Midterm Evaluation of the Implementation of Unified Strategy for Education and Science 2017-2021

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The Ministry of Education, Science,
Culture and Sport of Georgia

Contents

1. Introduction

Pursuant to an obligation assumed by the Ministry of Education, Science, Culture and Sport of Georgia in 2018 within the framework of public administration reform,[1] the Ministry drew up a midterm evaluation report on the implementation of Unified Strategy for Education and Science 2017-2021, which rests on the Performance Monitoring Report of Strategic Objectives and Action Plan prepared by the Ministry.

The Unified Strategy for Education and Science 2017-2021, developed by the Ministry of Education and Science of Georgia, was approved under the Georgian government ordinance №533 of 7 December 2017. The document rests on the reforms that are underway in the country, the analysis of achievements and challenges in the field of education, science and training.

The strategy covers all areas of education and science: early/preschool education and care; general, vocational and higher education; adult education; science and research. The document reflects the requirements of the Association Agreement between Georgia and the European Union, takes into account recommendations of the European Parliament and the Council of Europe and is in line with the UN Sustainable Development Goals.

The evaluation of the Strategy was coordinated by the government of Georgia while the methodological assistance was provided by the UNDP within the Supporting Public Administration Reform in Georgia project (UNDP PAR), envisaging an advisory support in the evaluation process and methodology planning.

The evaluation report of implementation of the Unified Strategy for Education and Science 2017-2021 aims at identifying the progress and level of achievement of goals and objectives set in the Unified Strategy for Education and Science 2017-2021, revealing shortcomings in the implementation of the Strategy, improving it and contributing to the elaboration of future policy documents.

[1] Financing agreement ENI/2015/37832, indicator N1.1.4. "Five pilot ministries, identified in advance, have prepared and published at least one evaluation report on the fulfillment of selected sectoral strategies and corresponding action plans in accordance with the guidance approved by the government (a framework document on monitoring, reporting and evaluation, approved under the government ordinance №628 in December 2016). On a joint initiative of the Georgian government administration and the Ministry of Education, Science, Culture and Sport of Georgia, a planned evaluation of the Unified Strategy for Education and Science 2017-2021 is being conducted, which rests on the Performance Monitoring Report of Strategic Objectives and Action Plan" prepared in 2017."

Hence, the evaluation serves the fulfillment of the following objectives:

Objective 1: To raise the effectiveness and efficiency of implementation of strategy through improved setting of objectives and success/target indicators.

Objective 2: To identify success stories in a policymaking and implementation cycle in each direction of the strategy and generalize lessons learned from this process.

Objective 3: To support the enhancement of monitoring and evaluation competences/functions and processes in the Ministry of Education, Science, Culture and Sport of Georgia.

Objective 4: To produce recommendations to be considered in future policy documents of the education and science strategy.

2. Executive summary

The Unified Strategy for Education and Science 2017-2021 contains five specific goals which correspond to each sector/direction of education (preschool education, general education, vocational education, higher education, and science). The Strategy defines 1-3 achievement indicators, the so-called impact indicators for each specific goal. Each specific goal includes 1-5 strategic objectives. Each strategic objective has 1-2 outcome indicators.

Given that the goals and strategic objectives are often poorly formulated in the strategic document, the link with indicators is weak, the indicators are often irrelevant and do not allow to measure the level of achievement of objective/goal, it is difficult to determine the level of achievement of a goal with high accuracy; however, it is somewhat possible to identify a general tendency of progress.

2.1. Evaluation of the quality of progress in achieving goals and the recommendations

Specific goal 1	Impact indicator	Level of achievement

Increase access to high quality preschool education and ensure preparation of school age children for school	Number of preschool education institutions where the educational component has been introduced	Below medium

The absence of a target data in the impact indicator makes it impossible to evaluate the achievement of the goal with absolute accuracy; however, progress is observed in the fulfillment of strategic objective against one of the indicators. It should be noted that the abovementioned indicator alone fails to ensure a relevant measurement of achievement of the goal, especially in terms of increase in the access to "high quality preschool education" which, apart from introducing the program, contains components such as the state of infrastructure of institutions, educational resources, academic background and qualification of teachers, et cetera.

It should be noted that there is no relevant data on one of indicators of strategic objectives, namely, the "indicator of increase in the number of certified caregiver-pedagogues in preschool education institutions," because, in the reporting period, the government of Georgia did not identify the status of caregiver-pedagogues and did not approve the rule of keeping the register of preschool education institutions.

In the reporting period, in 2016-2017 academic year, the school readiness program was implemented in 85% of preschool education institutions across Georgia. As many as 23 276 children benefitted from the program. The program was also implemented in 14 school readiness centers with the total of 435 children having received this service. The school readiness program was introduced in all kindergartens of Tbilisi (171). In other municipalities the introduction of this program was carried out at a lower pace and to rectify the situation, the Ministry conducted consultations for municipalities.

With the support from UNICEF, the introduction of the program was monitored in 26 kindergartens in Tbilisi and regions; however, the monitoring results were not available in the reporting period.

Recommendations:

- Activities should be revised in future action plans so as to accommodate the monitoring results of the introduction of school readiness program;

- In cooperation with local self-government bodies and resource centers, the development of a common register of preschool education institutions should be timely completed and data should be integrated into electronic databases of education management information system;

- Programs for training qualified preschool caregiver-pedagogues, methodologists should be financed in higher educational institutions and retraining programs should be introduced.

Specific goal 2	Impact indicator	Level of achievement
Ensure access to high quality general education and education results up to national and international standards to prepare school students for future lives	Improved indicator of academic performance of school students.	Below medium

General education is the most substantial part of the Strategy. Some progress was observed towards the achievement of the goal, but the comparison of 2016 and 2017 data against the impact indicator makes it clear that the number of graduates who failed to pass the graduation exams remains almost the same and does not show any significant improvement. An insignificant increase has been observed in the number of school students with highest grades (especially in foreign language and mathematics).

Table 1: Results of final grade school students.

12th grade								
2016					2017			
Subject	Passed exam	Could not get a positive assessment	10 score	Got a positive assessment	Passed exam	Could not get a positive assessment	10 score	Got a positive assessment
Biology	2358	782	2	1576	2566	961	4	1605

Geography	1634	301	0	1333	1582	241	0	1341
Foreign language	43022	6524	539	36498	42817	6486	3070	36331
History	41117	1923	181	39194	39220	2003	227	37217
Mathematics	42777	5910	418	36867	42218	6323	1127	35895
Physics	3314	1317	0	1997	4864	2696	0	2168
Georgian language and literature	41357	1146	392	40211	38734	1092	979	37642
Chemistry	4410	460	33	3950	5017	898	64	4119

Year	Registered	Took part	Successfully cleared the minimum hurdle (general)	First attempt to sit exam	Passed at the first attempt	Failed at the first attempt	Share of first attempt failures	Second attempt to sit exam	Passed at the second attempt	Failed at the second attempt	Share of second attempt failures
2011	46490	45271	39293	45271	39293	5978	13%				
2012	41482	40545	35818	38444	34506	3938	10%	2101	1312	789	38%
2014	38140	37189	31954	29615	27670	1945	7%	7574	4284	3290	43%
2015	44482	43525	37079	35246	32499	2747	8%	8279	4580	3699	45%
2016	47084	45688	34111	37554	31168	6386	17%	8134	2943	5191	64%
2017	48434	47063	34260	33122	28698	4424	13%	13941	5562	8379	60%

From five strategic objectives an insignificant progress was achieved in the fulfillment of only one objective – improvement of educational environment - against the indicator "increase in proportion of general education institutions of modern standards." However, in the course of evaluation it became possible to obtain only quantitative data on rehabilitated/built schools and impossible to identify increase in percentage/ratio due to absence of baseline indicator. Moreover, there is no concrete definition of a school of "modern standards."

It is worth noting that in 2017 the state budget allocated GEL 678 million for general education, up by almost 90% as compared to 2011, while the share of graduates failing the graduation exams increased to almost 90% as compared to 2011. Hence, it can be concluded that the money spent on general education had no effect on the progress in the achievement of the goal.

Quality of general education is also studied in the Global Competitiveness Report of the World Economic Forum (WEF) which ranks Georgia 106th among 137 countries by the quality of school education. The quality of education is determined by surveying employers. In this index, Georgia had the best ranking in 2015 when it was 90th.

It should be noted that the international study (TIMSS) will be conducted in 2019 to assess the knowledge of 9-10 and 13-14-year-old school students in mathematics and natural sciences. This will allow to compare the results of 2019 study with those of the 2015 study. Moreover, an OECD study, the Programme for International Student Assessment (OECD-PISA), to be published in 2019, will also allow to evaluate education results and access to education.

Recommendations:

- The goal of general education should be to "ensure access to high quality education" while its indicators to measure the quality should be "education results up to national and international standards," including disaggregated by gender and urban/rural school students.

- For this goal to be achieved, a priority should be an increase in investments into the development of teacher resources, which implies the rise in teacher salaries, increase in proportion of teacher under 35 years of age, professional development of teachers, categorization/ranking of teachers, career advancement and other incentive mechanisms, et cetera.

- A substantial increase should be achieved in the rehabilitation and infrastructural development of schools, investments, introduction of new technologies and geographic coverage.

- The model of assessment of general education should be revised.

Specific goal 3	Impact indicator	Level of achievement

Increase number of vocational students and ensure their competitiveness through professional and general skills development to support socio-economic development of the country	Increase in enrollment at vocational education institutions	Above medium

It should be noted that the goal is not formulated properly because the increase in the number of vocational students alone will not ensure socio-economic development of the country. Besides, the impact indicator measures only one component of the goal – "number of vocational students" and does not measure "competitiveness."

Progress in achieving the goal was observed against the indicator in the reporting period. While the number of vocational students stood at 30 704 in 2015, it reached 33 574 in 2017, which comprises 9.4% increase.

Success in achieving the abovementioned goal is largely conditioned by the mobilization of international donors, programs, projects in the field of vocational education, the scale of assistance and the effective coordination. Especially noteworthy is the contribution of the following donors: Millennium Challenge Fund, EU Technical Assistance Program, EU Budget Support Program, UN Development Program (UNDP) and the cooperation with international organizations such as German International Development Agency (GIZ) and the European Training Foundation (ETF).

Thus, the above said as well as the dynamic of the fulfillment of strategic objectives provides the ground to forecast a high level of progress in achieving the goal in the coming years.

Recommendations:

- The goal should be reformulated in future policy documents. In particular, the goal of vocational education might be, for example, "support of the development of national economy by supplying the workforce meeting the requirements of local and international markets," while the indicator should be "employment rate/index of vocational education institution graduates."

- Interagency/intersectoral cooperation, public-private partnership and joint policy making should be enhanced for the achievement of the goal.

- International cooperation should be enhanced for the harmonization with the European Qualifications Framework in VET.

Specific goal 4	Impact indicator	Level of achievement
Internationalize higher education and ensure access to quality higher education to improve personal and professional growth of individuals and their employment	Increase in the number of students with high academic performance; Increase in the number of foreign students;	Medium

The goal is not formulated properly. The first component of the goal – "internationalize higher education" may be a strategic objective and not the goal especially considering that the impact indicator is not directly linked to the internationalization of higher education. It should be noted that it was not possible to obtain reliable data related to the impact indicator in the course of evaluation.

From two impact indicators of the goal and five indicators of three strategic objectives, progress has been observed against almost all of them, especially with regard to internationalization of higher education thanks to a significant contribution of the EU ERASMUS+ program, UNESCO scholarship programs, bachelor's, master's and doctoral programs administered by the International Education Center. There is a little increase in foreign-language programs and the increase in the number of foreign students in Georgian higher educational institutions, which contributes to financial sustainability of higher educational institutions.

During the evaluation process, the majority of respondents (rectors of five universities) pointed out the success of a relevant university in achieving the goal and also, the inefficiency of existing funding model which hinders these institutions from achieving the goal due to its non-meritocratic nature.

Despite the progress seen against the indicators in the fulfillment of objectives, one cannot objectively evaluate the quality of achievement of the goal without reliable data and a representative survey.

Recommendations:

- In order to ensure quality higher education and facilitate internationalization, it is advisable to speed up the integration into various relevant international networks, such as the European Association for Quality Assurance in Higher Education (ENQA), the European Quality Assurance Register (EQAR) and others.

- The existing model of funding higher educational institutions should be replaced with a performance based model in teaching and research by higher educational institutions.

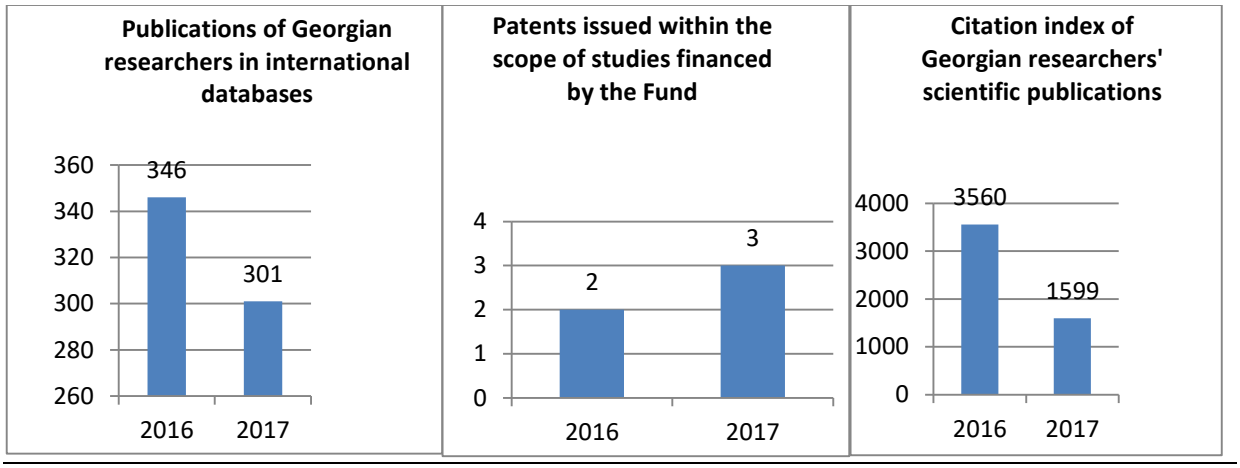
- The existing model of enrollment at higher educational institutions should be replaced with a meritocracy-based model.

Specific goal 5	Impact indicator	Level of achievement
Modernize and internationalize science, technology and innovation system to create new knowledge and support sustainable development of the country	Increase in the number of publications in international databases Increase in patents Rise in citation index	Medium

The impact indicators are not sufficiently relevant to the overly ambitious goal and do not allow to fully measure the achievement of the goal. In particular, the extent to which the "modernization and internationalization of science" supported "sustainable development of the country" can only be determined on the basis of relevant surveys and data which will show, for example, the increase in the share of science and technologies in the country's economy, in employment, et cetera.

From three abovementioned impact indicators, an insignificant progress, in the reporting period, was observed only against one - "increase in patents" as compared to the previous year whereas the dynamic against two other indicators – "rise in citation index" and "increase in the number of publications in international databases" was negative.

Table 2:



The reporting period did not see a significant progress against indicators of any of the three strategic objectives (except separate components of the strategic objective, for example, internationalization of science): "joint internal, intersectoral and interdisciplinary projects and programs" have not been created; nor has "the number of young researchers" increased (see Table 13).

Regardless of the progress achieved in internationalization of science and the increase in state funding of science and researches, the diversification of science funding, namely, financing of research and innovation from private sources, remains a challenge. Consequently, the strategic objective was fulfilled only partially in the reporting period, which does not provide the ground to forecast progress.

However, bearing in mind that effective measures were undertaken in the reporting period to improve the activity of LEPL Shota Rustaveli National Science Foundation, that the financing of science increased (the total allocation from the budget of the Ministry for various programs/subprograms in science and research, and scientific infrastructure made up GEL 80 million as compared to GEL 70 million in 2016 and GEL 10.5 million in 2015), that the number of joint international scientific-research programs increased, and the financial contribution of the European Commission to Georgian organizations doubled (Georgian organizations participating in the projects that won contests announced within the scope of Horizonti 2020 program in 2017 received the total of 876,312.00 euros from the European Commission as compared to 424,070.00 euros received in 2016), it is expected that the number of scientific publications authored by Georgian researchers will increase as well as their citation index and hence, progress in achieving the goal may be forecasted.

