

Unified Strategy for Education and Science for 2017-2021

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1. Introduction

Education is one of the fundamental rights of a human being and a vital condition for sustainable development of the country. Therefore, ensuring quality and affordable education and science system is one of the main priorities of the Government of Georgia and is declared to be the cornerstone of the development of the country.

Georgia has made significant progress in reforming the education and science system in recent years. The country has undertaken a number of reforms aimed at transforming the post-Soviet education system and creating a new system that would be in line with rapidly changing world demands and be competitive on the international platform.

In spite of thorough reforms, there are still many challenges to the quality of education and training services and equal access. The link of the education with the labour market, promotion of the development of science and research, also represent a huge challenge.

The new socioeconomic development strategy of the government "Georgia 2020", as well as the four-point plan of the reform of the Government of Georgia, assign priority to education to ensure human capital development and its effective involvement in the development processes of the country. Accordingly, the budget of the Ministry of Education and Science has increased from GEL 650 million to GEL 1.1 billion in the recent five years and reached 3.1% of GDP in 2017.

The strategic priorities of education in the mentioned documents include such issues, as ensuring compliance of the education programs with the current and future requirements of the labor market, availability of pre-school education, improvement of the quality and access of education at all levels, professional training linked to the employment, the relation of the higher education, science, technologies and innovations with the sustainable development of the economy of the country. The four-point plan of the government also emphasizes the importance of specific educational programs aimed at strengthening national, social and cultural features, as well as developing citizenship in the country.

To achieve the above objectives, the Ministry of Education and Science of Georgia has developed a new unified strategy for education and science for 2017-2021 (hereinafter referred to as the „strategy”), which is based on the reforms ongoing in the country, the analysis of achievements and challenges in education, science and advanced training. The strategy includes all areas of education and science: early/preschool education of children, secondary, vocational and higher education, adult education, science and research. The strategy document observes the principle of lifelong learning (LLL) and ensures connection between different levels of education. The strategy describes how the education system should be organized and developed in order to contribute to the progress of the society, strengthening democratic governance, employment growth, self-realization of the individuals in the changing world and increasing the competitiveness of the country.

The present document fully envisages the obligations under the Association Agreement between Georgia and the EU and the relevant Annexes in the field of education, advanced training and youth, as well as science, research and technological development. It also conforms to the requirements of the Bologna Process, the recommendations of the European Parliament and the Council of Europe in the direction of lifelong learning, the activities agreed within the UN Sustainable Development Goals, which Georgia has undertaken to fulfill. The document is based and complies with the four-point plan of the government of Georgia, the socio-economic development strategy of the government "Georgia 2020" and the strategic directions of the Ministry of Education and Science of Georgia.

The strategy is focused on approximation with the relevant EU policies and practices in the field of education, which is related to consideration of recommendations worked out within the Bologna process, including the requirements of standards and guidelines of ensuring European quality higher education (ESG), in the implementation of mechanisms of education quality assurance. The document also complies with the values and approaches envisaged by so-called Copenhagen and Turin processes. The Strategy Document also envisages a gradual introduction of the European Credit System for Vocational Education and Training (ECVET) in the Vocational Education System of Georgia. In the modular programs developed and upgraded in 2017 credits were awarded for learning outcomes in accordance with this principle.

The main responsibility in the implementation of the National Strategy of Education and Science rests with the Ministry of Education and Science of Georgia. Different state institutions, donor organizations, such as the EU representation in Georgia, UNICEF and the second compact of the US Millennium Challenge Corporation took active part in the elaboration of the strategy. The strategy also included analytical documents developed by the World Bank and USAID.

2. General overview of the current condition and challenges

Education and science have a strategic importance for the sustainable economic development and well-being of our country. High quality education and science are the guarantees of social consolidation. High quality education contributes to improving welfare and is a necessary prerequisite for personal, social and professional development. In order to achieve these goals, the educational system should be available to everybody and provide all citizens with the opportunity to achieve high quality sustainable results.

According to the existing data, in the pre-school educational system of Georgia, 1447 day nurseries operate, which employ 5184 teachers and 600 methodologists. There are 2085 public and 236 private schools in Georgia. According to statistical information for the academic years 2016-2017, the number of pupils in the country is 564 729 pupils (public 508 888; private - 55 841), and the number of school teachers is 65 445 (public - 59 779; private - 5 666). The number of administrative and technical personnel of general education institutions is 22 179 in public institutions and 4 022 in private ones. The vocational education programs are carried out by 39 public and 78 private institutions. The number of vocational students in the above mentioned institutions is 16 516 (public 12 037; private - 4 479), while the number of professional teachers is 4 172 (public - 2 198; private - 1 974). The number of staff employed in these institutions is 1637 (public-798; private - 839). There are 75 authorized higher education institutions operating in Georgia, where up to 140,000 students study and about 13,000 academic, research and administrative personnel are employed. 2446

persons are employed in integrated 42 scientific-research institutes of the University, and in 3 LEPL Scientific-research institutes 461 persons are employed.

Over the recent four years, the Government of Georgia, through the Ministry of Education and Science, has conducted a very important intervention series aimed at increasing accessibility, efficiency and quality at all levels of education. According to these goals, the budget of the Ministry of Education and Science has increased and amounted to GEL 650 million in 2012 and exceeds GEL1.1 billion in 2017 and reaches 3.1% of gross domestic product.

Significant changes have been made in terms of legal regulation of education. In 2016 the law was adopted on early and pre-school education, which made it possible to return educational functions to kindergartens after almost 7 years gap, which is a necessary condition for achieving high quality school readiness. The legislation on higher education has also changed. The aim of the amendments was to support the integration of learning and research, the use of the scientific potential of scientific research institutes at all stages of higher education and creation of possibilities for the implementation of joint educational programs. A new law on vocational education has been developed and will be approved in the nearest future.

Further development and implementation of the existing National Curriculum started in 2012 and still continues; it is aimed at solving existing challenges with due account for the modern trends. In 2016 the renewal of the part of the first stage of the National Curriculum for General Education was completed, which will be followed by the updating of the textbooks and improving the quality. These changes will enter into force in 2018.

Improvement of educational infrastructure in public schools, professional and higher education and research institutions is permanently ongoing. At the same time, the network of educational institutions is expanding in order to increase access to education. Concept of development of small-scale schools in rural areas has been developed and the construction with the use of modern technologies has started.

In December 2013, the Vocational Education Reform Strategy was adopted and systematic transformation in vocational education, which includes ensuring compatibility between the vocational education and labor market demands, reform of education programs, elaboration of new professional programs with employer engagement and promoting innovative learning by way of equipping the state professional education institutions with innovative training laboratories and through other relevant mechanisms.

From 2013 the state fully funds learning in the state vocational education institutions; in 2013 a sectorial support agreement was signed with the EU Delegation and four year budgetary and technical assistance program was launched to support the professional education reform in Georgia; from 2015 training of entrepreneurs in professional educational institutions has been strengthened; starting from 2016, the implementation of professional programs based on occupation/dual training principle.

On June 27, 2014, the separate chapters of the Association Agreement between Georgia and the European Union determined cooperation of Georgia with the European Union in the fields of science and education. In particular, chapter 12 of the Agreement provides for cooperation in the field of research, technology development and demonstration, and chapter 16 provides topics for cooperation in the direction of education, training and youth. Also, a significant resource for Georgian educational-scientific sphere is EUR 77 billion

fund of the EU Research and Innovation Program "Horizon 2020", which Georgia joined in 2016 and within the framework of which, on the basis of a competition, 17 projects submitted by Georgian organizations have already been funded, for the total amount exceeding GEL 5.2 million. In addition, half of the paid membership fee is returned to the country for further development of science.

Georgia is actively involved in the EU program ERASMUS + and among 131 partner countries holds the 8th place in terms of successful projects. As a result, since 2015 the education of more than 1500 Georgian students has been funded by leading European universities. In 2017 the cooperation within the framework of the program ERASMUS+ was underway with the participation of higher educational institutions, academic and administrative personnel and students.

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During the reform of the education and science system of Georgia the assistance of the United States in the second compact of the Millennium Challenge is very important, the total amount of which is USD 140 million. Within the framework of the program, in addition to technical assistance, more than one hundred public schools are rehabilitated in the regions. Developing up to 45 professional programs in line with international standards, involving private sector and international partners, focused on the labour market, and US San Diego University together with three Georgian Universities, offers American diplomas to students.

Since its establishment in 2014, LEPL - International Education Center has financed education of 483 Georgian young people in leading universities of the world.

Despite the implemented reforms, the Georgian educational system is still facing some challenges overcoming which is the main goal of the National Strategy for Education and Science of 2017-2021.

In spite of thorough reforms, there are still many challenges to quality and equal access of education and training services. Among the challenges there is the link of the education with the labor market, development of entrepreneurial skills at all stages of education, as well as supporting science and research. Lifelong learning and elimination of educational gaps require legal regulation and certain modification of the system.

Globalization and technological changes have created new opportunities in the field of education and employment. Digital transformation has changed the labor market and created the need to develop new skills. Consequently, the education system should bring up young people with relevant competence, knowledge and skills, being one of the most important challenge of modernity, which the Ministry of Education and Science should address with appropriate legal and regulatory changes at all levels of education.

The Government of Georgia attaches great importance to internationalization of education and believes that it will have a great impact on improving the quality of education and research in Georgia. One of the factors contributing to the internationalization of education is the international cooperation of Georgian educational

institutions with leading European and American universities. Examples of this are: implementing joint bachelor programs of natural science, engineering and mathematical directions (STEM) in foreign language by San Diego State University and three Georgian State Universities and initiate the establishment of Kutaisi Technological University, which serves establishment of Georgia as a regional center of higher education, science, research and innovation.

