

**A. Current situation.** *The mechanisms for identifying labor market demand for skills in your country at the present time. Coordination of the collection and analysis of this information (at the national level, in sectors). Ways to use the collected information.*

The ongoing demographic growth will increase the number of children and youth. Not less than 30% of school graduates (approximately 58,000 people annually) should be involved in initial and secondary vocational education. This will require an almost two-fold increase in the capacity of this level of education. Taking into account the need for the development of the system of retraining/upskilling of mid-level specialists and labor migrants, the load on the network will increase by not less than two times. And if we consider the requirements for improving the quality of education, the need for a serious modernization of the system is evident. Higher education should be balanced with other levels, reflecting the labor market's needs. The need for resources and energy efficiency, the implementation of new environmentally friendly technologies for sustainable development, will require corresponding education and training. In this context, within the optimization of the education structure, it will be necessary to increase the number of graduates in the field of engineering, technical specialties, and natural sciences. Overall, the coverage of higher professional education should increase to 30%. The development of sectoral retraining programs will allow people to be prepared for work in priority specialties. Currently, the skills of not less than 35-40% of specialists do not meet the labor market's requirements on average. Over the next 5 years, it will be necessary to engage not less than 115,000 people annually in retraining programs<sup>1</sup>.

The labor market in the Republic of Tajikistan is developing under the active regulatory influence of the state. This is evidenced by the following facts: the development and implementation of the long-term State Development Strategy of the Republic of Tajikistan for the period up to 2030, the National Education Development Strategy up to 2030, the adoption of the Law of the Republic of Tajikistan "On the Training of Specialists Considering Labor Market Needs"<sup>2</sup>, and other sectoral and intersectoral programs aimed at creating new jobs and preserving existing ones, following global trends in the education system (the Bologna Convention).

While designing of educational programs by the team of the Tajikistan Mining and Metallurgy Institute, the following methodology for analyzing the demand for qualified specialists was used:

- *Assessment of current and future workforce needs by types of activities (sectors: mining industry, engineering, and metallurgy). Identifying demand (shortages) for personnel categories and specific specialties in pilot industries for possible adaptation and prioritization of the output of university graduates and vocational training programs;*
- *Identifying the level of employers' satisfaction with the quality of education and the preparedness of the workforce for their job, determining both workforce-specific and general factors (economic, administrative, legal, financial, market-related, etc.) hindering the development of enterprises and organizations;*
- *Collaboratively with stakeholders, identifying the necessary competencies (professional and universal) that are most important to employers;*
- *Preparing recommendations for priority employment sectors for youth in terms of program interventions to organize capacity-building courses for the target audience in terms of vocational education.*

*\*The primary goal of the analysis was to identify and map the needs of economic sectors, specifically industrial enterprises in mining, metallurgy, and engineering, for professional workforce.*

The methodological approach to conducting this analysis was based on collecting and analyzing statistical information, the results of surveys and questionnaires, findings from selective interviews with employers and company leaders in the industrial sectors, including mining, metallurgy, and engineering. It also involved working with target focus groups and other specialists and studying similar research reports. Questionnaires were developed, and surveys and selective interviews were conducted with employers and company leaders engaged in economic activities within specific economic sectors, including mining, engineering, and metallurgy. During the survey, the needs of the selected sectors (mining, engineering, and metallurgy)

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<sup>1</sup> [http://ef-ca.tj/publications/02.2\\_rus\(FILEminimizer\).pdf](http://ef-ca.tj/publications/02.2_rus(FILEminimizer).pdf)

<sup>2</sup> Adopted by the resolution of the Majlisi Namoyandagon of Majlisi Oili (Upper House of the Parliament of the Republic of Tajikistan) on November 25, 2020, No. 253, approved by the resolution of the Majlisi Mili of Majlisi Oili of the Parliament of the Republic of Tajikistan (Lower House of the Parliament of the Parliament of the Republic of Tajikistan) on January 25, 2021, No. 121

for qualified specialists were identified. The structure of the demand for the necessary competencies among job applicants, including both professional hard skills and universal soft skills that are essential for employers, was determined. The level of employers' satisfaction with the quality of education and the preparedness of the workforce for their jobs was assessed. Both workforce-specific and general factors (economic, administrative, legal, financial, market-related, etc.) that hinder the development of enterprises and organizations were identified.