Recommendations:

- The logframe of science and research direction should be improved in the education and science policy document: relevant strategic objectives and indicators should be defined.

- Since efficiency of science and research cannot be achieved in the short term (within one-year cycle), the indicator of increase in financing should be, at least, maintained.

- A policy of diversification of science and research funding should be developed and the partnership with various financial institutions, foundations, and private sector should be intensified.

- A policy of integration of Georgia into European research space should be developed.

3. Evaluation methodology

3.1. Evaluation process

A process of evaluation was carried out by the evaluation team/task force in the following stages:

3.1.1. Specifying the subject and area of evaluation and initiating the process.

The evaluation task force of the Ministry of Education, Science, Culture and Sport of Georgia, consisting of two employees of the Strategic Development Department of the Ministry, one employee of the Government Administration and a UN consultant, specified the objective and the methodology of the study as well as the identities of respondents.

The Ministry employees in the evaluation task force collected additional information in accordance with the methodology agreed with the consultant (see Annex 6). In particular:

- A desk research was conducted and existing strategic and analytical documents and surveys were analyzed (see Annex 6.4);

- Semi-structured interviews were conducted with parties involved in the development and implementation of the Strategy (see the list of interviewed respondents in Annex 6.3);

- Focus groups were identified (6.1);

- Questionnaires were drawn up and four various focus group meetings were conducted (see the list of focus groups in Annex 6.2).

Based on the abovementioned analysis an evaluation report was drafted and then finalized after agreeing it with experts of the government administration and the strategy key actors.

3.2. Evaluation parameters/dimensions

The implementation of Unified Strategy for Education and Science 2017-2021 and the Action Plan 2017 were evaluated in accordance with the following parameter/dimension/dimension/dimension which answer concrete questions:

Parameters/dimensions/	Question
Relevance	• *How valid are the Strategy objectives for the ongoing period?* • *How well does the Strategy address the needs of beneficiaries?* • *How well do the Strategy activities and outputs respond to the problem and objectives?* • *How well is the reform adapted to those possible changes that may result from its implementation?*
Effectiveness	• *To what extent are the goals/objectives achieved?* • *How achievable are the goals/objectives in the light of current progress?* • *Were the goals/objectives achieved (or will be achieved) in a timely manner?* • *How consistent are the identified results with the goals/objectives?* • *How appropriately do the indicators provided in the Strategy reflect the quality of achievement of Strategy goal and objectives?* • *What are the main reasons that facilitate or impede the achievement of goals/objectives?*

Implementation	• *To what extent are the objectives set in the Strategy accomplished with the methods, programs and activities used in the implementation?* • *What is the extent of synergy among activities specified in various directions of the Strategy for the achievement of final goal of the Strategy?*

4. Evaluation results

4.1. Relevance

How valid are the Strategy objectives for the ongoing period? How well does the Strategy address the needs of beneficiaries? How well do the Strategy activities and outputs respond to the problem and objectives? How well is the reform adapted to those possible changes that may result from its implementation?

The analysis of the process of developing the Strategy and Action Plan revealed a whole set of shortcomings which, naturally, affected all Strategy parameters/dimensions including the relevance.

It should be particularly noted that the monitoring of the Unified Strategy for Education and Science and the implementation of its 2017 Action Plan was conducted with rather scarce human resources by a structural subunit of the Ministry of Science and Education, which was incorporated in the International Relations Department. The Strategy document was developed in compliance with the EU requirements and within an extremely short timeframe (2-3 weeks). The process was not sufficiently inclusive, the analysis of problems was not evidence-based, needs of beneficiaries were not studied, the process did not involve all stakeholders, the turnover of those who were involved was high and at present, only few of them continue to work in the Ministry.

According to information discovered during the study, the Ministry lacks a mechanism of systemic and systematic analysis of beneficiaries' requirements. In this regard, the existence of feedback and the quality depend on concrete directions and initiatives. In particular, formalized feedback mechanisms including, for instance, feedback from parents of school

students are available within the framework of projects supported by donors. However, such initiatives seem to be of irregular nature.

Participants in various focus groups and respondents mentioned poor systemic engagement of external actors and beneficiaries and all stakeholders in the development as well as the monitoring of the Strategy.

Given the limited timeframe, bulk of the work in forming the document was performed by invited experts and therefore, the departments and subunits of the Ministry lacked a proper sense of project ownership. Their engagement in the draft strategy elaboration was minimal. International organizations were consulted and a nominal consultation process was conducted within the government (sending out a written document for an opinion). Public discussions were also held. However, these were one-off measures of rather nominal nature.

According to participants in the process, they tried to systematize already ongoing measures in the form of a common program rather than to plan new directions. Furthermore, given the limited planning timeframe, the measures to be performed were planned according to their feasibility potential in order to ensure the fulfillment of the Action Plan. Consequently, the Strategy objectives, nominally, appeared to be valid for the ongoing period and hence, planned activities and their outputs are largely respond to the objectives.

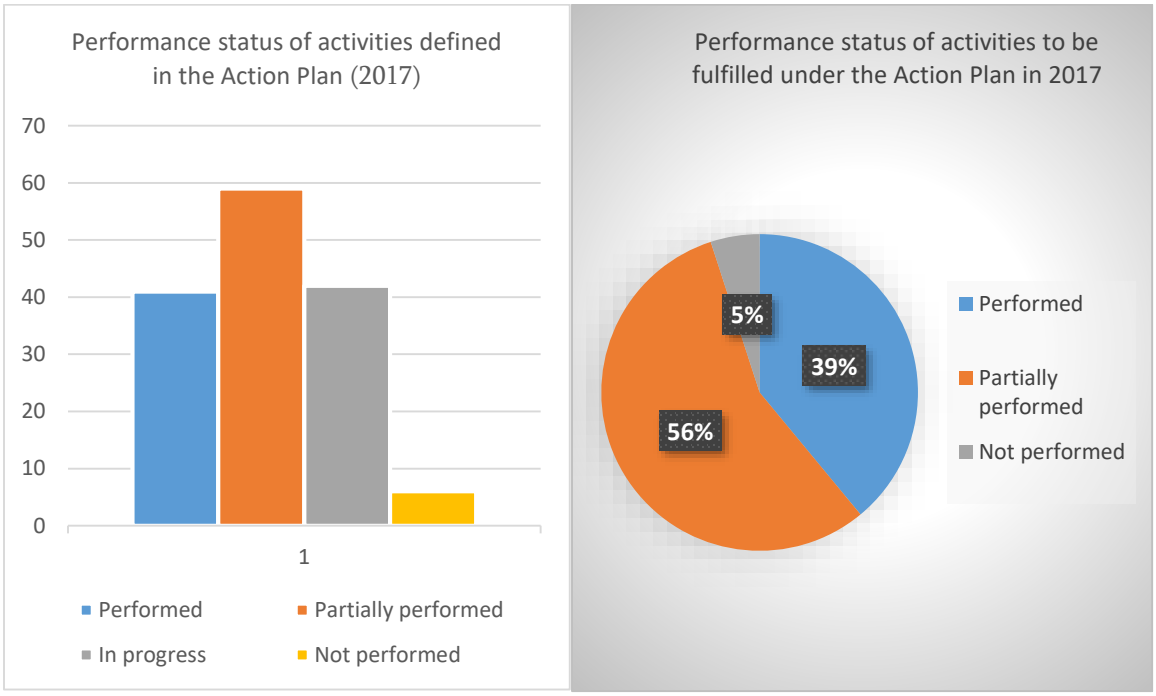
However, the analysis of the Strategy and the monitoring documents of Strategy implementation as well as opinions expressed in focus groups made it clear that the strategy document does not allow to establish a link between implemented activities/measures and the quality of achievement of objectives. The document does not provide sufficient information on qualitative changes in each education sector and does not gather adequately diverse data for the establishment of causality between the implementation of the Strategy and the changes that occurred objectively.

4.2. Effectiveness

To what extent are the goals/objectives achieved? Were the goals/objectives achieved (or will be achieved) in a timely manner? How achievable are the goals/objectives in the light of current progress? How appropriately do the indicators provided in the Strategy reflect the quality of achievement of Strategy goal and objectives? What are the main reasons that facilitate or impede the achievement of goals/objectives?

The monitoring of the Unified Strategy for Education and Science 2017-2021 and the Action Plan, which was conducted by the Ministry's monitoring team at the end of 2017, shows that in the reporting period, the activities specified in the Action Plan were not fulfilled in a satisfactory manner.

Table 3:



The reason for the failure to perform activities is mainly related to preconditions and external factors such as, for example, legislative changes, delays in procurements, failure of a contractor to fulfill obligations, red tape, newly introduced conflicting regulations, shortage of institutional capacities and relevant human resources, lack of needs analysis and evidence-based data, incorrect setting of deadlines, et cetera. Although the performance analysis of activities is not a subject of this evaluation, there is a logical link between the implementation of the activities and the performance of specific objectives and as a whole, they affect the achievement of strategic objectives and goals.

On the basis of analysis of the Strategy and the monitoring document of Strategy implementation as well as opinions expressed in focus groups, it was established that the

impact and outcome indicators, defined in the Strategy, do not properly allow to establish correlation between accomplished objectives and the quality of achievement of final goal.

According to one opinion, the evaluation that rests only on such indicators that are related to the amount of carried out activities cannot fully reflect problems or progress in various sectors of education because under the conditions of insufficient indicators or their inconsistence with the measurement of outcomes, qualitative changes are often left beyond the evaluation while implementing agencies and institutions are focused on meeting quantitative indicators.

During a focus group discussion, the representatives of structural subunits of the Ministry underlined a weak link between indicators/activities and goals/objectives. Among cited possible reasons is that goals and objectives are planned according to a "wish list" while indicators and activities are planned according to available resources. In other words, there is inconsistence between the development of vision, the policy planning and the budgeting process. A desire was expressed that strategic documents were more directly linked to mid-term budget planning process; in particular, that strategic objectives and their performance/outcome indicators were reflected in mid-term action plans and budgets instead of copying the indicators specified in these budget plans to strategic documents.

The Unified Strategy for Education and Science 2017-2021 and the Action Plan contains five specific goals by education sectors/directions. Each specific goal contains 1-3 strategic objectives while each strategic objective contains 1-7 specific objectives. Each goal and strategic objective has its indicator specified in a logframe (see Annex). Since the goals are expected to be achieved in the long run, this chapter of the report describes a general tendency in the achievement of goals and the progress made against indicators in the fulfillment of strategic objectives and provides relevant recommendations.

4.2.1. Early and preschool education and care.

Goal: Increase access to high quality preschool education and ensure preparation of school age children for school.

Impact Indicator: Number of preschool education institutions where the educational component has been introduced.

Strategic objective: Support the development of high quality, inclusive and equally accessible preschool education system for preschool education institutions.

Performance status: To achieve this strategic objective, the Action Plan defined three objectives and 11 activities of which three were partially performed, seven were fully performed and one is in progress.

Outcome Indicators:

1. *Increase in the number of preschool education institutions that implement a school readiness program.*

The rule of keeping the register of preschool education institutions has not been approved and it is impossible to keep accurate data and even more so, compare it with baseline data which is not specified.

2. *Increase in the number of certified caregiver-pedagogues in preschool education institutions.*

With the support from UNICEF, the Ministry of Education and Science of Georgia developed, and the government of Georgia approved, the National Standards for Early and Preschool Education and Care, but the status of caregiver-pedagogues was not identified in the reporting period.

The absence of register of preschool education institutions makes it impossible to collect reliable data and keep statistics for this indicator.

General findings:

A school readiness pilot program was developed by UNICEF in 2015 and launched in the 2016-2017 academic year. It should be noted that until 2016, a preschool care was not considered an integral part of education system. In 2017, the National Standards for Early and Preschool Education and Care was approved. Furthermore, a training program for preschool caregiver-pedagogues was developed. Consequently, incorporating this direction in the Strategy is clearly a step forward. At this stage, there is obvious lack of baseline information and the need for a deeper integration of preschool care element in the common education strategy.

According to available data, Georgian preschool education system counts 1447 kindergartens. The program was implemented in 899 kindergartens in all regions of Georgia. As many as 23 276 children benefitted from the program. The school readiness program was also implemented in 14 school readiness centers. Some 435 children in school centers received this

service. The school readiness program was implemented in all kindergartens of Tbilisi (171); 15 961 children undertook the program and went to school.

Unfortunately, the Ministry of Education, Science, Culture and Sport of Georgia lack the verified data on the implementation of school readiness program in the regions, because preschool institutions are subordinated to municipalities and it is difficult to get data from them.

A statistical analysis of existing situation and the assessment of needs in preschool education require a systemic approach. In particular, to accomplish the objective it is necessary to carry out mapping by municipalities across the country and to establish available capacities of preschool education institutions, the extent to which they meet the needs of population in terms of geography/location, infrastructure and educational resources.

The indicators provided in the Strategy do not fully reflect the complexity of strategic objective and accordingly, the quality of tis fulfillment, especially with regard to the provision of "high quality education." There are virtually no indicators provided for components of the strategic objective such as quality, equal access to and inclusivity of preschool education.

For example, the second indicator to evaluate "high quality education" - "the number of certified caregiver-pedagogues," is not sufficient because the increase in the number of teachers cannot automatically improve the quality of education.

Recommendations:

- There is a need to define such strategic goal achievement/impact indicators that will be countable and adequately measure the quality of performance of a strategic objective.

- The access of vulnerable groups (socially vulnerable; residents of mountainous, littoral and occupied territories; children with special needs, et cetera) to preschool education should be studied, which requires collecting baseline data and devising a concrete plan for improvement.

- Alternative options of preschool education should be offered to various vulnerable groups in the light of their needs, such as, for example, integration of preschool education and school readiness program into a school infrastructure, adaptation of preschool education program to so-called family environment and subsidization of

these families, etc.; this may require legislative changes and moreover, each such option must be defined in the strategy based on the assessment of their cost-effectiveness.

- It is necessary to conduct a qualitative study to find out the result of the implementation of school readiness program in pilot preschool education institutions and the impact of the program on the academic performance of primary school students.

- One may also study what is the ratio between methodologists and kindergartens according to international experience; it is necessary to establish baseline and target indicators for retrained caregivers and methodologists.

- It is also necessary to create a register of preschool education institutions in cooperation with local self-government agencies. This register should be created on the basis of education management information system.

- Before the register is created, the Ministry should request information on preschool education institutions, including private ones, from each municipality.

- Mechanisms to monitor the access to as well as the quality of preschool education should be developed.

- A policy on the provision of inclusive preschool education to children with special educational needs should be developed and implemented.

- Functions of resource centers should be revised and they should be tasked with the administration and monitoring of school readiness programs on the municipal level.

- The Ministry of Infrastructure and Regional Development, local self-government bodies, the Ministry of Internally Displaced Persons from Occupied Territories, Labour, Health and Social Affairs of Georgia, Office of the State Minister for Reconciliation and Civic Equality, the Ministry of Economy and Sustainable Development should actively engage in the fulfillment of the objective.

- Cooperation with donor organizations (for example, UNICEF) should be continued for a comprehensive introduction of the program and monitoring of its implementation.

4.2.2. General education

Specific goal: Ensure access to high quality general education and education results up to national and international standards to prepare school students for future lives.

Impact Indicator: Improved indicator of academic performance of school students.

Strategic objective 1: Ensure equal and universal access to high quality general education.

Performance status: To achieve the strategic objective, the Action Plan defined four specific objectives and 11 activities of which six activities were fully performed, two were partially performed and one is in progress.

Outcome Indicators:

1. *Decrease in the dropout indicator at the compulsory education level in general education institutions.*

Table 4:

Legal status of school	2015-2016	2016-2017
Private school	505	515
Public school	3135	3029
Total	3640	3544

An insignificant improvement is observed against this indicator as compared to previous years. Statistics is kept by the LEPL General Education Institutions' Management Information System which processes data by several categories: unenrollment, expulsion, unenrollment as a result of completing a level, and status suspension. Status may be suspended on the following grounds: a) a school student leaves abroad with parents, b) non-payment of a voucher of a school student repeating a grade, c) a school student is absent for 90 academic days, c) other.