In order to succeed, the education system of Georgia needs efforts to continue the internationalization of education, strengthening research and knowledge, international mobility of academic staff, as well as students, in order to meet the international standards and create high quality programs at the local and international level to meet the requirements of the labour market.

In the process of maintaining and upgrading higher education, it is important to strengthen European cooperation in the field of higher education, the most important part of which is to deepen cooperation with the European Network for Higher Education Quality Assurance (ENQA). Obtaining the status of a full member of ENQA will be a step forward to integrate into the Universal Higher Education Area and will significantly enhance the awareness about Georgian education and increase confidence in it.

This strategy represents future 5-year efforts of the Ministry of Education and Science in response to all the challenges in the field. In the next parts of the strategy, the challenges and problems are described in more detail according to the level of education, as well as ways of their solving and settlement.

The strategy is intended for a five-year period, but the full implementation of the goals is related to a longer period. Thus, the relevant issues, tasks and activities will be considered in further strategic documents. In addition, the Action Plan of this document determines the minimum package of measures. Decisions on additional actions will be made by the Ministry of Education and Science with due account to the legislation of Georgia and the budget. The document includes main plans and tasks in various forms, which in the future, together with the international community and the general public, will enable us to see the overall picture and plan the next steps necessary to improve the system.

3. Strategic directions

The vision of the Government of Georgia in relation to education and science implies the development of a system that ensures bringing up competent and competitive citizens with national and universal values that contribute to the building of knowledge economy and the establishment of a strong civil society.

Education and science are the cornerstone of economic and sustainable development of the country. Consequently, the mission of the Government of Georgia is to develop human capital and facilitate full realization of citizens' capabilities.

The aim of the Ministry of Education and Science is to develop a system that provides lifelong learning and equal access to quality education in order to prepare each individual for future life, promote employment, personal and professional development.

The Ministry of Education and Science will cooperate closely with the relevant ministries and other partner organizations, including for the purpose of developing the sectoral education policy and coordination

mechanism. Special attention will be paid to popularization of sports and healthy lifestyle, development of entrepreneurial skills, promoting cognitive, art activities, active learning and leisure.

The analysis of international experience, as well as identification of challenges in the field of education and science is a precondition for planning education policy and determination of its basic priorities. The five-year strategy document defines all levels of education and science, early and pre-school education, general education, vocational education, higher education and research and development - as the main directions for the development of education and science. The document requires a uniform approach for the transformation and development of the education and science system in Georgia.

Development of education and science system and implementation of this strategy is based on quality-oriented approach and the following three principles:

- Accountability and transparency;
- Participation;
- Coordination at all levels of education.

4. Common risks (SWOT- analysis)

The present SWOT analysis demonstrates the strengths and weaknesses of education and science sphere, as well as existing opportunities and potential threats. Specific risks are given in the relevant chapters according to the level of education and science.

Table: SWOT analysis of the education and science system

Strengths	Weaknesses
<ul style="list-style-type: none"> • Current political will • Existing traditions in the field of education and science • The desire to change among the population • Government without corruption • Geographical location of Georgia • Global trend of internationalization of education • Global Technological Progress • Support from the EU and other international organizations • Investments made in the education sector by the state • Simplified administrative procedures and developed state services 	<ul style="list-style-type: none"> • Demographic changes • Unequal distribution of the population • Low level of competitiveness • Low quality education • Insufficient funds • Noncompliance of the education system with the requirements of the labor market • High age of teachers at all stages of education and their qualification • Lack of young scientists • Limited access to finance/long-term investment resources • Low level of innovation and research and R&D • Insufficient cooperation between research and development institutions and private sector • Limited possibilities for the introduction of technology and high cost of new technologies/basic means • Insufficient competitiveness of human capital • Outdated infrastructure

Opportunities	Threats
<ul style="list-style-type: none"> • Technological progress • Demand for high quality education • Increased access to funds • Vocational education system focused on the requirements of the labor market • Strengthen international cooperation and internationalization of education and science 	<ul style="list-style-type: none"> • Possible external economic factors (financial crisis, regional conflicts, instability, etc.) • Possible slowdown of economic growth • Insufficient support of the changes from the population • Political instability • Insufficient knowledge and low level of adaptation • Insufficient participation of the business sector in the educational programs • Global competition in the sphere of higher education

5. Strategic goals and objectives

In response to the existing challenges and the development goals of the country, the Ministry of Education and Science of Georgia has developed a strategic document for the development of education system. The main objective of the strategy and five key objectives for each level of education and science were identified, which are given as strategic tasks. They provide a link and contribution to the common goal of the strategy, and also ensure their implementation through the relevant strategic tasks and activities.

The overall objective of the strategy is to develop an accessible and quality education and science system based on the principles of lifelong learning, which will enable all citizens of the country achieve high quality sustainable results and promote the development of Georgia as a regional center of higher education and research.

Specific goals

- *Increase the access to high quality pre-school education and prepare children of school age for school;*
- *Ensure access to high quality secondary education and educational results relevant to national and international standards in order to prepare students for future life;*
- *Increase the number of professional students to support socio-economic development of the country, ensure their competitiveness by developing professional and general skills;*
- *Internationalize higher education and ensure quality higher education to improve individual personal and professional development and employment;*
- *Modernize and internationalize science, technology and innovation system for creating new knowledge and promoting sustainable development of the country.*

In the subsequent parts of the Strategy Document, there are ways of relevant implementation for each level of education, which is based on the specific challenges of the relevant education system.

5.1 Early and pre-school education

5.1.1 Overview of the current situation and challenges

The legal and institutional framework of preschool education is based on the following laws and international agreements: the law “On early and pre-school education”, the Association Agreement between Georgia and the EU; UN Convention on the rights of the child (CRC); Dakar action plan on the universal access to education (EFA); Convention on the elimination of all forms of discrimination against women (CEDAW); Salamanca appeal (UNESCO); Convention on the protection of persons with disabilities (CRPD); UN sustainable development goals for the years 2015-2030 task 4.2.

In order to fulfill the obligations under the legislation and international treaties, the thorough and large scale reform of the preschool education started in 2015. On July 8, 2016, the Parliament of Georgia adopted the Law “On Early and Pre-school Education”, which substantially changed the approaches to early and pre-school education and created solid grounds for quality education at this level of education.

In order to ensure school readiness, in 2015 the Government of Georgia approved the "School Education Preparedness State Standard." The school preparedness program, teachers' guide, a collection of activities, a training-module for teachers were elaborated. Methodologists and teachers of Tbilisi pre-school establishments were trained. The program was introduced in 171 pre-school institutions of Tbilisi and 180 preschool institutions of regions, as well as in alternative school readiness centers. According to the existing data, in the pre-school educational system of Georgia, 1447 day nurseries operate, which employ 5184 educators and 600 methodologists.

Prior to 2016, pre-school institutions of Georgia performed only childcare function and were focused on child care only. The education component was ignored. Consequently, the level of preparation of children for school was low. One of the most important reasons for unsatisfactory quality of general education is low school readiness. According to the study, the part of the first graders who did not attend pre-school educational institutions did not have the cognitive and noncognitive (emotional, social, and physical) skills required to start school education. Despite the steps taken, this problem remains one of the challenges that requires further systematic work.

The level of qualification of teachers employed in preschool institutions remains a significant challenge. The average age of teachers employed in pre-school institutions is between 40 and 47, with 32.2% of them having higher education in pre-school education sphere, 35.4% having vocational education and 32% having no education in this field. 40% of teachers have not undergone any training and received education decades ago. As for the education of caregivers, only a small part of them (21.2%) have any kind of education in preschool

or pedagogical sphere, and most of them (72.3%) have not received any professional training courses, training, etc.

Despite launching school readiness program, establishment and development of the preschool education system remains a major challenge. It should be noted that integrating the principles of inclusive pre-school education in the upbringing process is less common. The absence of the Georgian language component in non-Georgian pre-school institutions complicates the process of integration of national minority children into society. The reason for all this is the absence of educational standards over many years.

Also important challenge is the absence of educational resources. In the process of formulation of the pre-school education system, the role of educational programs and recommended activities, creation of learning and development material, especially for ethnic minority communities, development of methodological and educational resources for parents and education of parents is vital.

Also an important challenge is the absence of educational resources. In the process of formation of the pre-school education system, a significant role is assigned to determination of educational programs and recommended activities, creation of learning and development materials, especially for ethnic minority communities, development of methodological and educational resources for parents and implementation of parents' educational programs.

5.1.2 Goals and objectives.

Specific purpose of pre-school education is to increase access to high quality pre-school education and ensure preparation of children of school age for school.

The aim of pre-school education is ensuring bringing up, education and all-round development of children and promoting preparation for school, which is harmonized with the achievement of the strategic goal of the Ministry of Education and Science - ensure continuous quality education for everybody. The following strategic tasks were defined for achieving the goal of the preschool education:

Promote the development of high quality, inclusive and equally accessible pre-school education system for pre-school education institutions.

The Ministry will develop early and pre-school education state standards and continue work on the improvement of the educational state standard of school readiness.

The Ministry will define the ways and strategies for improving the quality of pre-school education and school readiness. Considering the principles of inclusive education, cultural and national characteristics of the country, the Ministry will identify the necessary educational resources and auxiliary materials and develop the list of necessary resources. Special significance will be assigned to the development of recommendation programs in which civic education, basic entrepreneurial skills, healthy lifestyles, art and environmental

directions will be integrated. These programs will include development of all core skills in physical, emotional, cognitive, social and environmental direction.