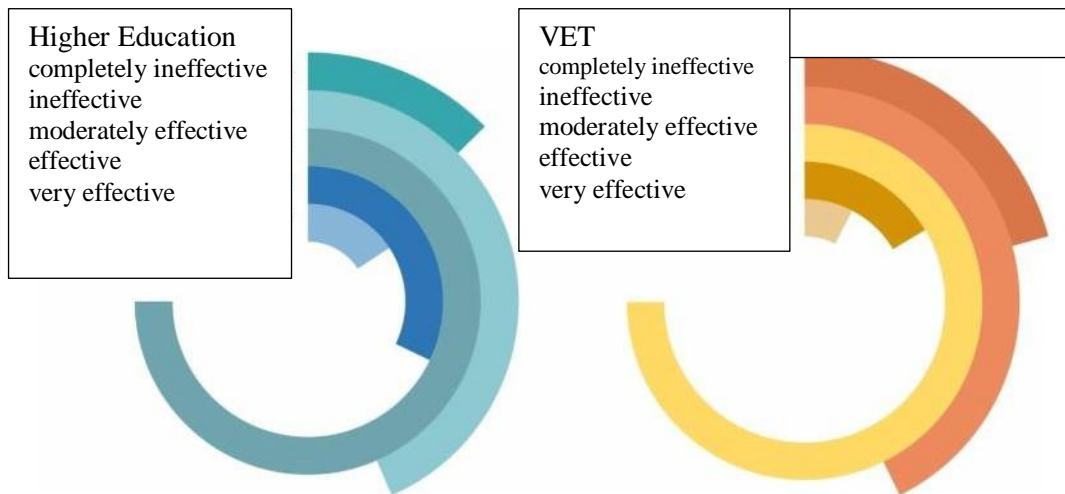


Figure 1. Assessment of respondents' satisfaction with the preparation of graduates in the vocational education system in the Republic of Tajikistan. <sup>3</sup>

As can be seen from Figure 1, only a small portion of the 8% of employer respondents are completely dissatisfied with the quality of graduates from higher education institutions, and the proportion of respondents who rated the higher education system as "very effective" is even smaller, at just 7%. At the same time, the largest number of participating companies, specifically 39%, rated the quality of graduates from universities as "moderately effective." A relatively similar pattern is observed when analyzing responses to the question about the quality of graduates from vocational education institutions. However, the percentage of respondents completely dissatisfied with the quality of vocational graduates is slightly lower compared to the figures for higher education, making up 5% of the total respondents, and the percentage of those who rated it as "very effective" has increased slightly (14%) compared to the higher education ratings. 26% of respondents rated the quality of graduates from vocational education institutions as "effective," and 45% (the largest number of respondents) described the quality of graduates from vocational education as "moderately effective."

Within the framework of our research, we conducted surveys through questionnaires, personal interviews, and organized focus groups. In total, more than 12 private and state industrial enterprises in metallurgy and mechanical engineering in the Republic of Tajikistan participated in the survey. The questions within the questionnaires and interviews, aside from the initial section on general respondent information, were divided into four thematic sections: "In-Demand Competencies," "Staff Recruitment" (shortages and staff turnover), "Level of Preparation of Graduates from Educational Institutions," and "Industry Development Status" from the perspective of enterprise representatives, as an objective factor influencing the demand for specialists.

<sup>3</sup> [https://www.undp.org/sites/g/files/zskgke326/files/2022-09/UNDP-TJK-Pub\\_2022\\_09\\_RU.pdf](https://www.undp.org/sites/g/files/zskgke326/files/2022-09/UNDP-TJK-Pub_2022_09_RU.pdf)

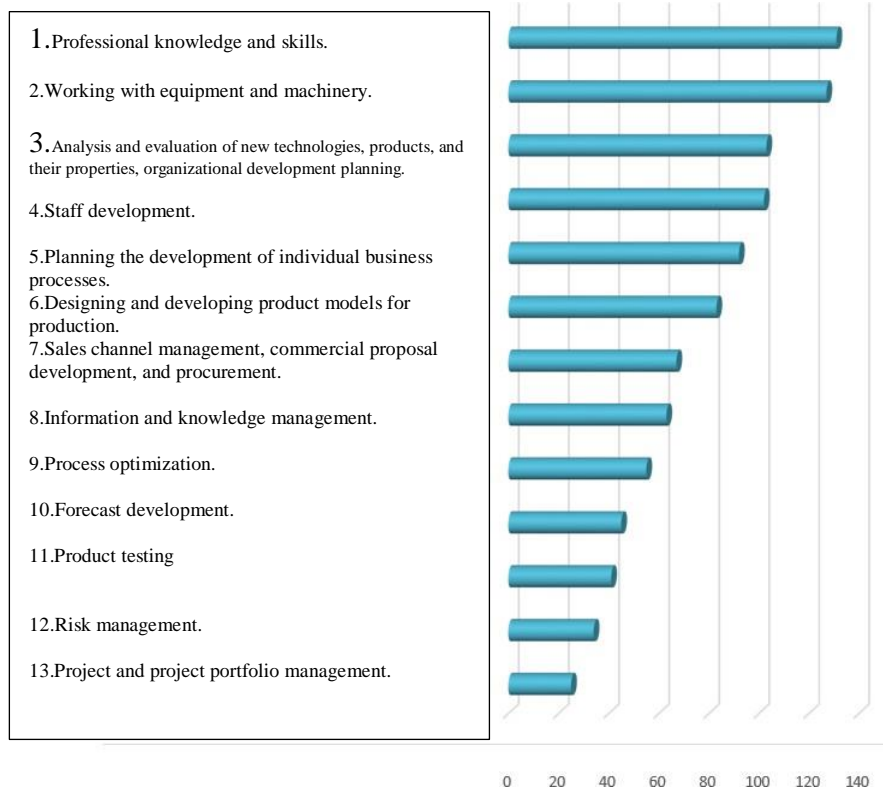
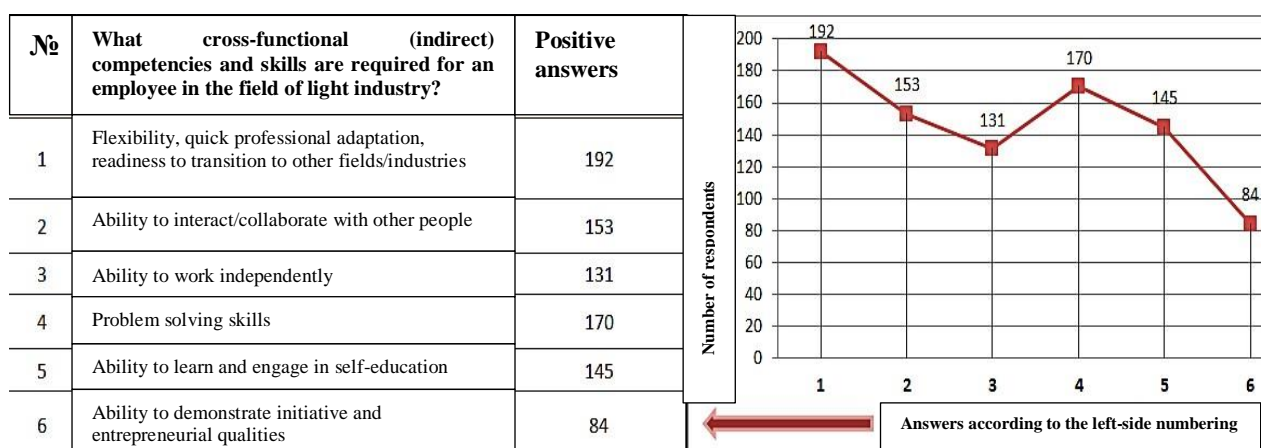