2. *Increase in the integration indicator of out-of-school children.*

Table 5:

Year of return to school	Number of school students
2015-16	696

2016-17	484

The indicator has worsened. Although the grounds for status suspension are defined, no accurate data is available on the number of children of first grade age who were not enrolled at school, nor are the reasons of that identified.

General findings

One of the top priorities of the Ministry is to improve quality of education at all levels of general education and ensure equal access for all school students, including children who represent ethnic minorities, have special needs, are socially disadvantaged, live in occupied territories of Georgia, along the dividing line and mountainous regions. To enhance geographic access to schools, the Ministry of Education and Science has been improving a transportation service. A special attention is paid to the development and enhancement of possibilities for inclusive education.

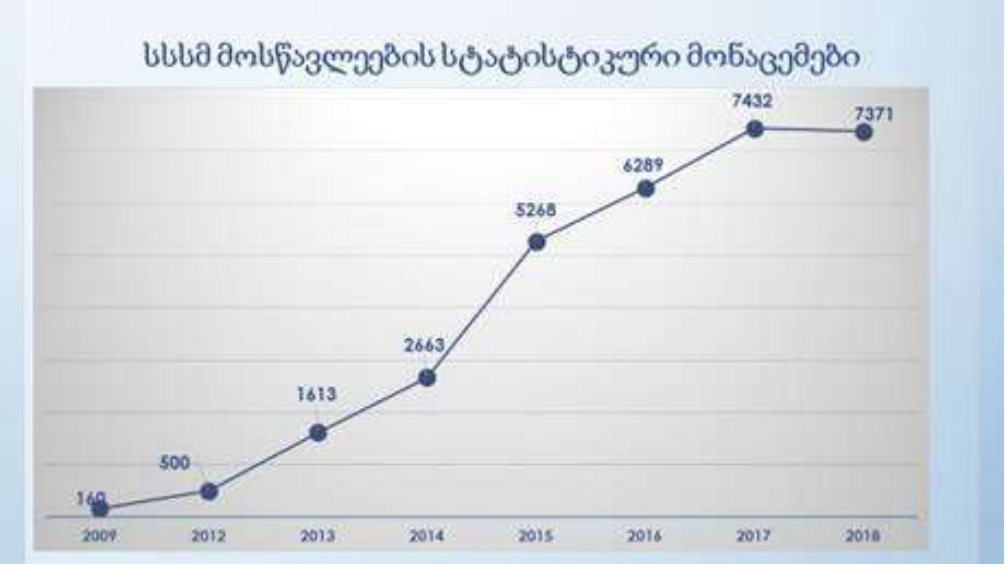
Although activities planned in accordance with the strategic and specific objectives were carried out, schools were built and rehabilitated, sanitation and hygiene as well as infrastructure was improved, the majority of focus group participants spoke about poor infrastructure, problems in heating in winter and the need to change the model of school funding.

According to focus group participants, improvement of school infrastructure is often impeded by rigid state procurement and tender procedures.

The situation regarding inclusive education has improved significantly. The enrollment indicator of children with disabilities and special needs has increased (see Table 6), a team of specialist teachers has been formed and retrained, trainings in treating children with special needs have been conducted for school directors and teachers.

According to focus group participants, although the environment and resources for inclusive education notably improved, there is a shortage of specialist teachers, which, among others, follows from the legislation. In particular, service of inclusive education at school may only be provided by individuals who have the qualification of teacher while psychologists, social therapists and other social workers are restricted to educate children with special needs.

Table 6: Statistical data on school students with special education needs.



Recommendations:

- Since the mentioned indicators only partially measure the performance of strategic objective, additional indicators for "high quality" education should be defined to enable the evaluation of not only educational environment and infrastructure, but also teacher qualification and learning/teaching outcomes at various general education levels.

- The quality of baseline data should be improved: condition of schools in municipalities must be described and the need for rehabilitation/new construction established, and geographic accessibility must be identified. A great deal of attention should be paid to the creation of alternative educational possibilities for children in high mountainous villages, especially during winter when weather impedes movement. Along with the development of transportation service program, it is important to identify cost-effectiveness of this service and to offer alternative services such as, for example, distance teaching, intensified education during spring-early autumn period, summer schools, migration to lowlands and redistribution among families on the basis of guardianship, which may require changes to relevant legislation.

- Subprograms for improving access should be developed for each vulnerable group, alternative possibilities of obtaining education should be created and the use of modern technologies at schools should be supported.

- The grounds of suspension of school student status listed in the database of general education institutions management information system (EMIS) should include "socio-

economic conditions of a child," "lack of geographic access," "language barrier" and other grounds that are important to ensure an adequate response.

- Functions and responsibilities of resource centers should be revised and they should be tasked with the monitoring of quality of learning-teaching process.

- Policy documents should consider indicators of UN Sustainable Development Goals adjusted to Georgia: "4.1.2. Proportion of children left beyond compulsory general education. 4.5.1. Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict affected) in general education system" and data by these indicators should be annually kept/updated.

Strategic objective 2: Improve the quality of education to increase the possibilities of transition to the next education level, to develop vital skills among school students and to achieve better academic results.

Performance status: To achieve the strategic objective, the Action Plan defined three specific objectives and 13 activities of which six were fully performed, five were performed partially and two are in progress.

Outcome indicator:

1. *Improve the results of graduates of general education institutions, 2016-year data (12th grade):*

Although specific objectives were defined in a logical way and corresponding activities were performed, the 2017-year data does not essentially differ from 2016-year data (see Table 1).

General findings:

One activity towards the achievement of the strategic objective is worth to be emphasized: piloting of new curriculum in 15 schools, which was implemented with financial and technical support from the foundation INNOVE of Estonian Ministry of Education and Research and UNICEF on the basis of trilateral memorandum signed with the Ministry of Education and Science of Georgia. Beneficiaries of this program, managers and teachers of schools, highly commend the program and its results although no formal evaluation or study was conducted

in the reporting period. UNICEF and a delegation of Estonian Ministry of Education and Research also positively assessed the progress in the introduction of new curricula.

Despite intensive activities to regulate the development and approval of textbooks, some shortcomings were revealed, and remarks were made, with regard to the quality of textbooks and the rule of supply thereof. In particular, during a meeting with leadership and teachers of schools it was said that although teachers were entitled to choose textbooks themselves from among approved textbooks, the Ministry often sent textbooks of various authors for various classes of each grade, which disrupted the consistency in teaching and continuity of education. In general, provisions regulating approval of textbooks and supply thereof to schools need to eb improved.

One should commend a step-up in teaching civic education on priority topics such as: healthy lifestyle, problems of early marriage, violence, bullying, financial literacy, environmental protection, protection of nature and cultural heritage, reduction of natural disaster risks, etc.

The program of professional development of teachers was intensively implemented by the LEPL Teacher Professional Development Centre (TPDC).

Table 7:

Year	Number of modules	Number of attendees
2013	83	26532
2014	95	27326
2015	49	16716
2016	62	57377
2017	42	45247

Despite the numerosity of teacher training modules, the resources of the Center are not enough to reach an absolute majority of teachers and to develop corresponding modules which should be determined as a result of a survey.

Focus group participants negatively assessed the introduction of the Scheme of Teachers' Entry into Profession, Professional Development, and Career Advancement which contains extremely bureaucratic procedures and is very labor-intensive. Consequently, a large amount of teacher's time and resources, which a teacher should spend on the development of school students and self-development, is spent on bureaucratic procedures. Since there is a link

between credit scores and teacher salary policy, the mustering of credit scores has become an end for teachers and a segment of them often resort to dishonest and questionable means rather than a motivation for professional development.

CAT (computer adaptive testing) is also considered less effective as, according to respondents, they are not related to various levels' curricula and therefore, cannot comprehensively evaluate the knowledge obtained at school. Exams should evaluate critical reasoning of school students, their capacity to analyze learned materials and should not be focused on memorizing facts and events.

Recommendations:

- New curricula introduced in the pilot schools should be replicated on a wide scale in other schools and relevant trainings should be conducted for school administration and teachers of primary education level.

- The activity of LEPL National Assessment and Examinations Center (NAEC) should be revised and enhanced for the improvement of education quality. A strategy of the Center should be developed in the light of the analysis and study of school exam results and should be reflected in strategic objectives of general education.

- LEPL National Assessment and Examinations Center should be tasked with the evaluation of school students at the end of each general education level to diagnose needs of the system and provide schools with relevant feedback. This system will also facilitate the comparability of countries in global surveys in the area of general education. This data should be integrated into the database of LEPL Education Management Information Center (EMIS) .

- With regard to the quality of general education, it is important for schools to acquire a sense of ownership and to share responsibility for achieved results. Therefore, in coordination with LEPL National Center for Education Quality Enhancement, schools should be instructed to develop and introduce internal quality mechanisms.

- Schools should be granted a broader autonomy which, inter alia, implies allowing them to seek additional financial resources in an ethical manner for the improvement of their conditions; this endeavor should be encouraged and supported by the state. The support may imply, for example, the conduct of trainings on topics such as accounting and

financial management, procurement, grants, etc., to enable schools to expend their money properly and lawfully.

- Abolition of a number of regulations by the Ministry would be conducive to the development of schools too; for example, a school must be allowed, without seeking consent from the Ministry, to invite, in accordance with various international obligations, an interesting and successful person to meet with school students; also, age-appropriate sexual/reproductive health education should be provided at schools.

- In order to support the development of 21st century vital competences, special objectives and programs should be planned, which are related to the development of creative thinking, critical analysis skills, mastering of modern technologies.

- The indicator of the strategic objective is not sufficient to measure the accomplishment of strategic objective. The indicator should not only reflect the improvement of results of graduates of general education institutions, but also the increase in the number of school students moving to the next education level, improvement of academic performance at each education level.

- Additional indicators need to be defined, such as the increase in proportion of school students with vital skills, the rise in the evaluation of civic awareness, et cetera. A source of verification of such indicators should be the data of National Assessment and Examinations Center.

- Indicators of strategic objective should be consistent with global indicators, especially the indicators of UN Sustainable Development Goals (UN SDGs) concerning the measurement of literacy among school children. In particular, they should extend to include the nationalized indicator in the UN SDGs: "4.1.1. Proportion of children in grades 4, 6 and 9 achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex." The National Assessment and Examinations Center should be responsible for the data.

Strategic objective 3: Improve educational environment

Performance status: To achieve the strategic objective, the Action Plan defined two specific objectives and nine activities of which one was performed, three were partially performed and five are in progress.

Outcome indicator

1. *Increase in proportion of general education institutions complying with modern standards.*

Formulation of the indicator is not clear because it lacks accurate criteria for a school to be considered "complying with modern standards." Furthermore, there is no baseline data available about the number of schools complying with modern standards in previous years.

General findings:

Some 16 sport halls and four sport fields were rehabilitated; six public schools were fit with wheelchair ramps; medical rooms were arranged in 140 schools; 17 schools were equipped with medical room inventory; 61 schools were equipped with school furniture; 300 schools were provided with table games.

Comprehensive rehabilitation was underway in two schools. Bathrooms were adjusted in 15 schools while lifts for children with disabilities were installed in three schools; the constructions of five fully adjusted new schools began: a public school of the Tortizi village in Gori municipality; a public school of the Romaneti village in Vani municipality; a public school of the Sareki village in Sachkhere municipality (merged with Bajiti school); a public school of the Kekhijvari village in Kareli municipality (Samtsverisi primary school); a public school of the Simoniantkhevi village in Tianeti municipality (primary school building of the Gorani village); the constructions of nine large (more than 60 children) and 14 small (20 children) schools have begun, which will be fully adjusted.

Twenty-four standard portable computers have been purchased to be handed over to six public schools (small schools); 256 standard portable computers were purchased and handed over to 11 vocational/public colleges and seven public schools; 185 standard portable computers were purchased and handed over to eight vocational/public colleges and 29 public schools (MCC and new schools). As many as 185 standard portable computers were purchased and handed over to 50 educational resource centers.

Taking into account that in 2017 tens of infrastructural projects were implemented, it may be assumed that overall, the number of institutions with improved infrastructure increased, but the proportion of schools that were rehabilitated and equipped up to modern requirements is very small in the total number of schools. Moreover, an absolute majority of focus group

participants pointed out deplorable infrastructure and sanitary-hygienic conditions, also the lack of adjusted infrastructure and educational resources.

According to focus group participants, the improvement of infrastructure alone does not automatically entail a sustained improvement of education quality. However, participants in a primary education focus group noted a positive impact of rehabilitated and improved infrastructure on the motivation of primary level school children.

In 2017, the Ministry launched the Grant Financing for Schools – Free Lessons program. The program beneficiaries commended the conduct of extracurricular activities in schools, which created an interesting and enjoyable learning environment for school students. They regard activities in sport, literacy, art/culture, intellectual-cognitive directions as especially important. The development of such special programs should be continued and extended to all schools.

Significant measures were undertaken in schools to ensure safety. A training module was developed for resource officers and all resource officers undertook it. Key topics of the training were: definition and forms of violence against children; violence and conflict; factors encouraging and preventing violence; consequences of violence; identification of physical, behavioral and emotional signs of children who suffered violence or face risk of violence; violence at school; child victims of sexual violence and exploitation; main issues of interaction with children having suffered violence; multidisciplinary and multisectoral cooperation; child protection referral procedures in Georgia. In total, all resource officers of educational institutions (1300) and 1576 representatives of public schools were retrained.

Recommendations:

- It is necessary to conduct a study to identify the impact of entry of qualified resource officers to schools on the safety of school students.

- The indicator should be revised and specified in future policy documents.

- The consistency of the indicators with global indicators should also be ensured, for example, a nationalized indicator in UN SDGs: "4.a.1: Proportion of schools with access to: (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water;(f) single-sex basic sanitation facilities; (g) basic handwashing facilities (as per the WASH indicator definitions) (100%)."

- Furthermore, since the objective does not only imply the improvement of school infrastructure, it is necessary to add other indicators which will measure a safety of environment conducive to psycho-social, creative, cognitive and physical development of school students. This indicator may not be of quantitative type, but it is necessary to conduct qualitative studies, time and again, to measure the abovementioned component of educational environment in schools.

- Relevant organizations within the system of the Ministry should be instructed to consider an educational component in their action plans and offer "Free Lessons" to school students.

- A system of season tickets, which operated in schools in the past, enabling school students to regularly attend cultural and sport events, should be reinstated and relevant programs financed.

- Participation of school students in summer thematic camps should be enhanced. In selecting students, priority should be given to various vulnerable groups such as children living in littoral and mountainous settlements, from internally displaced and socially disadvantaged families.

- The development of programs and activities promoting sport and healthy lifestyle and the engagement of school students in mass sport events should be intensified. Mapping of infrastructure favoring physical development of children should be carried out in school and programs should be developed for creating/rehabilitating and equipping sport infrastructure.

- Furthermore, feasibility of construction/rehabilitation of sport infrastructure should be determined on the basis of mapping, taking into account a possibility of using alternative means (for example, sport facilities located nearby, et cetera).

- Sport infrastructure available in school may be handed over, based on relevant contract, to sport sections/clubs which will provide free service to students of a relevant school and charge a certain fee from those not belonging to the school.

- It is necessary to continue compulsory retraining programs for teachers, school administration and resource officers, which will contribute to the promotion of national and global values, human rights education, development of competencies of

global and digital citizenship and sustainable development, intercultural education, and provision of child-friendly, safe, equal, nonviolent, highly cultural and motivating environment.

- Support of a holistic child development should be identified as a strategic priority of the strategic objective in future education policy documents and complex programs should be planned, including for retraining teachers, school administration and resource officers.

- Local self-government bodies should engage in the implementation of program at the municipal level and coordinate the participation of creative and sport organizations/clubs in the program. Moreover, resources of legal entities of public law specializing in culture and art, which fall within the system of the Ministry of Education, Science, Culture and Sport, as well as resources of sport federations should be employed.

- It is necessary to define the criteria for "compliance with modern standards" in order to identify a set of elements for evaluation; however, the accomplishment of the strategic objective unarguably requires the focus not only on infrastructural elements but also on a diversity of experience school students gain in an educational institution.

- The program for the development and application of modern technologies in educational process should be enhanced as well as activities for the development of digital culture at school.

Strategic objective 4: Increase motivation and effectiveness of school administration and teachers.

Performance status: To accomplish the objective, the Action Plan defined three specific objectives and seven activities of which five were performed, one was partially performed and one is in progress.