The Ministry will also ensure the development of methodological materials - guidelines and modules for teachers and caregivers and promote raising awareness of a parent/guardian. The Ministry will closely cooperate with the relevant state and local structures to create training programs for caregivers, teachers and other personnel of pre-school institutions, develop and implement professional standards and training modules.

The Ministry will conduct certification of teachers, including the development of relevant modules, training of field specialists and methodologists and their further training as trainers. The Ministry will facilitate learning of the state language by teachers and caregivers representing national minorities. In the course of implementation of the reform, a system of incentives will be created to attract young staff to preschool institutions.

In the education and science system the implementation of undergraduate and graduate programs of preschool education for preparation of preschool specialists in higher education institutions will be supported, also the module of training of a caregiver in vocational education system will be re-developed in accordance with the new standards and pre-school education directions in the National Qualifications Framework will be introduced to reflect the relevant profession. In coordination with the relevant ministries, the Ministry of Education and Science will facilitate the creation and implementation of professional module for teachers of arts (music) and physical education.

In the implementation of pre-school education reform, the Ministry will develop a monitoring and evaluation system to promote quality improvement and achieve sustainable results. Therefore, the Ministry of Education and Science will develop monitoring and evaluation tools for preschool education and school readiness programs.

In the process of implementation of pre-school education reform, the Ministry will develop a monitoring and evaluation system to promote improvement of quality in the system and achieve sustainable results. Therefore, the Ministry of Education and Science will develop monitoring and evaluation tools for preschool education and school readiness programs.

5.1.3. Risks

#	Description	Category	Probability	Impact	Response
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1	The lack of coordination between the authorities and the local authorities during the reform process	Political	Low	High	The Ministry will strengthen efforts with the aim of coordination with ministries. It will facilitate monitoring at local level. It will work with the municipalities for the success of the reform and provide recommendations
2	Insufficient human resources	Organizational	Average	High	The Ministry will undertake measures to prepare new staff for preschool institutions.

5.2 General education

5.2.1 Overview of current situation and challenges

The legal and institutional framework of the general education system of Georgia is based on the following legislative acts, international conventions and agreements: the Constitution of Georgia, the Law of Georgia On General Education; Decree of the Government of Georgia on Approval of "National Goals of General Education", Convention on Child Rights; Law of Georgia on Development of "Quality of the Education"; Association Agreement between Georgia and the European Union, the Convention on the Rights of Persons with Disabilities;

In Georgia there is an opportunity to receive continuous general education. To ensure high quality results-oriented education and improve academic results of pupils, in recent years, significant changes have been made to improve quality of education management, quality of study process, promote development of education environment, as well as increase the access of education.

The meaningfully and structurally updated national curriculum of the primary stage was developed and approved. The revision and development of the National Curriculum of the base and intermediate level is underway. Textbooks with improved content according to new standards will be selected and introduced on the basis of a competition. The National Curriculum and School Programs will be developed based on modern, educational sciences, and principles of age-relevant development and capacities. At the primary level the principle of learning on the basis of playing and doing will be the main one, the basic level learning will become fun, the programs of the subjects will be simplified.

In February 2015, the "The scheme of commencement teaching activities, professional development and career progress" has been approved based on discussions and longstanding coordination with the purpose of

ensuring complex assessment of teachers' activities, their professional development and career advancement and appropriate motivation. The main functions related to the assessment and professional development of teacher professions in the framework of the scheme are delegated to the school, thus increasing the autonomy of schools. Special attention is paid to the professional development of teachers. More than 25 thousand teachers each year participate in state-funded trainings such as general pedagogical skills, subject modules, interactive learning, varied strategies for assessment and teaching, information technology, inclusive education and so on.

In order to stimulate teachers' qualification and skills, within the framework of the scheme of professional development of teachers, the basic salary of teachers has significantly increased and amounted to GEL 405; the salary increments of approximately 16,000 teachers have been almost doubled since 2017. The average salary of teachers (compared to 2012) has increased by 80% and reached GEL800 with all salary increments.

To strengthen school management, school directors, facilitators and managers of educational resource centers, as educational leaders, receive intensive trainings within the framework of the "Academy of leadership" funded by the Millennium Challenge Fund.

Reforms and measures aimed at improvement of general education will ensure access to education in all schools of Georgia. Taking into consideration the social problems of pupils, socially oriented programs have been launched since 2012, which significantly lowered the expenditure on education: geographical access to schools and participation of pupils in the learning process has significantly increased as a result of the program of provision transport for pupils. Educational resources are available for all students: sets of textbooks and exercise books were given to more than 500 000 pupils of public and private schools from socially vulnerable families, pupils from families of soldiers who were killed in a war.

In order to create a safe, tolerant, discriminatory and free environment for each pupil, more attention is paid to the development of services aimed at physical safety of pupils and the development of security systems, psychological and medical services, and preventive activities.

With the aim of raising motivation among pupils, all-round development and organization of interesting school life, over the last two years special attention has been paid to popularization of healthy lifestyle, the scope of extracurricular activities has been expanded and became accessible to all pupils regardless of their place of residence. Within the "free lessons" pupils are involved in sports, art, literacy and intellectual activities. Summer and winter camps for basic stage pupils organized by the state for active learning and relaxation are fully funded by the state.

The quality of inclusive education and the number of pupils with special educational needs involved in all stages of general education increases annually. During the last 5 years, their number has increased from 167 pupils with special education needs and now over 7,000 pupils with different educational needs use educational service. More than 1400 additional specialists (special teachers, psychologists, inclusive education coordinators, etc.), whose qualification requires development, provide services to them. However, the quality of work with individual curriculum in the educational process of pupils with special educational needs still remains a problem.

Despite significant progress, the quality of teaching and the academic results of students remain a challenge. At the school-leaving exam, almost a quarter of the pupils find it difficult to confirm minimal competences and cannot receive a document certifying general education. According to international estimates, the average indicators of Georgian pupils are still behind the average international indicator. The PISA International Assessment Results of 2015 show that more than 50% of interviewed 15-year-old pupils do not meet the basic level of excellence in natural sciences, literacy and mathematics (OECD, 2016). In addition, there is a significant difference and lagging among various socio-economic layers within the country, as well as among urban and rural, Georgian and non-Georgian schools. In addition, the existing system of evaluation requires improvement and development to ensure sound evaluation of general education.

Access to general education is, in fact, guaranteed. The Universal Gross Indicator (UNESCO, 2014) of enrollment in primary education stage indicates that there is almost no difference in terms of access to general education for children of different socio-economic and ethnic minorities. However, the coefficient of involvement in the basic and secondary stages of education is somewhat lower and reaches 88% (UNESCO, 2014). The main challenge of the educational policy directed towards the integration of ethnic minorities is still the quality of state language teaching and the compliance of non-Georgian learning resources with the National Curriculum; also, passing to the intermediate stage, especially for girls (5,9%). In addition, children's work in a number of regions populated with ethnic minorities and engaged in agriculture hinders the full involvement of pupils and consequently achievement of better results. The low results of pupils in the mentioned regions is also due to the lack of qualified teachers in the mentioned regions. The quality, diversity and intensity of use of textbooks, information technology and other learning resources are unsatisfactory.

Proceeding from the complex and systematic approach to improving the quality of education, there is still a need to improve teachers' qualification and modernize the learning process. Despite the fact that many regulatory documents (teacher standards, teacher career development scheme) and activities oriented at the professional development are permanently implemented, the competence of the majority of teachers is low. Up to 70% of teachers are practicing teachers, which means basic status in the professional development scheme. The majority of teachers use information technologies only for simple communication and conduct lessons in traditional ways. At the same time, at the background of new challenges in the field of information technologies, the level of competences in media literacy and digital citizenship is not satisfactory.

In order to enhance the effectiveness of teachers' activities and professional development, it is important to elaborate professional development programs and methodical resources for teachers to bring them in conformity with modern standards. On the other hand, it is necessary to create effective mechanisms for attracting and retaining younger staff and collaborating with universities and other professional development organizations for this purpose.

In Georgia, teaching is not a popular profession. Most of the school leavers, who choose teacher training programs in higher education institutions, get the lowest scores on the unified national exams. Increasing the prestige of the teacher's profession will facilitate the inflow of knowledgeable and skilled personnel into the profession. Development of cooperation between universities and schools is considered as one of the mechanisms of attracting younger staff with high professional competences to schools.

The average age of teachers demonstrates the need for strengthening work in the direction of new staff training. Despite the fact that there is abundance of teachers all over the country, on the low background of

teacher=pupil coefficient 1/8 (average 1/20 in the EU), small-scale schools and non-Georgian schools suffer from the lack of teachers.

Development of accountability and support mechanisms is essential for successful functioning and decentralized management of the school system. By now the Educational Resource Center does not properly perform the function of school development and promotion. School quality assurance mechanisms are fragmentary and require development in many aspects of governance, are not based on data analysis, are not oriented on the use of appropriate differentiation mechanisms. It is necessary to increase the autonomy for schools with the necessary resources and capabilities.

The existing training resources need development and updating. The textbooks certified in 2012 still contain sensitive information on culture, religion, gender and ethnicity, the content and structure of textbooks is unsatisfactory. Striving for the adapting the country's educational system to the global world and for full-fledged integration into the European educational space, requires mobilization in the process of information technology and resources and raising the quality of teaching the European languages.

