification of the legislation is also necessary because, according to the statements of the stakeholders, there were different interpretations of the same requirements at the MA, RDA (including between regions) and beneficiaries level. We also mention here the need to clarify the situation of the assets of many ATUs, especially regarding the disputes on the right of property, as well as the simplification of the legislation on public procurement.

- There is a great need to prioritize investments based on clear criteria³⁶, generating ***lists of investment targets*** to be financed, by categories of sources of financing (for example, ROP, National Program for Local Development PNDL, etc.), in order of the scores obtained. ATU should be the beneficiary of these projects (as a first option), but without excluding the possibility of centralized projects, where there is no will or capacity at local level.

³⁶ Such as those provided in the Strategy on the modernization of the educational infrastructure 2017-2023 (project) - https://www.edu.ro/sites/default/files/Strategie%20SMIE_2017docx_0.pdf, with its annexes.