Outcome Indicator:

Table 8:

1. Increase in the number of teachers who moved to an upper level within the teacher professional development and career advancement scheme.

By academic years: September-August

Moved to an upper level and awarded the status	2015-2016	2016-2017
Mentor		9
Head	347	2155
Lead	2	31
Total	349	2195

The comparison of 2016 and 2017 data shows an obvious progress in this direction. One may expect the 2018 data showing further improvement.

General findings:

Consistent and relevant activities were planned and implemented to accomplish the strategic objective. A totally new teacher assessment system was introduced, the mode of school activity and school culture underwent changes, possibilities for teachers' professional development and career advancement were diversified. However, school directors and teachers participating in focus groups complained about excessively bureaucratic and labor-/resource-intensive procedures mainly with regard to preparation of documentation for participation in the teacher professional development and career advancement scheme.

A certain progress was observed in the implementation of state language learning program for ethnic minorities, though to meet increased demand for learning it is necessary to increase activities and find alternative learning options. At present, the state language teaching is carried out by LEPL Zurab Zhvania School of Public Administration which lacks sufficient resources to meet the demand and hence, there is a need to diversify the provision of this service.

With regard to creating possibilities of lifelong education for teachers, one should underline informational and educational resources: Mastsavlebeli magazine, Internet edition mastsavlebeli.ge, scientific reference magazine Science of Education. According to Google Analytics data, the number of users of the Internet edition increased by 172,187 in 2017, compared to the previous year. Also, the number of downloads and views of Internet edition articles comprised 5,288,801, which exceeds the 2016 indicator by 1,032,626.

Recommendations:

- To accomplish the objective, it is necessary to enhance financial and human resources of LEPL National Center for Teacher Professional Development. Training programs for employees of the Centre should be developed and surveys should be conducted to identify relevant learning modules.

- School administration should be interested and motivated to establish internal teacher evaluation mechanisms. Trainings for school administrations should be enhanced in various directions; to this end, international experience should be shared and exchange programs implemented.

- Since a teacher plays a key role in the improvement of education quality, the Ministry should take effective steps for the development of teachers. Financial and human resources as well as institutional capacities of the LEPL National Center for Teacher Professional Development should be enhanced.

- The teacher professional development and career advancement scheme should be revised, as it is apparently inefficient in terms of cost-effectiveness of financial and human resources.

- It is crucial to make the corpus of teachers younger by admitting younger professionals. Special encouragement schemes should be developed to attract young teachers to replace ineffective ones. Employment of young staff should be identified as a strategic objective and relevant activities should be planned in future policy documents.

- The indicators should be consistent with the nationalized objective and indicators of UN SDGs (4.c.1).

Strategic objective 5: Develop effective management system at all levels of general education.

Objective performance status: To accomplish the strategic objective, the Action Plan defined two specific objectives and three activities of which all the three were partially performed.

Outcome Indicator

1. Improvement of school monitoring results.

"Various structural units are responsible for public and private schools.

In 2016, monitoring of 10 private general education institutions was carried out.

In 2017, 10 planned monitoring were conducted along with six unscheduled monitoring in private general education institutions.

Some 83 visits were paid to the public schools of Georgia in 2016 and 92 visits in 2017."

Interviews during the evaluation process made it clear that the "improvement of monitoring results" implied the approval of a special monitoring form; this means that the indicator was not clearly formulated. A quantitative indicator alone does not reflect a quality component. Introduction of E-system since 2018 is an important move, which, apart from the increase of quantitative indicator, is expected to improve a quality component too and to create a possibility for a better comparison and analysis of data.

The activities carried out in the reporting period were largely of preparational nature and do not allow to objectively evaluate the accomplishment of the objective. Most of the activities were planned in 2018 and consequently, the progress in the fulfillment of the objective and the impact can only be evaluated in the final evaluation.

4.2.3. Vocational education

Goal: Increase the number of vocational students in support of socio-economic development of the country and ensure their competitiveness by developing professional and general skills.

Impact Indicator: Increase the number of enrollments at vocational education institutions.

Strategic objective 1: Compliance of the vocational education with the requirements of the labor market and internationalization of the system.

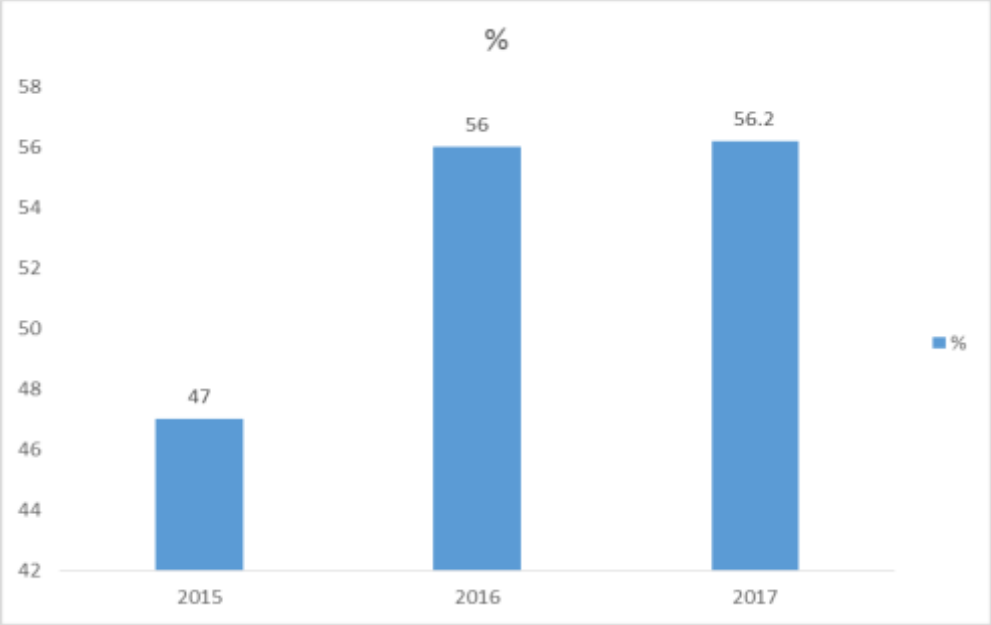
Performance status: To accomplish the strategic objective, the Action Plan defined five specific objectives and 12 activities of which five activities were performed, one is in progress, one was not performed and five were partially performed.

Outcome Indicator:

1. Increase in the employment of vocational education graduates.

According to Tracer Study, the employment indicator of vocational education graduates was 57% in 2015, 56% in 2016 and 56.2% in 2017.

Table 10: Employment of vocational education graduates.



2. Increase in the number of dual programs.

2016 saw the piloting of three dual programs in agriculture. In 2017, these three programs were increased by four programs in tourism and agriculture.

General findings:

Specific objectives, activities and indicators provided for the accomplishment of this strategic objective are quite well-thought-through and rational. Both indicators are quantitative and allow to measure the outcomes.

Although in the reporting period the activities were only partially performed, one can clearly see the effectiveness of steps taken towards the development of vocational education and the compliance thereof with the labor market, especially towards the formation of solid legislative, methodological and institutional framework. In particular, it is worth to mention the establishment of mechanisms of social partnership, cooperation with various actors: national vocational council with four thematic working groups (thematic working groups on work-based learning, professional development of vocational teachers, inclusive education and

quality development), 11 sectoral councils (set up in LEPL National Center for Education Quality Enhancement).

A methodological framework was formed and the list of vocational qualifications updated. However, one of main challenges is the harmonization of the National Qualifications Framework with the European Qualifications Framework; to tackle this challenge, the application of various instruments of cooperation with international partners, including EU technical assistance programs/project, has begun.

With the support from the EU Technical Assistance Project, a methodology of modular approach in the development of programs and teaching was devised, which, in addition to the development of professional skills, is oriented on the development of basic and key skills (entrepreneurship, communication in foreign language, digital competencies, et cetera), the compliance with labor market, learning outcomes and modern teaching and evaluation approaches. Up to 200 vocational standards were created and updated and 110 modular programs were approved and introduced. Four dual programs were introduced, ensuring joint implementation of educational programs by private companies and educational institutions and support of student employment, which represents a significant progress towards the accomplishment of the strategic objective.

Work on the document regulating the entry of teachers to profession and their development was underway in the reporting period; trainings were conducted in four main directions: pedagogical course; modular teaching; inclusive professional education; teacher training in enterprise.

Teaching entrepreneurship module has become compulsory for all modular vocational education programs. Industrial innovations laboratories (FabLab) operate in 14 public institutions of vocational education, helping students implement entrepreneurial ideas. A small grants program of Millennium Challenge Fund Georgia has started to introduce so-called flipped classroom methodology (interactive education method through interactive video clips).

To assure quality, a draft of revised authorization standards for vocational education institutions was prepared with relevant recommendations, which was broadly discussed; an authorization guidebook was created and made publicly available. The monitoring process was intensified: 18 planned monitoring and 10 unscheduled monitoring were conducted, up by 15 monitoring compared to 2016.

The above said makes obvious the progress towards the accomplishment of the strategic objective.

Recommendations:

- The introduction of National Qualifications Framework which is consistent with the European Qualifications Framework should be carried on as well as the intensification of partnership with Europe's vocational education institutions through the development and implementation of joint programs, experience sharing and student exchange.

- During the implementation of new law on vocational education, along with the enhancement of coordination measures the capacity of the Ministry and relevant agencies and vocational education institutions should be built.

- Efforts should be made to enhance partnership with business sector and increase the number of dual programs.

- It is advisable to identify the improvement of the quality of vocational education as a strategic objective and plan relevant activities.

- It is also advisable to identify the development of vocational education infrastructure as a future strategic objective, also to develop and establish quality assurance mechanisms, which has been accomplished only partially in the reporting period.

- With regard to quality it is essential to train qualified and professional teachers, which requires the development of a new system of teachers' entry into profession, professional development and career advancement.

- It is important to define as an indicator the increase in the number of those vocational education teachers and administrators who have been retrained under various schemes. This indicator is also envisaged in the UN SDGs.

- There is a need to accelerate the creation of e-register of vocational qualifications and to harmonize/integrate this register as well as vocational education portal with electronic employment platforms that are administered by the Ministry of Economy and Sustainable Development and the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs.

- It is advisable to introduce in the future vocational education evaluation mechanisms. Policy documents should envisage the conduct of relevant surveys; also, along with opinions of graduates and stakeholders, should take into account the following indicators in the nationalized UN SDGs: "4.4.1: Proportion of youth and adults with information and communications technology (ICT) skills, by type of skill; 4.4.2 Proportion of employed and self-employed vocational education graduates (60%); 4.4.4. Availability of mechanisms which help youth and adults develop relevant skills for decent employment and entrepreneurship; 8.b.1. 8.b.1: Total government spending in employment programmes as a proportion of the national budgets and GDP."

Strategic objective 2: Ensure access to vocational education based on the principle of lifelong learning.

Performance status: To accomplish the strategic objective, the Action Plan defined three specific objectives and 12 activities of which two were fully perfumed, nine were partially performed and one is in progress.

Outcome Indicators:

1. Increase in continuation of the study at the next education level after the completion of vocational education.

According to Tracer Study, conducted in 2016, 6% of vocational program graduates continued the study at higher education institutions. The same study conducted in 2017 put a corresponding indicator at 8%.

2. Increase in adult participation in educational programs.

According to a survey conducted by the Statistics Office of Georgia (Geostat), the indicator of adult participation in educational programs comprised 0.42% (1004 beneficiaries) in 2016 and 1.7% in 2017 (though the difference in the number of beneficiaries was insignificant by years). The difference between these two data resulted from the change in survey methodology.

General findings:

Although the majority of activities planned for the accomplishment of the abovementioned strategic objective was performed only partially in the reporting period, positive changes were observed in improving the access to vocational education based on the principle of lifelong learning.

It should be noted that a solid legislative framework was created to accomplish the strategic objective. In particular, a new draft Law on Vocational Education builds a basis for the provision of general education within the limits of vocational education, opening up a road for students towards higher education. The law envisages the introduction of short-cycle vocational education programs and credits awarded for these programs will be recognized at the first level of academic education.

With the support of UNDP and the Swiss Agency for Development and Cooperation, two programs were piloted in 2017, where learning outcomes of mid general education level are integrated.

To improve access, support was provided to various vulnerable groups in the reporting period. In particular, a model of transition from general to vocational education was developed for school students with disabilities and piloted at two Tbilisi and one regional schools. As many as 335 students with disabilities were enrolled at public vocational education institutions which receive additional funding for facilitating their education. Students are supported by inclusive education specialists. Furthermore, students with disabilities enrolled at vocational education programs are provided with services and educational resources adjusted to their needs. To support entrepreneurial activity of internally displaced persons, a grant competition was announced which resulted in financing 50 projects.

Short-term vocational courses tailored to various target groups were conducted and involved job seekers, convicts and former inmates: as many as 1 135 convicts undertook training-retraining program in the reporting period. Also, vocational education institutions trained (retrained) 2 130 beneficiaries within the framework of the state program for vocational training-retraining and qualification upgrade of job seekers.

2017 saw significant steps to improve geographic access to vocational education and widen the network of vocational education institutions, which implies the establishment of new vocational education institutions or the development of new branches of existing colleges.

Newly-established institutions in Gudauri and Mtskheta obtained the right to conduct vocational education activity. Buildings of vocational education institutions were rehabilitated

in the following municipalities: Lagodekhi, Stepantsminda and Tianeti. Preparation works for the establishment of a new college began in Zestaponi municipality with the involvement of private sector, also for the establishment of a new vocational education institution in Kaspi municipality. Rehabilitation of students' dormitory began in Kutaisi and the construction of a new dormitory in Senaki was financed. To improve practical training, colleges purchased equipment and tools for the introduction of modular programs in accordance with the minimum technical equipment standards of modular programs.

Judging by the above said and considering the increase in indicators, the progress towards the accomplishment of this objective is obvious.

Recommendations:

- It is important to reflect planned activities in action plans of future years and intensify their performance.

- The network of vocational education providers should be diversified and mechanisms should be introduced for engaging private providers of informal education in the provision of formal training.

- To improve access to vocational education, student dormitories or alternative means of student accommodation should be provided.

- To facilitate the diversification of financing, it is advisable to ensure legislative regulation of economic activities of colleges and the use of received revenues, as well as the issue of state funding of private education providers.

- It is advisable to clearly define in future strategic documents specific objectives and activities for the elimination of so-called "dead-ends in education," such as the integration of mid general education level in vocational education, linking of vocational education to higher education. It is also important to establish formalization mechanisms of informal education, to diversify financing, et cetera.

- It is advisable to identify, in cooperation with the Ministry of Infrastructure and Regional Development and the Ministry of Economy and Sustainable Development, suitability of geographic coverage of vocational education and provision of vocational programs; also, to identify access to possibilities of acquiring vocational education for vulnerable groups. Alternative possibilities of acquiring vocational education may be

envisaged for them in future, in accordance with their needs, such as, for example, distance learning, mobile courses, et cetera.

- Statistics on vocational education should be kept disaggregated by gender, municipal, social and age groups, thereby enabling to measure indicators in a better way.

- To measure "access to vocational education" it is advisable to add indicators of the increase in access for various vulnerable groups (internally displaced persons, residents of littoral and occupied territories, ethnic minorities PWDs, etc.). An indicator of engagement of persons left beyond education into the vocational education should also be defined too.

Strategic objective 3: Promote vocational education and enhance its attractiveness.

Performance status: To accomplish this strategic objective, the Action Plan defined two specific objectives and three activities of which one was fully performed and two were partially performed.

Outcome indicator: Raise awareness of vocational education among society.

According to a survey of public attitudes towards vocational education (2015), 72% of respondents said that their attitudes towards vocational education had been changing for the better. The survey of public attitudes towards vocational education was conducted within the framework of EU technical assistance in the following cities: Tbilisi, Kutaisi, Batumi, Gori, Rustavi. The survey covered 1920 respondents (population of 15-24 age group, not studying at vocational education institutions). Field works were carried out in August 2017. Twenty percent of respondents described the attitude towards vocational education as positive, 49% described it as neutral and 27% as negative; some 5% found it difficult to answer the question. In the opinion of 40% of respondents, vocational education is in fashion while in the opinion of 75%, it is beneficial to obtain vocational education.