Improving educational infrastructure is one of the most important prerequisites for creating positive environment in schools. The teaching and learning activities of about 2085 schools are conducted in more than 3000 buildings. As infrastructural problems of general education have been out of focus for decades in terms of maintenance and renewal of buildings, most of them are outdated and require rehabilitation or dismantling. Despite the fact that since 2013, significant work has been done in this direction: more than 20 new schools have been built, more than 1500 school buildings have been rehabilitated, and challenges are still big and require timely response. Infrastructural problems of small-scale schools are specific. To address these problems, a new concept for buildings of such schools and interior design has been developed, and considerable works have been conducted with due account to all this.

5.2.2. Goals and objectives.

The general education system of Georgia aims at formation of a free person with national and universal values, who has knowledge and skills required for real life, is ready for the academic, social and labor activities, is committed to lifelong learning and is highly active and competitive citizen with high sense of responsibility.

The specific goal of the general education system is to ensure the access to high quality general education and educational results relevant to national and international standards for preparing students' for future life.

The following strategic objectives were identified for achieving the goal of general education system:

Strategic objective 1. Ensuring equal universal access to high quality general education.

As a result of the implementation of the strategy the quality of general education at all levels of education will improve, and equal access for all pupils, including ethnic minorities, pupils with special needs, socially

vulnerable and living along the demarcation line of the occupied territories of Georgia and pupils of mountainous villages will be ensured. With the aim of improving geographical access to the schools, the Ministry of Education and Science will begin offering alternate approaches to education for those teenagers who abandoned school, as well as adults, who have not completed their general education. Full general education will be accessible at the level of vocational education. Special attention will be paid to the development and expansion of inclusive education. With the emergence of alternative opportunities for general education and integration of modern technologies, access to quality education in all schools will increase in the country.

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

The priority of teaching and learning will be a student-oriented educational process and the use of active teaching (research and project-oriented) methods. Special attention will be paid to the promotion of national and universal values, teaching and perception of human rights, teaching STEM disciplines and science, global and digital citizenship, literacy (including media literacy), as well as formation of competences related to sustainable development, intercultural education, development of entrepreneurial and basic labour skills. According to the experience and results obtained in previous years, the current model of professional orientation and career planning of students will be reviewed and developed to help students make informed choices in both professional and academic education direction. Sport and art will be prioritized in formal and informal education. Free lessons and active vacation of pupils in the summer and winter camps will be supported. The focus will be on studying European languages, sciences and technologies that will facilitate students' willingness to move to a higher level on each level of general education. In order to develop the secondary level of general education, the profile professional education model will be introduced (enhanced training in different subject areas). Models of current and school leaving assessment will be improved.

Strategic objective 3. Improvement of educational environment

Measures aimed at ensuring inclusive, safe, equal, non-violent, having high culture, healthy, motivating environment for all students and teachers. The schools will support the development of collaborative relationships and the best practice of sharing the experiences of teachers with the aim of ensuring better academic achievements of the students. The development of school infrastructure in accordance with modern standards will continue. In addition, small school buildings will acquire additional functions and become multi-functional, cultural-sport and educational centers.

The schools will be oriented at holistic upbringing and the development of a full-fledged value system for each student. For this purpose all possible resources will be used in formal and informal formats. At the base of schools, sports and art directions will be strengthened for children, adolescents and adults. Libraries, laboratories will be opened. Museums, protected areas, historical and cultural monuments and other relevant spaces will be used as a resource.

Relevant conditions will be created for healthy lifestyle, including sporting activities, improved medical care, sanitation and hygiene standards, and provision of safe and healthy food.

Strategic objective 4. Increase the efficiency of motivation of school administration and teachers

In order to improve management of schools and increase the efficiency of the learning process, the programs of increasing motivation of teachers and directors and professional development oriented programs will continue. The mechanisms for attracting teachers to the system, starting work and maintaining in the profession will be improved. Mechanisms for evaluation, professional development and promotion of school directors and administrative-technical staff will be developed. To facilitate high motivation in teachers, co-operation with academic and scientific research universities, professional associations and other professional organizations will be promoted.

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

The reform of the general education management system will continue and the functions of all its components will be reviewed for the purpose of increasing efficiency. The supporting role of educational resource centers for schools will be enhanced and their functions will be increased in the direction of evaluation of school activities. School management will be implemented through differential approaches, in accordance with their resources, needs and capabilities. New internal and external mechanisms for school quality assurance will be introduced and the support and accountability system will be upgraded at all levels of general education. To ensure transparent management of the system, a participatory approach will be enacted. School funding mechanisms will be reviewed.

5.2.3 Risks

#	Description	Category	Probability	Impact	Response
1.	Lack of financial resources for the improvement of school infrastructure, laboratories, libraries and development of new learning resources	Financial	Average	High	Involvement of international organizations, universities, professional associations and private sector for the purpose of rehabilitation, equipping and reconstruction of schools Increase state funding
2.	Lack of qualified teachers	Political Organizational Financial	High	High	Create motivation and promotion packages for students and potential novice teachers; Professional development of teachers Finding alternatives of unskilled and pensioner teachers
3.	Lack of professional development	Organizational Financial Geographic Human	Low	Average	Involve other providers to train teachers to increase access and quality Increase government expenditure on professional development

		resources			Create platforms for professional development opportunities, best practice sharing Provision of incentives for qualified teachers Harmonize professional development programs with modern international trends
4.					
5.	Unanimous attitude to all approaches of school management can not address the local needs/context of schools	Organizational	Average	Average	Differential approach to school management
6.	The low level of confidence towards schools from the society and parents	Social Cultural	Average	Average	Increase the quality of education and pupils' progress Increase accountability Ensure participation of all stakeholders in the decision-making process

5.3 Vocational education

5.3.1 Overview of current situation and challenges

Vocational education is regulated by the law adopted by the Parliament in 2007 on "Vocational education". In addition, new initiatives of the Government of Georgia in the field of vocational education and fulfillment of obligations under the Association Agreement between Georgia and the European Union put the issue of improvement of the legislative basis on the agenda. The draft law on vocational education has been prepared which on the one hand is based on the local context, and on the other hand, responds to challenges that exist in the direction of compatibility with the Copenhagen process and the European educational space. In addition, the draft law provides a solid foundation for private sector involvement in vocational education.

Vocational education in the modern world is no longer considered as a sphere developing narrow professional knowledge and skills, but as a life-long learning, self-realization, social welfare, employment and self-employment support system. Declaration adopted in Europe in 2002 "Strengthening European Cooperation in Vocational Education and Training" (Copenhagen Declaration) is based on this very approach. By adopting this declaration, the so-called "Copenhagen process" by which countries in the European space have created vocational education systems based on interconnected common values and approaches.

In 2013, with the technical support of the European Union, the Vocational Education Reform Strategy for 2013-2020 was prepared. The strategy reflects the social and economic priorities and objectives of the government of Georgia, whose implementation according to a particular action plan shall facilitate sustainable development of human resources, development of the capabilities and potential, opportunities for the employment, self-employment, self-realization and by satisfaction of current or future requirements of the labor market, the social-economic development of the country and poverty reduction. In 2013 the agreement was signed with the EU Delegation and technical and budgetary projects to support systematic reform of vocational education were launched. In addition, Georgia has been actively involved in the "Turin Process" aimed at analyzing of vocational education policy and practices based on evidence and in collaboration with stakeholders. By participating in this process Georgia has an opportunity to share with the local and international community the progress of the reforms ongoing in the professional education system, and at the same time, become familiar with the experience of other countries and through targeted reforms, annually improve the results in terms of the professional education quality, access and partnership relations.

In recent years significant changes have been made to improve vocational education management, including to increase the efficiency of social partnership and private sector participation in vocational education. The compositions of the National Professional Council and the Sector Councils were renewed, the concept of public-private partnership was developed, employers were directly involved in the development of professional standards, sectoral councils composed of employers provide validation of professional standards and programs, work-based teaching so-called dual programs piloting started, within which private company and educational institution jointly implement educational programs. However, the lack of private sector participation in the system remains a challenge for the management and quality of the vocational education system.

In recent years a number of activities have been implemented in order to improve the quality of vocational education and enhance compliance with the labor market requirements. The reform of educational programs started actively. The activities touched upon both external and internal mechanisms of quality assurance,

improvement of human and material-technical resources. Within the framework of the reforms, flexible, competent-based, modular educational programs developed through the active involvement of employers is implemented gradually. The practical training and entrepreneurial education component has been strengthened. Entrepreneurship became a mandatory module of educational programs. However, the components of practical training of entrepreneurship and the mechanisms for supporting students/graduates entrepreneurial ideas remain a challenge. In 2016 piloting the concept of "work-based teaching" started. From the same year dual educational programs are introduced, which in the medium term perspective should significantly enhance graduate employment and self-employment opportunities. Along with the introduction of dual programs, it is important to ensure their quality.

Despite the steps taken, the quality of professional education remains a challenge. Improvement of the quality of vocational education requires a complex and systemic approach that involves the introduction of new framework and mechanisms of quality assurance in the process of teaching-evaluation and assigning qualification.

Since the modern labor market demands employees with complex, personal and professional skills, professional standards are developed in Georgia using standard methodology based on analysis of sector, profession and job, where the leading role is assigned to employers and relevant field specialists. In addition, flexible, competent, modular educational programs are introduced. One of the main innovations in this perspective is that emphasis in modal programs are made not only on the development of professional skills (study of a craft, profession) but also basic (literacy, mathematical skills, etc.) and key skills (entrepreneurship, communication in foreign language, digital competences, etc.). The educational program compiled from modules creates good grounds for adult learning, since it will enable adults to upgrade their skills by studying an individual module or learn a similar profession, taking into consideration the education they already have. Thus, the system will be able to quickly respond to changes in the labor market, and in the short-term train personnel necessary for the private sector.