General findings

To promote and enhance the attractiveness of vocational education the strategy emphasizes several main directions: dissemination of information about successful employment of vocational students, conduct of awareness raising campaigns, improvement of vocational

orientation system, improvement of flexibility and capacity of the system, rebranding of vocational education and development of a new communications strategy.

Unarguably commendable steps taken towards the accomplishment of the strategic objective were: the introduction of a position of vocational orientation and career planning manager in public vocational education institutions, the development of a methodological documents for conformity of personnel to standards, and also, the implementation of the program of vocational skills development among school students. Substantial efforts are undertaken by the EU to support the promotion of vocational education, in particular, the support of the technical assistance project in rebranding vocational education and developing communications strategy; also, in organizing exhibitions and festivals of vocational education (in Pankisi and Poti), Hackathon and Creathon. One should also note a large-scale conference, Vocational Education for Economic Development, held within the framework of Millennium Challenge Fund project.

It may be assumed that an insignificant progress was made in the accomplishment of the objective in the reporting period; however, the quality of progress can only be evaluated properly after the conduct of a study.

Recommendations:

- It is important to develop communications strategy for promoting vocational education and enhancing its attractiveness; to continue, on a systemic level, activities for the development of vocational skills among school students; to place emphasis on the development of a common vocational orientation, consultation and career planning system.

- If the above strategy proves successful, it would probably become necessary to define objectives for providing sufficient number of quality program to increased number of seekers of vocational education as well as increasing enrollment quotas and financing.

- Since the attractiveness of vocational education is influenced by labor market demands, it is necessary to consider a successful communication with public and private employers because, according to various surveys, employers primarily seek, or give preference to, people with master's degree.

- There is a need to identify an additional indicator with regard to the enhancement of "attractiveness" such as, for example, increase in the number of applicants for vocational programs, etc. because the existing indicator measures only "promotion."

- It is advisable to conduct a new perception survey toward vocational education in the mid implementation stage of the strategy (2019) as it is necessary to evaluate the accomplishment of the strategic objective.

4.2.4. Higher education

Specific goal: Internationalize higher education and ensure access to quality higher education for the improvement of personal and professional development and employment of individuals.

Impact Indicator: Increase in the number of students with high academic performance; Increase in the number of foreign students.

Strategic objective 1: Further modernize higher education system, support internationalization and enhance quality.

Performance status: To accomplish the strategic objective, the Action Plan defined five specific objectives and 24 activities of which four were performed, 11 are in progress, four were not performed and five were partially performed.

Outcome Indicators:

1. Number of foreign-language accredited programs.

"According to the register data of LEPL Center for Educational Quality Enhancement, there were 168 foreign-language accredited programs in 2016 and 182 in 2017."

Despite the increase in the number, significant efforts are required to further internationalize and improve the quality of higher education. An especially significant element in this direction is the program "Study in Georgia" aimed at attracting foreign students to Georgia.

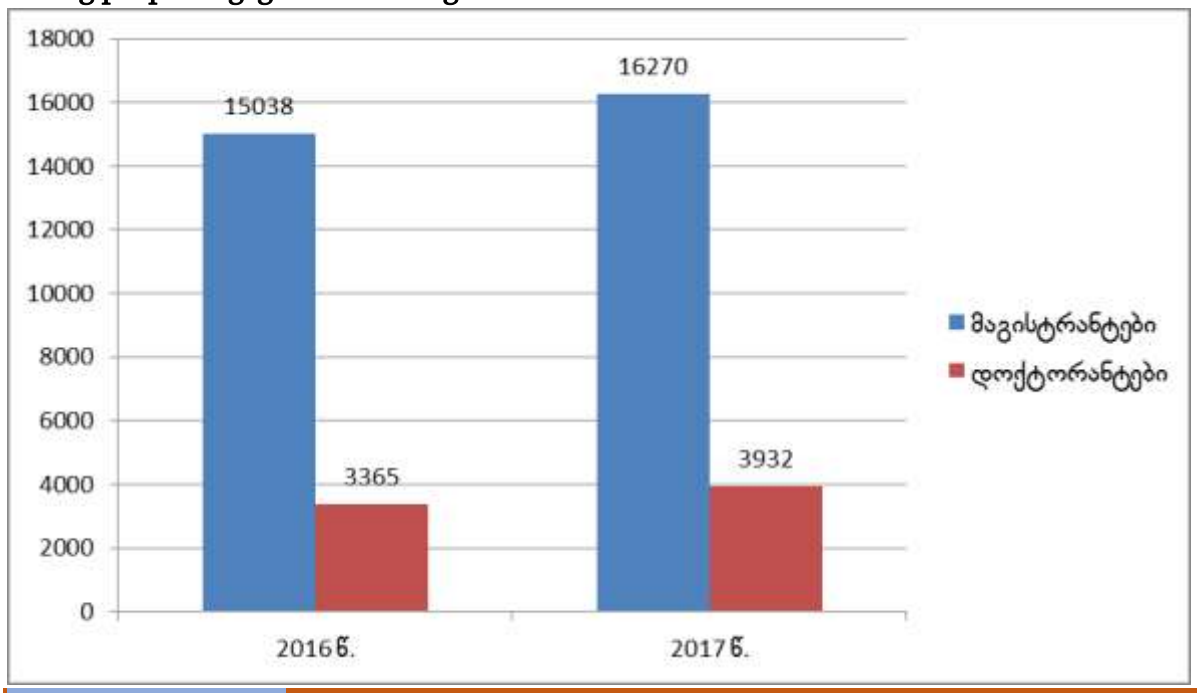
2. Number of young people engaged in teaching and research.

According to the data of the register, the number of students undertaking the master's degree comprised 15 037 in 2016 while the number of doctorate students comprised 3 365.

In 2017, the number of master's degree students stood at 16 270 while that of doctorate students at 3 932.

Table 11:

Young people engaged in teaching and research



Master's degree students; Doctorate students

General findings:

It should be noted that none of the abovementioned indicators allows to measure "modernization of higher education" and "enhancement of quality."

Modernization and quality enhancement of higher education largely depends on the funding system of higher education. An absolute majority of respondents[2] describe a current funding model as ineffective and point out a sharp deterioration of quality of higher education which is in direct correlation with the mentioned model. The existing funding model is not meritocracy-based – it does not take into account high academic performance and results and is uniform for all higher educational institutions, in accordance with funding allocated per

[2] Six university rectors.

student. Apart from being ineffective, the funding system is less democratic too, putting state higher educational institutions in unequal condition because the cost of education starkly differ in various universities, depending on a specific profile and orientation.

With regard to internationalization of education, the work and activities carried out by the LEPL International Education Center are worth to be mentioned; in particular, scholarship schemes to undertake master's and doctorate programs abroad.

According to the respondents, greater support is needed to attract foreign students, which represents a significant source of alternative financing of universities; to this end, cooperation should be intensified with various ministries, such as Foreign Affairs Ministry (for example, simplification of visa procedures), Interior Ministry (border crossing, ensuring safety), Justice Ministry (residence and registration of foreign students in Georgia), Ministry of Internally Displaced Persons from Occupied Territories, Labour, Health and Social Affairs (provision of medical and insurance services), Ministry of Economy and Sustainable Development, Ministry of Infrastructure and Regional Development (construction of housing infrastructure), et cetera.

A number of activities were undertaken towards the modernization of higher education and quality enhancement by the LEPL Center for Education Quality Enhancement which approved the authorization standards of higher educational institutions; however, the majority of respondents pointed out difficulties regarding the accreditation and authorization process as well as rigidity of the system.

In particular, they underlined the need to develop an explanatory guidebook of standards and familiarize higher educational institutions with it in advance. The respondents also questioned issues regarding the selection of accreditation and authorization commissions, which encourage unfair competition and involve risks of unfair and biased decision-making. To eliminate these risks, it is advisable to enhance the engagement of international experts in accreditation and authorization commissions and accordingly increase the budget of Center for Education Quality Enhancement.

The strategic objective contains quite a number of activities. Some of them may be merged and formulated in a broader manner. This is especially true for activities to be performed by LEPL Center for Education Quality Enhancement the action plan of which is, assumedly, integrated into the Action Plan of the Strategy.

Recommendations:

- The performance/outcome indicator of strategic objective is quite small and the objective requires substantial intervention in terms of revision of indicators and specific objectives and planning of result-oriented activities.

- One of the indicators of "internationalization" could be the mobility of Georgian students, academic and administrative staff abroad and the mobility of foreign students, academic and administrative staff in Georgian universities; also, the number of foreign students obtaining higher education in Georgia. One of valid sources of this data may be the national office of Erasmus+ program and the register of LEPL Center for Education Quality Enhancement.

- the implementation of internationally-accredited programs in Georgian universities, increase in dual diplomas, award of joint degree, etc. could be defined as more relevant performance/outcome indicators for the objective.

- To enhance the quality of higher education it is necessary to revise the principle of university funding and to come up with a relevant financing formula, drawing on good international practice.

- The change in the principle and rule of university funding may entail the change in the rule of taking unified national examinations for the enrollment at higher educational institutions; however, this is not advisable unless a new education funding model is developed, the change is linked to general education evaluation principles and relevant risks are assessed.

- Improvement of the access to higher education, also, attraction of foreign students largely depends on educational as well as living environment. Higher education policy should envisage the rehabilitation/construction of student dormitories which will facilitate access to higher education and contribute to its internalization.

- With regard to internalization it is important to develop and introduce mechanisms of acknowledgment of higher education acquired abroad through distance learning and this should be envisaged in future policy documents.

- To modernize higher education system, it is advisable to employ beneficiaries of LEPL International Education Center in higher education institutions and to develop relevant mechanisms to this end.

- Interagency cooperation platforms should be created and joint action plans devised to attract foreign students.

- A program of construction and rehabilitation of student dormitories should be developed.

- Regulations concerning authorization and accreditation of higher educational institutions should be revised and simplified and the strategy of communications with them should be improved.

- It is advisable to intensify the engagement of international experts in authorization and accreditation committees and increase the budget of LEPL Quality Enhancement Center accordingly.

- Main activities of the LEPL should be defined in the Action Plan of the Strategy in accordance with the strategic objectives while sub-activities and measures should be defined in the LEPL action plan.

Strategic objective 2: Create efficient possibilities for lifelong learning.

Outcome indicator: Number of cases of acknowledging previous vocational education in higher education.

General findings:

A new law on vocational education has been drafted to eliminate so-called "educational dead-ends." Once the law enters into force, a legal ground will be created for the realization of lifelong learning concept.

The National Center for Quality Enhancement of the Ministry of Education and Science, with the support from UNDP and the Swiss Agency for Development and Cooperation (SDC), implements a pilot project which aims to integrate a general education component in vocational education. The pilot will result in working out systemic changes which will enable students of vocational colleges to continue the study at higher educational institutions.

Since it was not planned to introduce mechanisms of acknowledging vocational education in higher education in the reporting period, the progress in the fulfillment of the objective cannot be evaluated.

Recommendations:

- Once the law enters into force, efforts should be stepped up to develop and introduce mechanisms of acknowledging vocational education in higher education.

- The Ministry, with the involvement of all stakeholders, should draft a policy which will envisage systemic changes for the accomplishment of the objective.

Strategic objective 3: Increase access to quality education

Performance status: The strategic objective includes one specific objective and one activity.

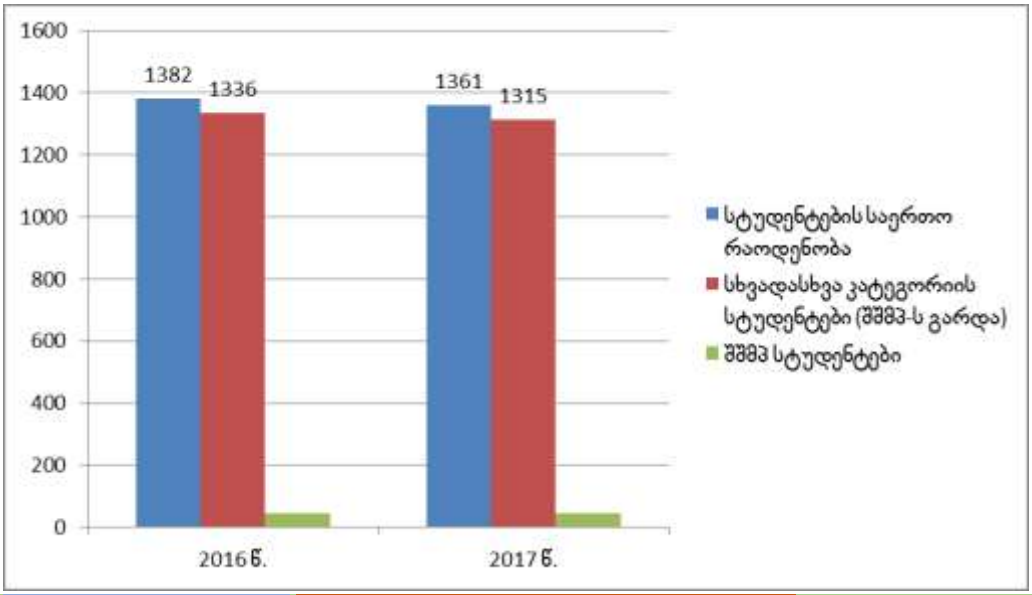
Outcome Indicator:

1. Number of students from vulnerable groups and with special education needs in higher education.

"Under the social program, 1 382 students from different categories (including 46 persons with disabilities) obtained funding in 2016 and 1 361 students (including 46 persons with disabilities) in 2017. In 2016, 69 students from different categories (including 11 persons with disabilities) obtained Master's program grant and in 2017, 93 students (including nine persons with disabilities). 905 students living along the dividing line were financed in 2016 and 1 179 students in 2017. Three students living in Abkhazia were funded in 2016 and four students in 2017."

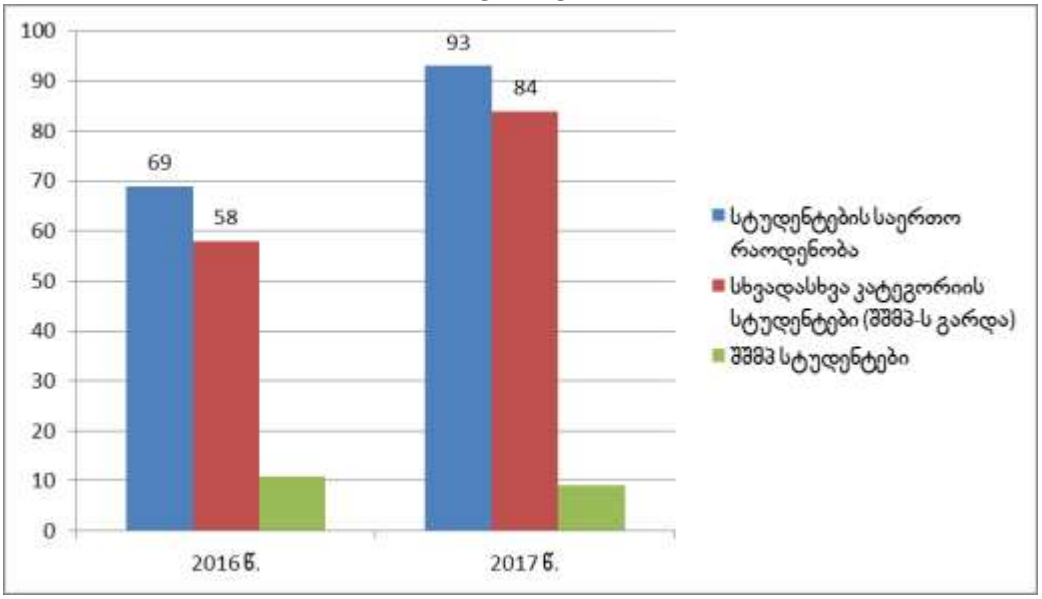
Table 12:

Students who received funding under the social program.



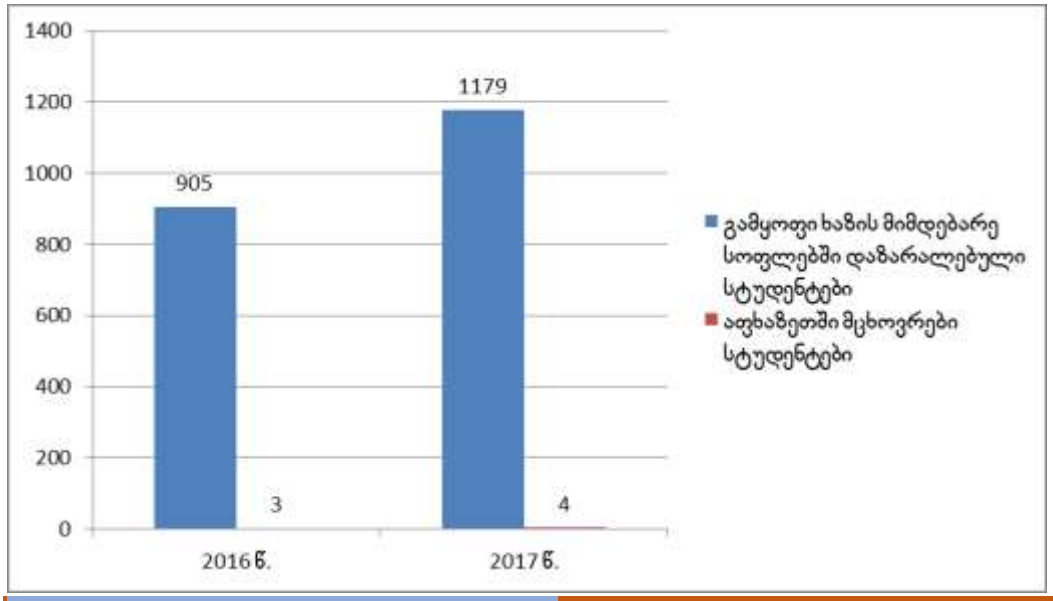
Total number of students; Various category students (excluding PWDs); PWD students

Students who received Master's program grants.



Total number of students; Various category students (excluding PWDs); PWD students

Students living in villages along the dividing line and in Abkhazia, who received funding.



Students living in villages along the dividing line; Students living in Abkhazia

2. Number of students who use various funding possibilities.

Up to 32 000 students receive annual funding under the state educational grants and master's grants programs for the duration of educational program.

The state fully finances priority educational programs for bachelor's degree. Around 20 000 students receive funding during four years.

Year-long (60 credits) educational programs for training teachers have been implemented since 2016. In 2016, 276 persons received funding for this program while in 2017, 473 persons received it.

General findings:

The Ministry of Education and Science planned and implemented significant programs for the accomplishment of the strategic objective.

In particular, to increase access to quality education the Ministry of Education and Science implements various funding programs: state educational grants and master's grants programs; social programs for students of bachelor's and master's degrees, including persons with disabilities; program for financing the study of conflict-affected students living along the dividing line; program to support students living in Abkhazia, et cetera. A special Georgian language learning program (1+4) is implemented for Azerbaijani-language and Armenian-

language students. The state fully finances the study of priority educational programs at the bachelor's degree level. Yet another important component is year-long (60 credits) educational programs for training teacher in state and private universities of Georgia.

The study at the **first level of higher education** is financed within the framework of **social program** for: students living in mountainous regions and regions of ecological migration; students living in occupied territories; representatives of ethnic minorities; children of those who fell in the war for territorial integrity; descendants of deportees from Samtskhe-Javakheti; students who lack parents, have many children, and have disability; students living in villages along the dividing line; students placed in alternative state care; economically disadvantaged students. In 2017, the budget of the program comprised GEL 2 520 000. In 2017, the funding was obtained by 1 361 students of various categories.

The study of various category students at the **second level of higher education** was financed under the social program. The program budget in 2017 totaled GEL 205 000. The state educational grant for master's program was obtained by 93 students of various categories. It is worth to note the **program of financing the study of conflict-affected students living along the dividing line** and the increase in the number of students financed under the program (the state financed the study of 471 students of this category in 2013-2014 academic year, and 1 179 students in 2016-2017 academic year). To **support students living in Abkhazia**, the state financed four students in 2017 (the 2017 budget of the program was GEL 20 000). A Georgian language learning program (1+4) was implemented to **support the study of ethnic minorities**, under which the applicants were enrolled based on the results of only one exam (general skills tests in Azerbaijani and Armenian languages). Some 100 Azerbaijani-language and 100 Armenian-language students receive annual funding covering the cost of a year-long Georgian language learning program and the cost of study for bachelor's degree during four years (or, during six years for medical students and during five years for dental students). In 2016, based on the results of general skills tests in Azerbaijani and Armenian languages taken at the unified national examinations, 960 applicants obtained the right to continue the study at higher educational institutions, while in 2017 the number of such applicants comprised 1 046.

An intensive work has begun to modify the funding system of higher educational institutions. The World Bank is directly involved in this process. Consultations are underway with universities and international experts.

As regards the first indicator, the absence of common database makes it impossible at this stage to obtain comprehensive information about the number of students with high academic performance.

In case of the second indicator, a significant progress has been observed: the number of foreign students comprised 6 342 in 2016 and 9 475 in 2017.

Recommendations:

- To increase the access to higher education it is necessary to develop adapted resources for students with special needs.

- Despite a positive dynamic in statistical data, efforts should be intensified to ensure maximum engagement of all vulnerable groups (for example, living in mountainous regions, et cetera).

- There is a need to consider measures for the support of education of migrants and the funding of relevant programs, which is also required under international obligations.

- One of the components of access, apart from the access to education, is also the access to educational environment which implies the provision of living conditions too. Therefore, the state must ensure the abovementioned vulnerable groups with student dormitories or alternative forms of accommodation.

- Distance learning should be considered an alternative means of enhancing access to education; this could be more cost-effective than various programs which, in addition to funding the study, also imply the provision of accommodation.

- The existing indicators are not relevant for measuring "quality education" component of the objective. There is a need to add an indicator to measure increase in academic performance of vulnerable groups, decrease in the ratio between vulnerable groups/persons with special educational needs enrolled at higher educational institutions and graduates of the same category, etc. It is advisable to add an indicator: "increase in the ratio of doctorate students employed in the education system."

- With regard to the mentioned objective, there is also a need to add an indicator specified in the nationalized UN SDGs document: "4.5.1. Parity indices (female/male, rural/urban, bottom/top wealth quintile and others such as disability status, indigenous peoples and conflict affected) in higher education system."

- In general, to evaluate the demand for and attractiveness of higher education as well as the access to and the quality of higher education, it is advisable to conduct a study to identify the dynamic of enrollees at bachelor's programs by years, proportion of these enrollees continuing the study at master's degree level and proportion of master's degree holders continuing the study at doctorate degree level.

4.2.5. Science

Specific objective: Modernize and internationalize science, technology and innovation system to create new knowledge and support sustainable development of the country.

Impact Indicator: Increase in the number of publications in international databases; Increase in patents; Rise in citation index.

Strategic objective 1: Develop Eco System of Science, Technology and Innovation (STI) of Georgia to achieve outstanding quality in science and technology.

Performance status: To achieve the strategic objective, the Action Plan defined seven objectives and 30 activities of which 13 were performed partially, one was fully performed and 16 activities are in progress.

Outcome indicator:

1. Number of joint internal, intersectoral and interdisciplinary projects and programs.

General findings:

In the reporting period, the work began on the improvement of regulatory documents to support scientific and technological development, and relevant working groups were set up. Stakeholders in the working groups pointed out problems and challenges impeding the implementation of quality research activities and proposed their vision concerning relevant legislative changes. The respondents especially emphasized the problems with the procurement procedure, stressing the need for changing it.

One of crucial components of the strategic objective is the development of research infrastructure. To fulfill this component, in 2017, GEL 4,196,829.90 was spent on infrastructure rehabilitation works within the program of infrastructure development of

scientific-research institutions operating under universities and independently. This amount exceeds a corresponding spending in 2016. The total budget of the scientific research support program comprised GEL 21,662,103.00, which is higher than the 2016 budget. Activities envisaged in the budget had some impact on the outcome of programs: the number of publications and engagement of youth in scientific-research work increased.

Provision of research equipment is also part of research infrastructure. In this regard it is worth to note that a possibility to renew, modernize and purchase small-budget components has been included in competition requirements administered by the Shota Rustaveli National Science Foundation.

To increase competitiveness of Georgian research and innovation, the implementation of Policy Support Facility of the European Commission was launched in the reporting period. The study of situation and needs analysis were conducted within the scope of the project; based on the results of these studies EU experts will provide recommendations concerning the accomplishment of the strategic objective. Especially important will be the recommendations concerning the model of funding research institutions/centers and correlation of funding formula with the performance of scientific-research activity by universities/centers.

International cooperation is also important for the accomplishment of the strategic objective; successful examples of this include: SMART EDEM lab at Ivane Javakhishvili State University, which operates as a result of cooperation with the German Jülich Centre, under financing and administration of Shota Rustaveli National Science Foundation; four joint structured doctorate programs financed under a joint grant competition of Shota Rustaveli National Science Foundation and Volkswagen Foundation, each involving at least 10 doctorate students and at least one postdoctoral fellow from Georgia (in 2016, Shota Rustaveli National Science Foundation funded eights structured doctorate programs including four completely new structured programs two of which already got program accreditation in 2017).

In 2017, the Shota Rustaveli National Science Foundation financed 86 grant projects of fundamental research; the same number of projects was funded under the same grant competition in 2016. The development of uniform electronic system of grant management was completed.

A revised research grants regulation and a new concept where emphasis is placed on the intensification of cooperation between science and private sector, and interdisciplinary, interinstitutional and intersectoral research with the prospects of further commercialization, are directly related to the strategic objective indicator. Representatives of Georgia's Innovation

and Technology Agency (GITA) and the National Intellectual Property Center (SAKPATENTI) were actively involved in the evaluation and consideration of the new concept. The concept is approved by the International Coordination Council of the Foundation (comprising the Minister, the Deputy Minister, head of the office of Prime Minister, representatives of leading research agencies and universities of EU countries, including the former director of CERN, the former vice-president of ERC, director of Stem Cell Center at Lund University, chairman of the council for doctoral education steering committee of the European University Association, member of the board of governors of Oxford University).

It is noteworthy that despite relevant activities implemented in various directions for the accomplishment of the strategic objective, the reporting period did not see any progress against the indicator – joint internal, intersectoral and interdisciplinary projects and programs were not created. However, it should also be noted that since the majority of activities required the conduct of preparational works (mainly, drafting of legislative changes, development of concept, etc.), and consequently, the result is expected to be achieved in a longer run than within the reporting period, it is not advisable to evaluate effectiveness/efficiency of accomplishment of the strategic objective by the results of the first year.

It should also be noted that the indicator is not fully relevant to the strategic objective. In particular, "number of joint internal, intersectoral and interdisciplinary projects and programs" is not a sufficient indicator to measure the level of development of STI eco-system.

Recommendations:

- The STI development policy should be consistent with the country's sustainable development policy; to ensure this, cooperation and coordination between various government agencies and private sector in the STI field should be intensified and a common state policy should be developed.

- It is advisable to consider a possibility of structural merger of GITA and Shota Rustaveli National Science Foundation, which would facilitate synergy, harmonization of activities in the field of science and technologies and increase effectiveness of state interventions in this sphere.

- Issues concerning the full merger of scientific institutions with universities should be assessed and reflected in future policy documents.

- The mentioned indicator is not sufficient for measuring the quality of accomplishment of the strategic objective. It is advisable to add indicators such as, for example: number and funding of project for rehabilitation/development of infrastructure of scientific and research institutions/agencies; indicator of financing innovations and technologies; increase in the GDP share of science; the number of financed researchers and doctorate students; et cetera.

Strategic objective 2: Enhance STI role, status and value in the country and position it as a national priority of strategic importance.

Performance status: To accomplish the strategic objective, the Action Plan defined two objectives and four activities of which two activities were partially performed and the other two were fully performed.

Outcome indicators:

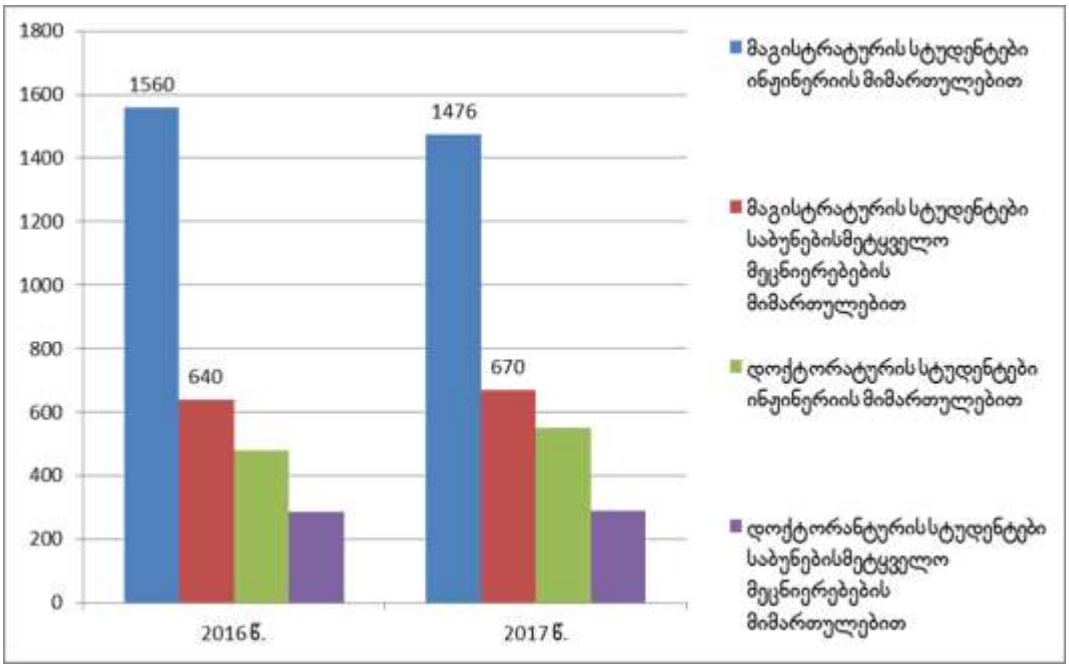
1. Number of young researchers.

Directions: Engineering and Science / Natural Sciences

In 2016, the number of Master's degree students in engineering comprised 1 560 while in science / natural sciences – 640. Doctoral students in engineering were 478 while in science / natural sciences – 287.

In 2017, there were 1 476 Master's degree students in engineering and 670 students in science / natural sciences. The number of doctoral students in engineering stood at 549 and in science / natural sciences – at 288.

Table 13:
The number of young researchers.

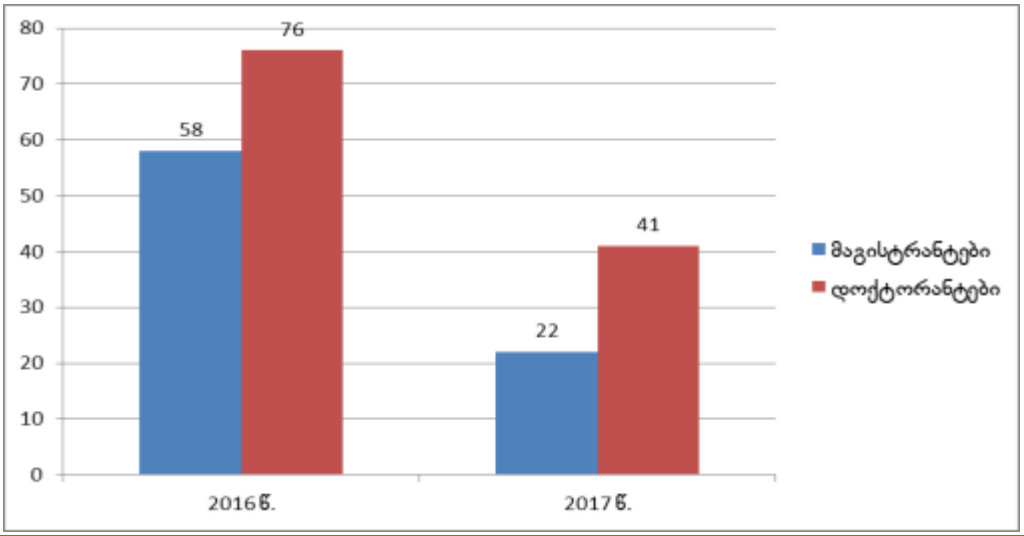


Master's degree students in engineering; Master's degree students in natural sciences; Doctoral students in engineering; Doctoral students in natural sciences

2. Number of Master's and Doctoral research projects.

"According to 2016 data, 76 doctoral students and 58 Master's degree students received funding. According to 2017 data, 41 doctoral students and 22 Master's degree students received funding."