Since 2014, the vocational education graduates study (so-called Tracer Study) is conducted regularly; the indicator of employment and self-employment of graduates increases, though in terms of compliance, still there are lots of challenges: employers are less likely to trust vocational qualifications. The vocational education system faces a challenge of quick responding to the labour market requirements.

Together with the introduction of modular educational programs, the improvement of teaching and assessment quality and development of teachers' capacities started. Despite the fact that the professional teacher's hourly salary increased from 3,75 to 8 lari, the profession of vocational education is still less prestigious. The indicator of inflow of new staff in the profession is low. In response to this challenge, a new model of professional development of professional education teachers has been developed, which will facilitate the introduction of new staff in system and permanent development of existing staff.

Access to the professional education has improved, which is demonstrated by the growing number of students enrolled in vocational education: year 2013-8396 students, year 2014-9910 students, year 2015 - 10 273 students, year 2016 - 11 651 students. From 2013, the study in state vocational education institutions is fully funded by the state. New colleges/branches were founded, college buildings/dormitories and infrastructure were renovated taking into account the principles of inclusive education and educational resources for people with disabilities and special needs were adapted. National minorities have the opportunity to pass professional testing in their native language. Alternate procedures for admission to professional programs for disabled people and people with special needs were introduced. Short-term professional courses for job seekers,

convicts and former prisoners have started. Within the framework of the public-private partnership, the following four vocational educational institutions/centers were founded in 2015: Tbilisi Railway College – in partnership with JSC "Georgian Railway"; Gudauri Adventure Tourism School; Georgian Technical Training Center with the participation of BP in Georgian Technical University; Construction College "Construct 2" in Zestafoni –in cooperation with the construction company M2.

In spite of the implemented activities, there are some challenges in terms of access to vocational education. The vocational education system should be adapted to the needs of all age and social groups. The system is less flexible to meet the adults' educational needs, training and retraining services are limited; involvement in professional education of persons without formal education remains a challenge for the system; the opportunities of remote and e-learning are less used and so on.

Lack of popularity of vocational education among the population remains a big challenge in the field. Since vocational education is considered a secondary alternative to higher education, the attitudes of the population and stakeholders towards professional education will change positively as a result of the activities carried out to promote its popularity (organizing national competitions and participation in international competitions, professional education festivals, exhibitions, web-portal www.vet.ge, advertising campaign), but this is a slow process. In spite of many activities, activities aimed at raising awareness about vocational education are often non-systematic. Also, the failure of professional orientation and career planning mechanisms in the country remain a challenge. Mechanisms for the development and coordination of sectoral education policy should be created.

The popularity of professional education in society is hindered by the fact that there are no structural and contextual links between vocational education and other levels of education that creates so-called "Educational dead end". It is especially problematic for a person with basic education to move from professional education to higher education level. Also, there is no system of accumulation and transfer of credits, due to which fact the knowledge received in the vocational education is not recognized at the stage of higher education. In addition, the issue of recognition of knowledge and skills received in informal environment remains a problem.

5.3.2 Goals and objectives

Specific purpose of professional education is to increase the number of professional students in support of socio-economic development of the country and ensure their competitiveness by developing professional and general skills.

To achieve the goal of vocational education, the following strategic objectives were defined:

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

It is important to involve social partners, employers, trade unions as equal partners in the processes of establishing vocational education policy, formation of professional qualification and assigning qualifications.

Employers must have a feeling of substantial role and responsibility in the successful functioning of the system, which is of utmost importance for the employers to receive employees trained in compliance with the labour market, competent staff (which will facilitate the development of enterprises), and the graduates to get long-term employment at well-paid positions. For this purpose, it is essential to introduce mechanisms for active participation in the national professional council, field councils, supervisory councils, vocational education development processes and strengthening capacities of social partners.

The referral of the national qualifications framework with the European qualifications framework and approximation of the system of qualifications existing in Georgia with the European system, is an important task to ensure internationalization; in the formation of qualifications particularly important is the sharing of international experience and taking into account the tendencies and standards of the international labor market in order not to endanger the mobility of workforce and to develop human capital in accordance with international tendencies.

Proceeding from the requirements of the modern labor market, the student needs to develop complex, personal and professional skills, which can be achieved by developing the qualifications relevant to the current and future requirements of the labor market. Through flexible educational programs, development of professional and general skills, promoting entrepreneurial education, using technological achievements, innovative teaching methods and sharing the best international experience. Vocational education should be a facilitator of employment, an attractive educational alternative. One of the best tools for achieving this goal is work-based/dual education, which will be promoted and encouraged.

To ensure flexibility of educational programs, results-oriented, modular educational programs will be developed with the participation of the employers. At the same time, it is important to perform the continuous monitoring of educational programs and rapidly reflect the changes in the whole educational network, especially where modern technologies are developing and changing rapidly. This process must be accompanied by the existence of effective mechanisms of quality assurance, which, in turn, ensure uniformity of qualifications, transparency and compatibility with local and international standards.

Professional development of teachers is a crucial aspect of providing quality professional education. Simultaneously with industry development and technological achievements, there is a need to acquire new skills, and therefore the ever-changing environment requires continuous professional development of teachers and the use of modern approaches in the teaching process. Teacher Professional Development System should meet the need for professional development of existing teachers and should be attractive to young practitioners.

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

To improve the accessibility and attractiveness of vocational education it is important to eradicate so-called "education dead locks" that impede student transition to higher education levels. The elimination of such barriers can integrate professional education into a single system and realize the concept of lifelong learning. Vocational education should be considered not as a separate education system, but as a part of the unified education system. Integrating general education with vocational education, students who receive vocational education based on

basic education will be able to continue their studies at the academic level. In addition, it will be possible to recognize the credits accumulated on the level of vocational education at higher education level.

It is important to establish a flexible approach that will satisfy the needs of schoolchildren, adolescents, as well as adults. It is important to consider various vulnerable groups such as people with disabilities, national minorities, IDPs, socially vulnerable population and so on. Short-term regular courses should become available at educational institutions (schools, colleges, universities) and companies.

Important attention will also be paid to creating the possibility of recognition of competencies achieved within the formal education and formation of the system of recognition of informal education, which should facilitate the improvement of competences and the lifelong learning. This is especially true of low-paid staff, unemployed population and individuals who have had to abandon their studies without getting the qualifications.

Development of effective mechanisms for financing is important for future development of Georgian vocational education system. Particularly important is the motivation of the private sector, which should facilitate approximation of the vocational education with the labor market. It is necessary to develop an effective funding model, which will facilitate the expansion of financing sources, generation of resources, private sector involvement, ensure effective distribution of financing between institutes, disciplines and programs and facilitate efficient management of vocational education.

The Ministry will facilitate the establishment of an optimal network of educational institutions that will integrate institutions equipped with quality resources, educational programs corresponding to the requirements of the labour market. The issues of management of educational institutions will be reviewed and the management of vocational education institutions will be improved.

Strategic objective 3: Popularization of professional education and increase of attractiveness;

It is important to improve the status and image of vocational education, its rebranding, which compared to general and higher education is deemed to be secondary. Vocational education should become a real, prestigious and valuable way of career development.

The vocational education system should actively support students at all stages: prior to the commencement of studies, during studies and after completion of studies. Since the career development and professional orientation system is quite weak, strengthening career development and professional services is a crucial task of the strategy. This process should be planned according to the student's characteristics, motivation and abilities; students should get information about the employment, further education and career development perspectives.

To improve the popularity and attractiveness of vocational education, work is performed in several directions, such as: dissemination of information about successful employment of vocational students, arrangement of raising awareness campaigns on professional education perspectives and advantages, formation of the effective professional orientation and consultation system, improving system flexibility, etc.

Effective dissemination of information on vocational education is a prerequisite for informing, raising awareness and understanding. The goal of awareness raising measures should be to inform target groups as well as to change the attitude of the population towards vocational education.

The creation of a new brand of vocational education and implementation of the communication strategy will ensure raising the public awareness of the benefits that professional education can bring to any member of the community regardless of its status or capacity. By creating the opportunity for lifelong learning and provision of proper professional orientation and career planning services, the development of the personal or professional interests of the individual will be ensured to play a decent role in the business community.

5.3.3 Risks

#	Description	Category	Possibility	Impact	Response
1	Delay in the adoption/implementation of new law and subordinate acts on vocational education	• Political	Low	High	Active consultations with decision-makers, permanent informing of stakeholders, lobbying with relevant institutions
2	Lack of financial resources caused by delays in local economic development or reduction in international aid	• financial	Average	High	Mobilization of resources through effective expenditure of state financing for vocational education, involving private sector in vocational education, seeking donors
3	Change of priorities at the national or sectoral level	• political	Low	High	Mobilize private sector, teachers and public opinion to support the strategy. Dissemination of information on budget, economics and consequences
4	Resistance to reforms from decision-makers, especially at the administration level of the institutions	• political; • human resources; • organizational	Low	Average	Increase the role of direct beneficiaries of vocational education in the process of administration of educational institutions and implementation of the strategy
5	The capacities of the institutions involved in the implementation and coordination of the reform	• human resources; • organizational	High	High	Capacity enhancement measures under the conditions of the appropriate resources

6	Less interest of the private sector in the system	<ul style="list-style-type: none"> • human resources; • organizational; • financial 	Average	High	Private sector awareness raising measures; concrete offers of cooperation
7	Less information and stereotypes of the public	<ul style="list-style-type: none"> • social • cultural 	Average	Average	Professional education branding, information campaign
8	Resistance to innovation and new ideas	<ul style="list-style-type: none"> • human resources; • organizational 	Average	Average	Sharing international experience, eg about EU vocational education, international competitions and so on.