Table 14: Support to researchers.



Master's degree students; Doctoral students

General findings:

To promote science and innovation in the country, the International Science and Innovation Festival 2017 was held, which involved up to 60 institutions. More than 250 various scientific and cognitive events were conducted, including ELSEVIER information day and workshop, lectures of Georgian scientists working at CERN, etc.

Negotiations and preparations ere underway for cooperation with the National Geographic magazine to promote best scientific projects. Five projects involving school students were financed through the grant competition of Shota Rustaveli National Science Foundation; four prizes were awarded in the competition Leonardo da Vinci for school student researcher-inventors. According to statistics and the monitoring report, no significant progress against the indicator "increase in young researchers" was observed in 2017 and it is necessary to intensify efforts in this direction.

The above-mentioned indicator does not allow to measure the quality of performance of the strategic objective "enhance the STI role, status and value in the country and position it as a national priority of strategic importance."

Recommendations:

- Although relevant activities were defined for the promotion of science and technology, there is a need to develop relevant visions in order to accomplish the objective.

- It is advisable to enhance the involvement of mass media and TV/online campaign.

- It is advisable to support participation of talented Georgian researchers and inventors in international contests and to conduct such contests in Georgia.

- Priorities of science and technology should be more closely linked to strategic priorities of the country's sustainable development; to this end, interagency cooperation should be enhanced and relevant platforms created.

- The state should support and accordingly, reflect in future policy documents, the creation in Georgia of regional research and scientific hub in advanced sectors of the field of science and technology.

- It is necessary to create a science and technology data management and monitoring system.

- To increase the number of young researchers it is necessary to conduct a thorough study and plan concrete actions.

- The mentioned indicators only partially correspond to the strategic objective.

- The indicator should also be consistent with national indicators defined in UN SDGs: "proportion of young researchers (per million inhabitants, as compared to elderly)". It should be noted that this indicator requires administrative data of the Ministry as well as the conduct of sociological survey.

Strategic objective 3: Internationalize STI system and diversify funding resources.

Performance status: To achieve the strategic objective, the Action Plan defined two strategic objectives and nine activities of which two activities were fully performed, five were partially performed and two are in progress.

Outcome indicator:

1. Increase in STI funding from international and private sources.

General findings:

Significant activities were carried out in terms of internationalization in 2017. One should underline the increase in the number of projects with the participation of Georgia within the framework of EU assistance program Horizon as well as funding which was twice as much as the EU funding in the previous year (in 2017, Georgian organizations participating in winner projects received the total of 876,312.00 euros from the European Commission as compared to 424,070.00 euros in 2016). From among submitted project proposals up to 10% of projects emerged as winners. In the reporting period the total of 17 information days and international conferences were held, which concerned Horizon 2020 program, the procedure of participation in it, strategic advice and announced contests. More than 100 individual consultations were held with regard to Horizon 2020 program.

The following events conducted in 2017 are worth to mention: the international conference "Georgia's Associated Status in the Context of Marie Skłodowska-Curie Actions" which was attended by representatives of the European Commission and Georgian researchers financed under this program; the international regional conference "ERC – Supporting Outstanding Researchers All Over the World" jointly organize by the European Research Council and Shota Rustaveli National Science Foundation, which along with high officials from ERC was attended by representatives of scientific field from six Eastern Partnership countries. Information days of various EU scientific programs were also held.

Shota Rustaveli National Science Foundation administered bilateral grant contests in cooperation with the Science and Technology Center of Ukraine, as well as with scientific foundations of Italy, France, Turkey. An agreement was signed with Clarivate Analytics, which will enable 14 institutions to access scientific databases (Web of Science and others) where 16 000 leading scientific magazines in all fields of science are indexed.

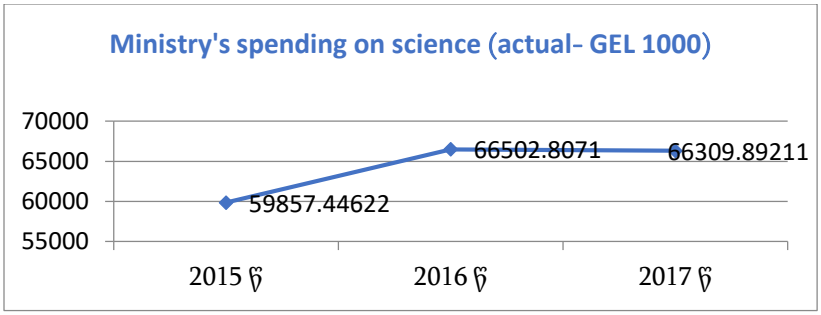
In terms of access to scientific databases and networks, one should mention the project GN4-2 Research and Education Networking – GÉANT, funded under the Horizon 2020 program, which ensures the engagement of Georgian universities (Tbilisi State University, Technical University of Georgia, Tbilisi State Medical University and others) in the GÉANT network and a high speed and safe Internet connection with leading scientific centers of Europe.

The reporting period also saw the development of a new scheme for funding researches with the involvement of compatriots working abroad.

As regards diversification of funding, an important development was the increase in finances from international sources, resulting from a successful cooperation of Shota Rustaveli National Science Foundation with German DAAD and Volkswagen foundations. In particular, as a result of joint grant contest the funding was obtained by four joint Germany-Georgia structured doctoral programs instead of one planned project.

Despite the progress of certain quality in the internationalization of science and the increase in state funding of science and research, the diversification of funding remains a challenge, namely, the financing of research and innovations from private sources. Hence, the strategic objective was only partially accomplished in the reporting period and it did not provide a ground for forecasting progress.

Table 15



Recommendations:

- Partnership with private sector, industrial companies should be intensified to strengthen cooperation of science and research with industry. Especially important in this regard is the use of resources and potential of successful Georgians working in leading scientific and industrial centers abroad.

- Cooperation with donor organizations and financial institutions should be intensified for the development of science (for example, state grants of Korea, Bank of Asia, state grants of China, etc.).

- Entry into grant agreements with various financial institutions should be intensified in order to get funding for science and research.

- Small and medium business should be encouraged with innovation vouchers.

- The mentioned indicator is not sufficient to measure the quality of accomplishment of the objective. With regard to internationalization it is advisable to add indicators such as: indicator of mobility of Georgian scientists in foreign scientific and research agencies, publications of Georgian researchers in international scientific reference media, citation index, etc.

4.2.6. Methodology and institutional development

Apart from the findings discussed in previous subchapters and the recommendations concerning the accomplishment of each strategic objective, the analysis of the development and implementation of the Strategy revealed methodological and institutional factors that affected its effectiveness.

On the institutional level, it is expected that the strategic development department and the strategic planning division, establishment as a result of reorganization/restructuring of the Ministry in 2018, will contribute to effective policy planning. In this regard, it is advisable to build human resources and capacities of mentioned structural units. Sustainability of these structural units is important for maintaining institutional memory which is often lost due to frequent turnover of Ministry management. It is also extremely important to involve civil society and experts in the development of policy, who have accumulated experience over years and have institutional memory.

- **It is advisable to formulate the vision of the subject and domain of education and science strategy in a better way:** in its current form, the education strategy covers quite different fields, from preschool education to scientific-research activity. A degree of regulation and influence by the Ministry of these fields are different too. For a common strategic document to have a practical value it is advisable to have it focus on general goals and objectives and formulate specific indicators of success in concrete spheres whereas to have directions of activities and programs related to these objectives defined separately, in sectoral education strategies.

- **It is advisable to revise the methodology of education strategy framework and principles**: the education strategy should rest on one or two main pillars (verticals) ensuring synergy and harmonious interdependence of various directions and steps of common education system, in which cross-cutting and horizontal themes such as access, internationalization, digitalization, quality assurance, etc., will be integrated at all levels. One should bear in mind that when developing a document according to this principle, it is necessary to ensure the correlation of the budget with medium-term planning documents.

- **It is necessary to adopt a systemic approach and increase funding to meet challenges observed in the implementation of the strategy:** it is necessary to mobilize support of private sector, international donors, and financial institutions to increase state education budget and balance it effectively according to goals and objectives.

- **It is advisable to improve the formulation of goals, strategic objectives and indicators as well as their compliance with one another and ensure the consistency of indicators with global indicators:** goals, objectives and indicators provided in policy documents should be based on evidence – reliable studies and statistical data, streamlined with national or international obligations, including UN SDGs.

- **The process of strategic planning and monitoring of policy implementation should be the axis of Ministry's activity:** policy planning should not be viewed as a separate "business process" aimed at generating a strategy document. Current approach produces a parallel, bureaucratic process which heavily depends on external experts and has no significant effect on the reality. The education policy development and the monitoring and evaluation of its implementation should be considered the key function of the Ministry and should be translated into administrative processes – from developing the vision (at the political level) to the levels of formulating objectives (at the level of high officials) and monitoring and evaluating the implementation which entails consultation processes at political and administrative levels and relationship with beneficiaries. It is of vital importance to devise a schedule of regular planning cycle and to strictly observe it. Unsuccessful, hurried planning processes destroy sense of ownership among participants and have a negative impact on their effectiveness.

- **Policy planning function should be professionalized and synchronized at the government administration level:** quality planning process requires professional personnel. It is necessary to conduct a functional analysis of structural planning units in the Ministry and its subordinated agencies, to mobilize human resources of relevant quality and retrain them in accordance with needs and requirements.

- **To improve planning, the recording keeping of statistical data should be improved in all directions of education:** to this end, it is advisable to enhance financial and human resources of LEPL Education Management Information Center. The Center must have a universal portal which will integrate e-platforms and resources existing in all directions of education and with a relevant software, will keep aggregated or disaggregated data of any type.

- **A mechanism of systematic involvement of stakeholders in planning and evaluation process should be created:** stakeholders, both inside and outside the government (universities, civil and private sectors, government agencies, local government entities, etc.) are integral participants of policy development. Their effective engagement requires the availability of regular contact persons and predictable processes, enabling partners to plan their participation and provide better quality information and expertise to a policy planning group.

- **Mechanisms of regular feedback from beneficiaries should be created:** education system has numerous beneficiaries. It is unrealistic to involve them directly in policy making

process. Therefore, a proper methodology should be in place to regularly collect and analyze statistically valid information about their attitudes.

4.3. Implementation

To what extent are the objectives set in the Strategy accomplished with the methods, programs and activities used in implementation? What is the extent of synergy among activities specified in various directions of the Strategy for the achievement of final goal of the Strategy?

The analysis of strategy document and the monitoring of its implementation revealed one important shortcoming; in particular, a weak link between specific goals of the strategy (various education sectors/directions) and ambiguity of common line, the vision for the achievement of an overarching goal of the Strategy – continuity of quality education.

At the meeting with heads of Ministry's structural units, a suggestion was made about a possibility to revise the structure and the methodology/principle of development of strategy document; this implies, for example, the focusing of the Ministry on two elements: a) strategic goals and objectives and defining relevant impact indicators, and b) cross-cutting issues (for example, inclusive education, access to education, internationalization, education quality assurance, infrastructure development, etc.) which will be integrated into all sectoral programs. In such a case, the formation of sectoral strategies on the basis of objectives and indicators formulated within the limits of a common vision will be a separate process.

Lack of synergy among various education sectors and the coordination among various structural units represent an issue too. For example, neither the Unified Strategy for Education and Science 2017-2021 nor the Action Plan defines objectives corresponding to higher education and out-of-school education institutions specializing in art and sport, to their status and profile; this must be envisaged in future policy documents. Lack of synergy is also observed between education sectors and other public policy sectors.

In interviews, representatives of the Ministry's structural subunits, nongovernmental organizations and university rectors pointed out a weak link among various strategy components; for example, a weak link, on the one hand, between the primary and secondary education components and the higher education components, and on the other hand, between vocational education components and STI components which are often left out of general education context. They also pointed out the need of a better coordination of activities of

various sectoral and non-sectoral departments of the Ministry and LEPLs of the Ministry not only on a strategic level but also on a working level.

It was also noted that an extremely broad range of areas covered by the Strategy – from preschool education to the development of science and technology, encompasses numerous groups of beneficiaries and actors and the Ministry bears responsibility of various levels to these groups and has influence of various degree on these fields. For example, while primary and secondary education is mandatory and fully falls within the scope of Ministry's regulation and administration, preschool education institutions (kindergartens) are subordinated to local self-governments whereas higher education institutions and scientific institutions are autonomous or private (established as limited liability companies and non-profit, non-commercial legal entities).

It is also important that the Action Plan is better integrated into budget planning process. A preliminary analysis showed that a gap between the processes of policy planning and budget planning is manifested in practice as a gap between goals/objectives and concrete programs/activities. Action plans must be aligned with mid-term action plans and budgets as well as consistent with the financial control and management system established in government agencies.

5. Summary of recommendations/next steps

5.1. Key recommendation concerning the achievement of goal/strategic objectives

Preschool education:

- Development of a common register of preschool education institutions should be finalized and data integrated into electronic databases of Education Management Information System;

- The Ministry should assist municipalities in introducing and monitoring preschool education standards and school readiness programs and in cooperation with self-governments should develop a program on providing preschool education institutions with supplemental educational resources;

- Alternative possibilities of acquiring preschool education should be offered to various vulnerable groups in the light of their needs (for example, integration of preschool

education and school readiness program into a school infrastructure, adaptation of preschool education program to so-called family environment and subsidization of these families, etc.);

- A qualitative study should be conducted to identify the results of the implementation of school readiness program in pilot preschool education institutions and the impact of the program on the performance of primary school students;

- Activities should be revised in future action plans to accommodate results of the introduction of school readiness program;

- Cooperation with international donor organizations (e.g. UNICEF) should be carried on for the aim of comprehensive implementation of the program and monitoring of its implementation;

- Programs for training qualified preschool caregiver-pedagogue and methodologist should be financed in higher educational institutions and retraining programs should be introduced.

- Development and implementation of inclusive preschool education policy should be identified as a strategic objective in future policy documents.

General education:

- It is advisable to evaluate learning outcomes at the end of each general education level in order to identify learning/teaching shortcomings by levels, to take measures for quality improvement and to develop a relevant policy;

- Suitability of CAT examination should be revised, resources allocated for it should be channeled towards other direction and a policy of balancing CAT examination with alternative mechanisms should be developed;

- Increase of investment in the development of teacher resources should be identified as a priority;

- Effectiveness of "teachers' career advancement scheme" should be assessed and a policy for replacement/modification of the scheme should be developed;

- For manning schools with qualified teachers, the funding of programs for training qualified school teachers should be increased in higher education institutions;

- The scale of school rehabilitation and infrastructural development, investments and geographic coverage should be increased significantly on the basis of mapping;

- Policy on improving the access to general education, including by offering alternative possibilities of providing education, should be developed;

- Policy on ensuring general education to persons with special educational needs should be developed and relevant resources should be allocated;

- It is advisable to replicate new curricula, introduced in pilot schools, on a broad scale;

- In coordination with LEPL Center for Education Quality Enhancement, schools should be instructed to develop and introduce internal quality mechanisms;

- A standard of "modern school environment" should be developed and mapping should be carried out in schools for the evaluation of educational environment;

- Development of programs and activities for the engagement of school students in sport, cultural and creative activities should be intensified;

- A program of sport infrastructure construction/rehabilitation should be developed on the basis of mapping;

- A program of development of modern technologies at schools and their application in educational process should be enhanced and activities for the development of digital culture should be intensified in school environment;

- It is necessary to enhance financial and human resources of the LEPL Center for Teacher Professional Development. Training programs for employees of the Centre should be developed and relevant surveys should be conducted to identify relevant learning modules. External evaluation of retrained teachers should be carried out.

- Future policy documents should revise the formulation of indicators of the goal and strategic objectives and take global indicators into consideration.