5.4 Higher education

5.4.1 Overview of current situation and challenges

Higher education sphere is regulated by the Law of Georgia "On Higher Education" and the Law of Georgia "On quality of education" and other legislative acts and is based on the obligations undertaken within the Action Plan of the government of Georgia, Association Agenda with the European Union, Bologna Process and framework document of European Higher Education.

The higher education system of Georgia has undergone significant transformation over the past decade. For the purpose of integration into the European Higher Education Area (EHEA) and European Research Area (ECTS), development of the quality of education and internationalization of Georgian higher education system, a number of steps have been taken: the three-stage system of higher education, the European Credit Transfer and Accumulation System (ECTS), internal and external quality assurance systems have been enacted, the National Qualification Framework was created, the mobility of students and academic personnel became possible.

In the last few years, the National Qualifications Framework has been revised, the priority areas of the undergraduate program funding mechanism, higher education institutions infrastructure development program have been launched, in order to attract young people to the higher education system financing of doctoral programs has been launched, standards and criteria of authorization of the higher educational institutions and procedures for the accreditation of educational programs have been launched. However, these changes are not enough to respond to modern challenges. It is necessary to revise the legislative basis in the process of implementation of reforms.

Currently there are 75 authorized higher education institutions in Georgia, where up to 140,000 students study and about 13,000 academic and research personnel are employed. The average age of the active academic body demonstrates the need for strengthening the work in the direction of new staff training and attraction. For the aim of systematic solution of the problem of aging of academic personnel, it is of paramount importance to attract new generation in the teaching and research process.

Higher education system of Georgia is open not only for Georgian but also for the international community. About 170 foreign programs are implemented in authorized educational institutions of Georgia, where 10 000 foreign students study.

In cooperation with the leading universities of Georgia, higher education institutions of Georgia are implementing Bachelor's, Master's and Doctorate Programs in Economics, Business, Medicine, Humanitarian, Social, Political, Exact and Natural Sciences, which facilitates the development of quality and increases the confidence in and awareness of the higher education system of the country.

The program facilitating internationalization "Study in Georgia" was designed to promote the elaboration of English language programs, development of the student-oriented infrastructure and attracting foreign students to Georgia.

Within the second compact of the Millennium Challenge Corporation (\$ 140 million), the University of San Diego is implementing higher education programs of STEM (Science, Technology, Engineering and Mathematics) on the base of three Georgian State Universities. For the first time in Georgia the diplomas of both Georgian and American universities will be issued.

Development of Kutaisi Technological University campus and curriculum in cooperation with Munich Technological University is underway, which is going to be a ground for success not only at the national, but at the regional level as well. Cooperation with the Embassy of France has started, as a result of which with the participation of French partners in leading universities in Georgia, dual-quality educational programs will be developed. Within the framework of cooperation of the National Center for Educational Quality Enhancement and the World Federation of Medical Education (WFME), it is planned to obtain the right from the World Federation for the National Center for Educational Quality Enhancement to accredit the medical education programs. Consequently, obtaining recognition by the National Center for Educational Quality Enhancement from the World Federation of Medical Education is directly linked to the recognition of our graduates medical education in the United States and other countries starting from the year 2023.

Georgia is actively involved with ERASMUS + and among 131 partner countries holds the 8th place in terms of successful projects. In 2016 in ERASMUS + mobility programs Georgia gained 1465 scholarship. In 2017, within the ERASMUS + program, active cooperation with the participation of educational institutions, academic and administrative staff and students is ongoing. 5 projects were funded in the direction of institutional development. Within the program of credit mobility 1333 scholarships (818 + 515) have been obtained. 21 citizens of Georgia obtained scholarships for the master's program ERASMUS MUNDUS.

Although these measures are aimed at getting international experience for students, academic and administrative personnel, they are not sufficient to make significant impacts at the systemic level. Consequently, additional resources are needed for internationalization of higher education, attraction of foreign students and establishment of the country as a regional educational center.

Since 2013, state expenditure on higher education has doubled and in 2017 amounted to GEL137 million, which includes students' state education and state education Master's grants, students' social grants, state

scholarships, funding undergraduate educational priority areas and infrastructure development of higher education institutions.

Since 2013, social programs for the funding of the education of disadvantaged students has increased three times and in 2017 it amounted to GEL 4.5 million; the state scholarship program has increased 2.5 times, which aims to support students with high academic achievements and amounts to GEL 4.1 million; since 2013, the state has fully funded undergraduate educational programs in STEM subjects, humanities, social, agricultural, engineering sciences; mechanisms for simplified enrollment in the higher educational programs and funding have been developed for ethnic minorities; since 2013, approximately GEL 60 million has been allocated for improving the infrastructure of higher education institutions and research institutes.

Despite the fact that the existing funding system has played a positive role in transparent and efficient spending of state resources, it still cannot provide a precondition for raising the quality of teaching and research. The real expenditure of higher education is more than the state's expenditure. All vouchers are of equal value, despite the different real expenditures of educational programs. At the same time, the upper limit of the tuition fee has been defined for the state universities. The voucher is the main source of income for universities, consequently, the voucher system causes a number of negative consequences: forms unhealthy management systems, fails to ensure accessibility and does not create the possibility of improving teaching and research quality, stability necessary for institutional development. Funding of priority programs fails to change the situation significantly either. Therefore, it is necessary to develop a new model of higher education financing based on the best international experience.

In order to ensure the competitiveness of the graduates in the local and international labor market, it is necessary to develop updated and high quality educational programs. As a result of recent changes in quality assurance, the new standards and procedures of authorization have been developed in compliance with the European Standards and Guidelines (ESG 2015) of quality assurance, which requires involvement of international experts, students and employers in the assessment of universities and aims at improving the quality. The accreditation standards and field specifications which will be based on the international experience, are in the process of being upgraded. Along with local and international experts, the students and employers are already involved in assessing the foreign education programs of Georgian universities. At this stage, the process of developing the classification of learning fields and the renewal of the national qualification framework is underway, after which it will be self-certified. With the purpose of approving the new national qualification framework and approximation with the relevant policy and practices of the EU in education, the work on the legislative amendments is carried out, which will take into account recommendations developed within the framework of the Bologna Process when implementing mechanisms of education quality assurance, including the requirements of the Quality Assurance Standards and Guidelines (ESG) of the European Higher Education Area.

One of the main goals of the Bologna process is to provide opportunities for lifelong learning. Georgia is facing the following challenges: absence of mechanisms and legislative grounds for pre-education, including recognition of vocational education in higher education, and the existence of proper credit transfer mechanisms and legislative basis; absence of student-oriented and flexible educational forms (including e-learning and distance learning); incompatibility with the labor market requirements; inadequate use of the National Quality Framework to promote lifelong learning.

Based on the positive results of the transformation of the system and the obtained experience, the goals of 2017-2021 are determined with due account of the issues which are of critical importance for the development and sustainability of higher education system.

5.4.2 Goals and objectives

The specific goal of higher education is internationalization of higher education and ensuring access to quality higher education for the individual and professional development of the individual and the improvement of employment.

In response to the challenges in higher education, three strategic tasks are defined focused on modernization and quality of higher education; development the opportunity of lifelong learning; access to quality education.

Strategic objective 1. Further modernization of higher education system, promotion of internationalization and improvement of quality;

Modernization of higher education concerns the relevance of teaching and learning in the higher education system at the local and regional level and determining the role of research in higher education processes. Higher education system should address modern challenges and be in compliance with the requirements of the labor market. The internationalization of students and academic personnel is also one of the effective ways for the productivity and development of national systems.

Modernization of higher education is associated with the quality of higher education. To ensure the quality of higher education, the adequate financing system is of great importance, the results-oriented quality assurance system and the institutionalization of professional development mechanisms of academic and scientific personnel.

It is also important that higher education develops those competences that will contribute to personal development and social needs. Consequently, higher education curriculum should reflect democratic values, citizen self-consciousness, personal freedom and entrepreneurship development issues.

Simultaneously to social, personal and professional development, higher education should create an opportunity for decent employment, but the reality is dramatically different and the educational programs are lack the requirements of the labor market. It is important to conduct the survey of graduates employment, educational programs to be oriented at the labor market, student and graduate employment centers to be strengthened in universities.

Also, it is important to attract new generations in the teaching process. Additionally, the access to diverse educational resources (library resources, laboratories, information technologies, etc.) should increase.

Education based on scientific research is one of the cornerstones of high quality teaching and learning. Creation and transfer of new knowledge, innovations and technologies should become an integral part of the higher education agenda. To facilitate the integration of scientific research with teaching and learning, it is necessary to improve the relevant internal procedures, as well as relevant internal procedures for personnel employment.

Special measures should be taken to modernize research infrastructure (such as rehabilitation and establishment of laboratories and libraries, purchase of computers and other equipment, etc.). Scientific-research institutes in higher education institutions should be fully integrated into teaching and learning processes at all three levels of education, especially in doctoral studies. It is important to increase and diversify financing of PhD students and structured doctoral programs, internationalize quality assurance procedures, promote joint doctoral programs, etc. It is necessary to create mechanisms for the formation and coordination of sectoral education policy.

Special attention should be paid to the joint degrees and programs as a sustainable mechanism for continuous development and internationalization of higher education. In addition, the activities and programs that facilitate mobility of students and academic personnel will be implemented. This will ensure access to quality education in Georgia for Georgian students and attract foreign students, which will help the country to establish itself as the regional education center of the country.

Taking into account the best international experience and local context, a new model of higher education financing will be developed to ensure accessibility, institutional sustainability and stimulus for further institutional development, improvement of teaching and research quality. Diversification of higher education financing will be carried out and legal regulations will be in compliance with higher education financing revised policies in order to create a favorable environment for the implementation.