Vocational education:

- Interagency/intersectoral cooperation, public-private partnership and joint policy making should be enhanced for the achievement of the goal. The policy document should clearly define obligations of each stakeholder/actor and the indicators according to which each party should carry out reporting;

- The number of dual programs should increase and international cooperation should enhance towards harmonization with the European Qualifications Framework;

- A support policy for the development of vocational education management skills should be devised;

- Effective activities should be carried out for the accomplishment of objectives that are related to adult education and formalization of informal education, including in the area of art and sport education;

- Development of vocational education infrastructure as well as the development and introduction of quality assurance mechanisms should be defined as a future strategic objective;

- The network of vocational education providers should be diversified and mechanisms should be introduced for the engagement of private informal education providers in the provision of formal training.

- A communications strategy of promoting vocational education and enhancing its attractiveness should be devised as well as the vision of developing a common vocational orientation, consultation and career planning system.

Higher education:

- To facilitate quality assurance and internationalization of higher education, a process of integration into the European Association for Quality Assurance in Higher Education (ENQA), the European Quality Assurance Register (EQAR) and the European Consortium for Accreditation (ECA) should be accelerated, as this is important for an international acknowledgment of national diplomas;

- A program of provision of student dormitories should be developed and budget should be increased;

- The existing model of enrollment at higher educational institutions should be replaced with a meritocracy-based model;

- The existing model of funding higher educational institutions should be replaced with the model based on the performance of teaching and research activities;

- Mechanisms of acknowledgment of higher education acquired abroad through distance learning should be developed and introduced;

- Interagency cooperation platforms should be created and joint action plans devised to attract foreign students.

Science:

- The indicator of increase in financing science should be, at least, maintained;

- Policy of diversification of science and research funding should be devised and partnership with various financial institutions, foundations, private sector should be enhanced;

- Policy of commercialization of science should be developed;

- An effective model of managing science should be devised – a science and technology data management and monitoring system should be created and standards of European Research Council (ERC) should be introduced in science management;

- Bilateral cooperation and joint programs should be increased and mechanisms of integration into European scientific-research space should be accelerated;

- Policy of integrating scientific institutes with universities should be devised;

- Future policy documents should reflect the creation of regional research and scientific hub in Georgia in advanced sectors of the field of science and technology;

- The logframe of science and research should be improved in future policy documents by defining relevant strategic objectives and indicators.

6. Annexes

6.1. Focus group participants

The working group conducted four focus groups during the process of evaluation:

1. **The Ministry of Education, Science, Culture and Sport of Georgia.** Participants in the focus group were the heads of all sectoral departments of the Ministry. The introductory part of the focus group was attended by Deputy Minister Natia Zedginidze.

2. **Providers and beneficiaries of inclusive education.** Participants in the focus group were parents of school students with special needs, school directors and multidisciplinary team teachers.

3. **Pilot schools.** Participants in the focus group were parents of school students, teachers, directors of pilot schools where new national curriculum was introduced on the primary level.

4. **Civil society and donor organizations.** Participants in the focus group were nongovernmental organizations operating in various fields of education and science, independent experts and international donor organizations.

6.2. Questionnaires

Focus group 1:

Sectoral departments and LEPLs of the Ministry of Education and Science:

1. **Do you have a feeling that you have contributed to the development of current education strategy? How did you participate in this process?**

- How structured was the process of strategy development and to what extent were various structural units involved in its preparation?
- What was the impact of the strategy development process on the implementation of strategy and achievement of goals?

2. **To what extent are the goals/strategic objectives achieved?**

- How consistent are concrete programs, projects, and applied methods with changing goals and objectives?
- How and to what extent are various directions of strategy interconnected with one another so as to facilitate the achievement of strategy goals and objectives?
- To what extent are the objectives set in the strategy accomplished with the methods, programs and activities used in the implementation?

3. **How much has the perception of strategy goals and objectives among the Ministry and its subordinated agencies changed since the development of the document?**

- To what extent is the strategy and its action plan a "living document"?
- What must be changed in future policy documents?

4. **In your opinion, how well do concrete programs, projects, and applied methods comply with changing goals and objectives?**

- Does feedback between the strategy and concrete programs exist? (do public servants analyze outputs against objectives? How much/in what form is this analysis considered?)
- Was any new tendency identified during the implementation, which should be considered in indicators, or more generally, in the strategy?

5. **How consistent are ongoing activities for the accomplishment of strategy objectives with requirements of beneficiaries?**

- How satisfied are beneficiaries with those programs, projects or used methods that were envisaged in the strategy?
- What feedback mechanisms are available for beneficiaries?

Focus group 2:

Parents of inclusive education (schools) beneficiaries, multidisciplinary team teachers (inclusive education)

1. **What is your feeling about the state having a common vision of education system?**

- Are you aware of the existence of strategy and its content?
- How interconnected are the initiatives existing at various education levels? (expectations of parents/teachers) Will children/school students be able to apply advantages/adapted programs provided during the reform at a higher education level?

2. **To what extent do new programs accommodate requirements of teachers and parents?**

- How much are the implemented changes of primary importance for you? What is your experience and attitude?
- How much do parents feel themselves involved in the process?
- How much do teachers believe that the Ministry takes into consideration the experience they gained in the planning?

3. **What type of education system does the country need in future?**

- What type of support do you require from the Ministry?

Focus group 3:

Pilot school beneficiaries, teachers, parents (topics: national curriculum of the primary level, civic education, textbooks, state of school infrastructure)
Plus 15 pilot schools where new national curriculum (of UNICEF) was introduced

1. **What is your feeling about the state having a common vision of education system?**

- Are you aware of the existence of strategy and its essence?
- How interconnected are the initiatives existing at various education levels?
- What are your expectations? Will your children/school students be able to apply advantage/adapted programs provided during the reform at a higher education level?

2. **To what extent do new programs accommodate requirements of teachers and parents?**

- How important are implemented changes for you? What is your experience and attitude?
- How much do parents feel themselves involved in the process?
- How much do teachers believe that the Ministry takes into consideration the experience they gained in the planning?

3. **What is the effect of new curricula and improved infrastructure on the improvement of education quality?**

- What has changed in child's attitude to learning?
- How has teachers' perception of new curricula changed? How do they assess reform changes?

4. **What type of support do you require from the Ministry in future?**

- What does the Ministry assist or hinder you in?

Focus group 4:

Nongovernmental/donor organizations

1. **What is your feeling about the state having a common vision of education system?**

- In your opinion, how interconnected are the initiatives existing at various education levels?
- Has any new tendency been identified, which should be considered in the strategy?

2. **How do you assess goals, objectives and activities defined in the strategy?**

- How satisfied are you with those programs, projects or used methods that were envisaged in the strategy?
- How consistent are the used means with set goals and objectives?
- What are the main shortcomings of the strategy document?

3. **In what form should the nongovernmental sector be involved in the formulation, implementation, and monitoring of education strategy?**

- Are you aware of the existence of strategy and its content?
- How do you evaluate the strategy development process? Were you involved in it?
- Were your opinions/suggestions incorporated in the strategy?
- Were you involved in the implementation of the strategy? Did your expectations prove true?
- In your opinion, how should be the involvement of nongovernmental sector in the development and evaluation of strategy and action plans ensured?

6.3. Semi-structured interviews

Structured assessment interviews were conducted with five university rectors (including, universities of different legal status):

1. Tbilisi State University – Giorgi Shervashidze
2. Ilia State University – Giga Zedania
3. Tbilisi Vano Sarajishvili State Conservatoire – Rezo Kiknadze
4. Tbilisi State Medical University – Zurab Vadachkoria
5. Georgian Institute of Public Affairs – Mariam Ioseliani

The interview was also conducted with the head of UNICEF education program, Mariam Kuparadze.

6.4. Analyzed documents

- Unified Strategy for Education and Science of Georgia 2017-2021 and Action Plan 2017-2018.
- Performance Monitoring Report of Strategic Objectives and Action Plan of the Unified Strategy for Education and Science (2017-2021).
- Common Policy Monitoring, Reporting and Evaluation Systems.
- Mid-term Action Plan of the Ministry of Education and Science 2017-2020.
- UN Sustainable Development Goals.
- The Study on Quality of Early Childhood Education and Care in Georgia – brief overview – 2018 (UNICEF Georgia).

6.5. Logframe of Strategy

Goal	Formulation of goal and objective	Indicators	Means of verification	Critical assumption
Specific goal 1 - Preschool education	**Increase access to high quality preschool education and ensure preparation of school age children for school**	**Number of preschool education institutions where the educational component has been introduced**	Preschool register	All stakeholders cooperate and are intensively engaged in processes
Strategic objective 1 - Preschool education	Support the development of high quality, inclusive and equally accessible preschool education system for preschool education institutions	Increase in the number of preschool education institutions that implement a school readiness program; Increase in the number of certified caregiver-pedagogues in preschool education institutions.	Municipal statistics	Readiness of preschool education institutions and motivation of caregiver-pedagogues
Specific goal 2 - General education	**Ensure access to high quality general education and education results up to national and international standards to prepare school students for future lives**	**Improved indicator of academic performance of school students**	National Assessment and Examinations Center (NAEC) - CAT results; PISA, PIRLS, TIMSS survey results	Adequate financial resources are mobilized in this direction

Strategic objective 1 - General education	Ensure equal and universal access to high quality general education	Decrease in the in the dropout indicator at the compulsory education level in general education institutions; Increase in the integration indicator of out-of-school children	Data of the Education Management Information System	The priority of the issue will be ensured with the involvement of all relevant agencies and society
Strategic objective 2 - General education	Improve the quality of education to increase the possibilities of transition to the next education level, to develop vital skills among school students and to achieve better academic results.	Improve the results of graduates of general education institutions.	NAEC statistics	All necessary administrative, human and financial resources will be mobilized in this direction
Strategic objective 3 - General education	Improve educational environment	Increase in proportion of general education institutions complying with modern standards	National Center for Education Quality Enhancement (EQE) authorization	The state will continue to increase financing in this direction
Strategic Objective 4 - General education	Increase motivation and effectiveness of school administration and teachers	Increase in the number of teachers who moved to an upper level within the teacher professional development and career advancement scheme	Data of the Education Management Information System	An effective motivation mechanism will be developed and implemented

Strategic Objective 5 - General education	Develop effective management system at all levels of general education	Improvement of school monitoring results	EQE authorization	The Ministry will ensure effective internal and external coordination
Specific goal 3 – Vocational education	**Increase number of vocational students in support of socio-economic development of the country and ensure their competitiveness by developing professional and general skills**	**Increase in enrollment at vocational education institutions**	Data of the Education Management Information System	Along with the economic development of the country the demand for vocational education will increase, dead-ends in education will be eliminated
Strategic objective 1 – Vocational education and training	Compliance of the vocational education with the requirements of the labor market and internationalization of the system	Increase in the employment of vocational education graduates; Increase in the number of dual programs;	Tracer Study results	Cooperation with private sector will intensify

Strategic objective 2 – Vocational education and training	Ensure access to vocational education based on the principle of lifelong learning	Increase in the indicator of continuation of the study at the next education level after the completion of vocational education; Increase in adult participation in educational programs;	Data of the Education Management Information System, Tracer Study results	Public awareness of the importance of lifelong learning will increase
Strategic objective 3 – Vocational education and training	Promote vocational education and enhance its attractiveness	Raise public awareness of vocational education	Survey results	Vocational education component will be introduced in schools
Specific objective 4 - Higher education	**Internationalize higher education and ensure access to quality higher education for the improvement of personal and professional development and employment of individuals**	**Increase in the number of students with high academic performance;** **Increase in the number of foreign students;**	NAEC data; data of the Education Management Information System; EQE data	The state will continue funding of students with high academic performance and promote of Georgian universities abroad

Strategic objective 1 - Higher education	Further modernize higher education system, support internationalization and enhance quality	Number of foreign-language accredited programs; Number of young people engaged in teaching and research.	EQE data, TPDC data of the National Center for Teacher Professional Development, statistics of higher educational and research institutions	Close cooperation between the Ministry of Education and Science and universities will continue
Strategic objective 2 - Higher education	Create efficient possibilities for lifelong learning	Number of cases of acknowledging previous vocational education in higher education	Tracer Study; Data of the Education Management Information System EQE data	All necessary formal mechanisms will be created
Strategic objective 3 - Higher education	Increase access to quality education	Number of students from vulnerable groups and with special education needs in higher education; Number of students who use various funding possibilities	Data of the Education Management Information System; statistics of higher educational institutions; EQE data; statistics of higher educational institutions; EQE data;	Sufficient financial resources will be allocated towards this

Specific objective 5 - Science, technology and innovation	**Modernize and internationalize science, technology and innovation system to create new knowledge and support sustainable development of the country**	**Increase in the number of publications in international database;** **Increase in patents;** **Rise in citation index.**	Statistics of international database; Sakpatenti; Statistics of international database;	The state will maximally support the development of science by financial mechanisms and facilitating international contacts
Strategic objective 1 - Science, technology and innovation	Develop Eco System of Science, Technology and Innovation (STI) of Georgia to achieve outstanding quality in science and technology;	Number of joint internal, intersectoral and interdisciplinary projects and programs; Number of young researchers	Statistics of National Science Foundation, Georgia's Innovation and Technology Agency (GITA).	The priority of the issue will be maintained in universities and research centers;
Strategic objective 2 - Science, technology and innovation	Enhance STI role, status and value in the country and position it as a national priority of strategic importance	Number of Master's and Doctoral research projects	Statistics of post-doctorate, master's and doctorate competitions of the National Science Foundation; EQE data; statistics of higher educational and research institutions;	Promotion of STI in schools and universities will be carried on.

Strategic objective 3 - Science, technology and innovation	Internationalize STI system and diversify funding resources	Increase in STI funding from international and private sources	Statistics of higher educational and research institutions;	International cooperation will be intensified with the European research and innovation framework program and international research centers.

6.6. Evaluation matrix

Evaluation questions	Sub-questions	Indicators/sources	Materials, analysis	Focus groups				Interviews
				Departments and LEPIs	Teachers/parents	Teachers/parents 2	NGOs/donors	
To what extent are the goals/strategic objectives achieved?	How sufficient and adequate are used indicators for the measurement of the quality of achievement of goals?	• Indicators allow to evaluate the quality of achievement of goals	X					
	How much has the perception of strategy among the Ministry and its subordinated agencies changed since the development of the document of its goals and objectives?	• Perception of changes		X	X	X	X	X
	How consistent are concrete programs, projects, and applied methods with changing goals and objectives	• Used instruments and implemented activity are adjusted to changes	X	X	X	X	X	X
	Was any new tendency identified which should be considered in indicators, or more generally, in the strategy?	• Identification of tendencies by stakeholders	X	X	X	X		X

How consistent are ongoing activities for the accomplishment of strategy objectives with requirements of beneficiaries?	How satisfied are beneficiaries with those programs, projects or used methods that were envisaged in the strategy?	• Opinions of beneficiaries, heads of structural units		X	X	X	X	X
	What feedback mechanisms are available for beneficiaries?	• Opinions of beneficiaries, heads of structural units		X	X	X	X	X
What is the extent of synergy among activities specified in various directions of the Strategy for the achievement of final goal of the Strategy?	How and to what extent are various directions of strategy interconnected with one another so as to facilitate the achievement of strategy goals and objectives?	• Inter-adaptation between various directions • Opinions of heads of structural units	X	X				
	What structural, organizational and procedural mechanisms are available to and needed by the Ministry to better coordinate structural units and stakeholders for the achievement of the strategy goals?	• Opinions of stakeholders • Analysis of documents	X	X	X	X	X	X

To what extent are the objectives set in the Strategy accomplished with the methods, programs and activities used in the implementation?	What type of methods, programs and activities were used for the accomplishment of strategy goals and objectives?	• Monitoring report • Opinions of heads of structural units and stakeholders	X	X	X	X	X	X
	How consistent are used means with the set goals and objectives?	• Used means/instruments are selected so that to produce desired and sustainable results	X	X			X	X
	How much do indicators used for the evaluation of performance of activities reflect progress towards the accomplishment of set objectives?	• Analysis of the monitoring report • Opinions of heads of structural units	X	X				
What was the impact of the strategy development process on the implementation of strategy and achievement of goals?	How structured was the process of strategy development and to what extent were various structural units involved in its preparation?	• Opinions of involved persons • Reports and records of meeting • Opinions of managers	X	X				X
	To what extent were stakeholders (including beneficiaries) involved in the monitoring of strategy implementation?	• Opinions of authors of monitoring document • Opinions of stakeholders		X	X		X	X