Reform of quality assurance mechanisms is crucial for improving quality in higher education institutions that facilitates the formation of a development-oriented and results-based assessment system. According to the European agenda of high education modernization and the requirements of Bologna process, the internal and external mechanisms for quality assurance should be consistent with European standards and guidelines for quality assurance (ESG 2015). In this regard, it is important that the standards and procedures of renewed institutional assessment (authorization) to be implemented consistently and systematically. Authorization of higher education institutions shall ensure continuous development of teaching, learning and research activities, professional growth of academic staff and facilitate the development of student-oriented environment. In addition, it should support the strengthening of quality culture in the institution and the informed decision making process.

Modern and quality educational programs are essential for ensuring competitiveness of the graduates on the local and international labor market. That is why it is important to update the accreditation standards and update/develop sectoral characteristics. Study of Graduates Employment Index is also important.

Strategic objective 2. Create effective opportunities of lifetime learning

To increase the public awareness about the existence and use of this opportunity, it is necessary to elaborate special large-scale measures to promote active lifelong learning opportunities. The national qualification framework will be updated and self-certified, also the procedures for recognition of vocational education credits in higher education institutions will be developed and enacted. To accomplish this task, it is necessary to create an effective system of lifelong learning at the higher education stage, which involves the existence of diverse means of education and the creation of flexible mechanisms for recognition of education.

Strategic objective 3. Increase access to quality education

Increasing access to quality high education is a necessary condition for social progress and economic development. From this point of view, the strategy discusses two main aspects of access to high education: inclusion and financial availability.

To ensure access to inclusive quality education, the development of adapted educational environment for vulnerable groups, including students with special educational needs, will be facilitated gradually, with the involvement of international donors and high education institutions, which includes support of the development of the adapted learning materials and infrastructure, as well as qualified personnel and appropriate support services.

Another aspect of increase of access to higher education is financial availability. This can be achieved by diversifying sources of financing according to different needs of students. Also, a merit-based and need-based funding combination must be created. In addition, it is necessary to develop an affordable loan system.

5.4.3 Risks

#	Description	Category	Possibility	Impact	Response
1	High degree of involvement of administrative and academic personnel in terms of integration of scientific research and learning;	<ul style="list-style-type: none"> • Low; • organizational 	Average	High	Information meeting
2	Lack of qualified young staff interested in academic care;	<ul style="list-style-type: none"> • human resources 	Average	Average	Popularization of science; Support for student involvement in research.
3	The lack of qualified academic staff for implementation of Doctoral Programs	<ul style="list-style-type: none"> • human resources 	Average	High	Professional development and retraining programs for staff
4	Ineffective use of mobility results by persons participating in mobility and higher education institutions	<ul style="list-style-type: none"> • organizational • financial 	Average	Average	Increase of quality of culture, trainings, workshops
5	Lack of internal resources to create an effective funding model	<ul style="list-style-type: none"> • human resources 	Average	Average	Involvement of other stakeholders; consultations with foreign experts.
6	The perception of inclusive education is an extra burden rather than one of	<ul style="list-style-type: none"> • organizational • human resources 	Low	High	Increase of quality of culture, trainings, workshops

the functions of a higher education institution	• financial			
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5.5 Science, technology and innovation (STI)

5.5.1 Overview of current situation and challenges

Management of Georgian Science, Technology and Innovation (STI) system is regulated by the following laws: Law of Georgia on Science, Technology and their Development, Law of Georgia on Higher Education, Law of Georgia on Innovations, Law of Georgia on Grants and Law of Georgia on Quality of Education.

After Georgia gained independence, the development of science, technology and innovation system has faced serious risks, due to the dissolution of the existing system and slow development of the new system of science management. Since 1993, government contracts have been signed between the US State Department, the European Union and the Government of Georgia, with hundreds of significant scientific programs and research projects being funded from specialized foundations established within them. The activities of the following institutions are remarkable among them most of all: International Science and Technology Center (ISTC), Science and Technology Center of Ukraine (STCU), Civil Research and Development Fund (CRDF), North Atlantic Alliance (NATO) Program science for peace, TACIS, INTAS, EU Research and Innovation Framework Programs FP5, FP6, FP7, FP8, etc. These programs have been carried out within international competitions and through research projects funded by them, the scientific community of Georgia has expanded international cooperation with EU member states, the US, Canada, Japan, and the maintenance of scientific potential existing in the direction of STEM, medicine and agricultural sciences and initiating integration in the international medical area has become possible.

Several important reforms have been implemented in the Georgian Science, Technology and Innovation (STI) sector in recent years. Up to 70 scientific research institutes are integrated into 5 universities as a result of a reform implemented in 2010-2011 (Tbilisi State University, Georgian Technical University, Ilia State University, Agrarian University, Medical University). 3 Centers - LEPL K. Kekelidze National Center of Manuscripts, LEPL Iv. Beridze experimental biomedicine center and LEPL Giorgi Eliava bacteriophage, microbiology and virology institute were reorganized and established in the form of independent research centers.

It should be noted that the integration of scientific-research institutions and universities was largely formalized and the scientific personnel of institutions and centers were somewhat isolated from educational processes in higher education institutions. However, in order to enhance the integration of research and learning processes, the amendments were introduced into the law on higher education in 2015, which aimed at the use of scientific potential of scientific-research institutions at all levels of higher education and creating the possibility of implementing joint educational programs.

In order to promote research, in 2010 LEPL Shota Rustaveli Georgian National Science Foundation was established, which will allocate grants to conduct small-scale research in all fields of science on the basis of competition. Compared to the budget from 2012 to 2016, the funding issued for scientific projects by the National Science Foundation has increased by approximately 2,4 times. In 2014, with the help of International Organization (USAID), the audit of science was conducted. The Ministry of Education and Science evaluated research institutes and raised research funding for long-term scientific projects. From January 2015, researchers' salaries have increased by average 2.5 times in scientific-research institutions and centers. In 2014 the Institute of Innovations and Technologies was established, which promotes technology transfer and commercialization of research, infrastructure development (technological parks, business incubators, FabLabs, Broadband, etc.).

Georgia's involvement in EU research programs is important. Since 2016 Georgia has been associated with the EU research and innovation 8th Framework Program "HORIZON 2020" with a \$ 77 billion fund that provides additional potential and opportunities for development of STI system.

In 2016, state funding for science, technology and innovation system amounted to GEL 72 million, which is 0.3% of gross domestic product. The source of additional funding is international partner organization (Forschungszentrum Jülich (JUELICH), CRDF Global, STCU, TUBITAK, CNRS, CNR) grants and the target programs of the EU ("Horizon 2020"), private sector ("Cartu" Foundation), etc. Science, Technology and Innovation (STI) system of Georgia has undergone a difficult transition period. In order to further develop this system, which is a key component for the rapid development of the high-tech industry and sustainable development in the country, it is necessary to upgrade and strengthen institutional, structural, financial and legal mechanisms and tools/programs necessary for the development of science, also to modernize the system according to the EU norms and approaches, full integration into the international scientific space.

One of the major challenges of Science, Technology and Innovation (STI) sector in Georgia is to improve the quality of scientific research, enhance research potential and develop innovative culture. It is necessary to review the existing system of management and quality monitoring of science and introduce internationally recognized practice and norms of referral. The current system of quality control gives a little bit of information on measuring the results of scientific research. Also, international resources are less involved in the research assessment process and it is evident that science, technology and innovation system of Georgia is not well integrated into the international scientific-technological network, therefore the technology and innovation commercialization rate is not satisfactory. Georgia holds the 68th place in the Global Innovation Index out of 127 assessed countries (points: 34.39/100).

As noted above, the state funding in the field of research and development is quite low. Consequently, one of the key challenges of science, technology and innovation today is the lack of financing of the sphere, including by the private sector. The funding index of science, technology and innovation is significantly lower than the EU's analog indicator, therefore it is desirable to stimulate the involvement in the private sector surveys through various measures and regulations. Also important is the commercialization of research and innovation. Some steps have already been taken in this direction. In 2016 the agreement was signed with the World Bank for allocation of USD 40 million credit for the program of Innovations and Technologies Agency of Georgia. Regarding the US dollar loan allocation. By the invitation of the same agency in 2015, the experts of Massachusetts Institute of Technology (MIT) conducted research in research institutes and

centers of Georgia and revealed several potentially interesting projects in terms of commercialization of the results of the applied research. But it is necessary to activate efforts in this direction.

Integrating the scientific component into the educational programs is also a significant challenge to education and science. Academic and scientific staff of the university, as well as scientific staff of independent scientific and research units of universities is insufficiently involved in research and teaching process and the components of scientific research are less integrated into educational programs, which is crucial for implementation of long-term scientific and educational strategies of research universities and efficient operation.

Also, the schemes existing for facilitating the development of human resources in the scientific direction are less efficient. In the scientific fields strategically important for the country, on the base of research universities and independent scientific-research centers, including in the direction of preserving and popularizing cultural and national identity of Georgia, attracting and integrating of young generations of researchers is not enough. According to the data of Shota Rustaveli Georgian National Science Foundation, in 2016, 376 out of 3841 Georgian Doctorate students participated in the relevant competitions of the foundation and in 2017 - 238. In 2015, 58 Georgian master's students out of 12098, and in 2016 - 134 students participated in the Grant Competition for Master's Graduate Studies.

Also, the cooperation of research universities and scientific-research centers with the private and public and non-governmental sectors is not sufficiently developed. Consequently, the existing scientific resources in strategic areas for the country are not fully used, priority research topics are not well determined and technological transfers and commercialization of research necessary for sustainable development of the country are not ensured, which in turn is impossible without strengthening fundamental research.

For the integration of Georgian scientists in the EU and international scientific field, active involvement of research Universities, scientific-research centers and research groups in the international framework programs and scientific projects (Horizon 2020, Cooperation in Science and Technology (COST) actions, Joint Research Center programs) and the implementation of bilateral, multilateral scientific-research and technological projects with the participation of Georgian scientists is very important. Although Georgia's international cooperation with the USA, EU member states and Eastern Partnership countries is deepening and the joint scientific activity indicators are improved annually, Georgian scientists should be more actively involved in bilateral and multilateral programs.

For the successful integration of Georgian researchers into international scientific-technological and innovative area, the necessary condition is sharing and introduction of the main priorities of the area, the existing norms and approaches of the research culture and ethics.

Georgian scientists have less access to international scientific-research infrastructure and bases, despite the fact that Shota Rustaveli Georgian National Scientific Foundation cooperates with ELSEVIER (access to electronic journals and data of the consortium consisting of 21 independent public research institutes and research universities) and pays the annual membership fee for European Organization for Nuclear Research (CERN) and Dubna Nuclear Research United Institute (DUBNA).

Georgia should use globally accessible scientific-research infrastructure more efficiently. The World Bank recommendation should also be considered regarding the development of the scientific infrastructure of the common use, which will facilitate the optimal use of state resources in this regard. Also, more active support for international mobility of Georgian scientists is needed.

Cooperation between business sector representatives (industry, small and medium entrepreneurs) and research universities, their scientific-research institutes and independent research centers is still limited. It is necessary to develop professional management system of scientific research existing in research universities and centers, which includes the improvement of relevant institutional structures, policies, regulations and training systems, institutional promotion of so-called translational/applied research development, encouragement of international cooperation and attracting funds in research and diversification of financing sources. It is important to develop the culture of cooperation with the industry in the universities. Also the development of the system of patents, licensing and so-called spin-offs, spin-outs and carve-outs systems, which implies business initiatives based on university studies.

For the competitive, high-quality research and efficient initiating of technology transfer, it is vital to update scientific equipment, software existing in the research universities and centers, implement storage, operation and application of internationally recognized norms and approaches and integrate the relevant educational components.

Obviously, the attraction of competitive, corresponding to the international norms scientific-research human resources to the Science, Technology and Innovation (STI) sector of Georgia, will not be possible without the popularization of science in the public and secondary schools and without the relevant communication. The current education system is less likely to encourage the development of the innovative thinking and scientific research culture in secondary schools, which in turn causes lack of research skills and innovative thinking among young people in higher education institutions.

5.5.2 Goals and objectives

The specific goal of science, technology and innovation is to modernize and internationalize the science, technology and innovation system for the creation of new knowledge and support of sustainable development of the country.

The following three strategic tasks have been set up to improve the science, technology and innovation (STI) system of Georgia:

Strategic Objective 1: Development of Eco System of Science, Technologies and Innovations (STI) of Georgia to achieve high quality in science and technology.

One of the main challenges in science, technology and innovation (STI) system is the operation of open ecosystem in Georgia. In this regard, it is important to improve the quality of scientific research and technological and innovative projects. Consequently, the particular tasks and activities to carry out this assignment should include: a) improvement of human resources and research infrastructure (as a systemic

contribution), b) improvement of quality management system and relevant legislative regulations (as a systemic process). In addition, it is important to define in the political agenda main strategic, priority directions based on the empirical data and intensive dialogue between the target groups, taking into account the national identity and cultural values of Georgia.

Strategic objective 2. Strengthening the role, status and value of science, technology and innovation (STI) in the country and its positioning as national priorities strategically important for the country.

For the successful development of the country, in the era of knowledge economy an essential factor is innovative and critical thinking and the right attitude of the society towards the science, technology and innovation (STI) sector. Scientific and research experiences include not just the world's technology products, but also the study of ideas, goals, principles and methods by the scientists. Therefore, it is necessary to: a) popularize science, technology and innovation (STI) system; b) promote research competence and innovative thinking, popularize research ethics at all stages of formal and informal education.

Strategic Objective 3. Internationalization of Science, Technology and Innovation (STI) System and Diversification of Financing Resources.

Sharing global knowledge and innovation is becoming increasingly important for Georgia. In order for the knowledge accumulated in the science, technology and innovation system in the world to become available and the system of our country to engage in important innovative centers and markets in the world, it is necessary to internationalize public and private sector cooperation in research and technology area. Target groups and key players involved in science, technology and innovations (STI) system must find the most suitable environment for innovation, skilled staff and access to strategic clients and markets. In terms of science, technology and innovation policy, it is a major challenge to connect local participants with the world's leading knowledge and innovation systems.

5.5.3 Risks

#	Description	Category	Possibility	Impact	Response
1	Lack of motivation and involvement in STI (Science, Technologies, Innovation) of key participants (researchers at individual and organizational level) in the process of the implementation of the strategy	<ul style="list-style-type: none"> • political • financial (lack of relevant resources) • organizational 	Low	High	<p>Ensuring appropriate promotional measures in external quality management systems (authorization, accreditation);</p> <p>Attracting additional stakeholders (local, international) and promoting important promotional measures for the investment in research development and innovation (RD&I).</p>
2	Lack of motivation and involvement in STI (Science, Technologies,	<ul style="list-style-type: none"> • political • financial (lack of relevant resources) 	High	High	Implementing important promotional activities within the framework of the financing

	Innovation) of other stakeholders (public, private and non-governmental sector) in the process of the implementation of strategy	<ul style="list-style-type: none"> • social • cultural • organizational 			<p>scheme required for legislative framework and cooperation; Increase public awareness through the relevant campaign and increase the results and potential of the research.</p> <p>Ensure significant encouraging measures for the involvement of other stakeholders, including the support of financial and international cooperation, and solving public challenges through research development and innovation (RD&I).</p>
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6. Monitoring and evaluation

Monitoring and assessment of the Education and Science Strategy of Georgia is a process accompanying the implementation of the strategy and a key mechanism for measuring and determination of the impact of the results. The logical framework of the strategy and indicators of general and specific goals (Annex: the logical framework of the strategy) were developed. After the approval of the strategy, a detailed monitoring and evaluation framework of the strategy will be developed, which includes indicators for the specific goals of the strategy and strategic tasks.

The strategy will be monitored and evaluated in accordance with five criteria - compliance, efficiency, effect, sustainability and impact. Monitoring will regularly observe the implementation of the Strategy and will help to make decisions that are needed to correct the implementation process by developing recommendations based on monitoring findings and conclusions. In 2019 the interim assessment of the strategy will be implemented. The strategy will be reviewed and adjusted according to the results of the assessment.

The Department of Strategic Planning and International Relations of the Ministry of Education and Science is responsible for the annual Strategy Plan and elaboration of interim and annual reports of its implementation. These reports reflect the implementation of the Strategy for the reporting period and are the basis for the Strategy Monitoring Missions.

7. Institutional framework of implementation and coordination

7.1 Institutional framework

The present document fully envisages the obligations under the Association Agreement between Georgia and the EU and relevant Annexes in the field of education, training and youth, as well as the sphere of development of science, research and technology. It also meets the requirements of the Bologna Process, the European Parliament and the Council of Europe recommendations in the direction of lifelong learning, activities agreed within the framework of the UN Sustainable Development Goals which Georgia has the

obligation to fulfill. The document is based on compliance with the 4 point plan of the Government of Georgia.

The implementation of the Strategy of Education and Science of Georgia for 2017-2021 is coordinated by the Ministry of Education and Science of Georgia, which in the process of implementation will cooperate with other governmental institutions, academic and business circles.

For the effective implementation of the Strategy and Action Plan, the involvement of civil society will be ensured, which will ensure transparency and accountability.

Implementation terms and responsible agencies

The Unified Strategy of Education and Science is intended for the years 2017-2021. The purpose of the document is to define basic state priorities and long term goals, in the field of education and science development, within the next five years.

Responsible agencies involved in the implementation of the Unified Strategy of Education and Science System are:

1. The Ministry of Education and Science and Legal Entities of Public Law within the Ministry of Justice;
2. Central and local authorities.

7.2 Partners

To achieve the goals set out in the Strategy, the partners involved in the implementation process at the national and international level are:

1. Central and local authorities;
2. Parliament of Georgia;
3. Business sector and trade unions;
4. Donor international and local organizations;
5. NGOs.

7.3 Action plan

The Ministry of Education and Science of Georgia will ensure effective planning and implementation of the goals and objectives of the Strategy on the basis of the Action Plan, which is intended for 2017-2018. The Action Plan aims to define the activities that the Ministry of Education and Science plans to implement in the given year. Decisions on additional activities will be taken considering the need, the legislation of Georgia and the budget.

The Action Plan is presented in Excel format and consists of 8 columns:

1. Task;
2. Activity;
3. Expected outcome
4. Responsible agency;
5. Partner organizations;
6. Term;
7. Estimated budget;
8. Source of funding (state budget, donor, total);

8. Source of funding

The Strategy and Action Plan will be implemented by the State Budget of Georgia, as well as by the basic data and directions document of the country (BDD) within allocations of envisaged responsible agencies.

The amount of financial resources required for the implementation of the strategy is determined by the Annual Action Plan. The Government of Georgia will cooperate closely and actively with the international community to effectively mobilize resources for activities defined by the Action Plan.

Annexes:

- Action plans (excel file)
- Strategy schemes
- Logical framework
- Bibliography
- Definition of terms