Figure 2. Employers' preference in professional competencies

The results of the surveys showed that the main professional competencies, as perceived by all respondents, are "Professional knowledge and skills, working with equipment and machinery," which were rated as a priority by 43% of all respondents. Additionally, 42% of respondents emphasized the importance of competencies in "analyzing and assessing new technologies, products, and their properties" for job seekers. Following these, "Staff development" and "Organization development planning" received equal votes of 34% from the respondents, and the option "Planning the development (implementation) of specific business processes" was noted by 30% of the respondents.

The question of cross-cutting or soft skills is an important aspect of the competencies of today's professionals. Understanding what employers value in future employees can help specialists, young people, and parents of school children make more informed decisions about their educational and career paths, and choose educational programs and activities accordingly. Therefore, as part of the survey, employers were asked to list the cross-cutting (soft) competencies and skills required by employees in the sector of activity of their respective companies.

The survey results indicate that the following soft skills competencies are a top priority for most employers: flexibility, professional adaptability, readiness to switch to other fields/industries, problem-solving ability in the course of work, specialist's ability to interact/collaborate with other people. Among all the listed competencies, the ability to demonstrate initiative and entrepreneurial qualities was considered the least important in terms of priority,



However, this quality is considered one of the most important competencies in developed economies. Both professional and other soft skills of job applicants benefit from initiative, enhancing and qualitatively improving problem-solving skills, the ability to work independently is crucial in the development and implementation of business or production initiatives, and for the younger generation in the digital age and virtual processes, the skill of managing one's own activities is a necessary condition for growth and self-realization.

Tajikistan is known to be a mountainous country, with 93% of its territory consisting of rich mineral resources. The mining sector in Tajikistan has tremendous potential. Although the current indicators for the mining industry are relatively modest, this sector has the potential to become a leader in the economy in the future. This underscores the need to identify the demand for specialists in this field. In Tables 1, 2, and 3, there are listed the specialties that have high demand and, at the same time, specialties characterized by high turnover among employers in this sector.

**Table 1. Shortage and Turnover of Specialists in the Mining Industry**

<b>Occupations where there is a shortage and high turnover among employers</b>	<b>Percentage of respondents' answer</b>
<i>Staff shortage</i>	
1. Electromechanic for Automation and Instrumentation of Technological Equipment	37
2. Electrical Fitter for Maintenance and Repair of Mining Equipment	32
3. Engineer for Automated Process Control Systems	27
4. Drilling and Drilling Fluid Engineer	22
5. Field Supervisor Engineer at the Site	21
6. Miner for Underground Mining to Extract Mineral Resources	21
<i>Employee turnover</i>	
1. Electrical Fitter for Maintenance and Repair of Mining Equipment	23
2. Miner for Underground Mining to Extract Mineral Resources	21
3. Electromechanic for Automation and Instrumentation of Technological Equipment	15
4. Drilling Rig Operator	9
5. Underground Miner	9
6. Miners for Clearing the Working Face for Fire Prevention and Suppression, and for the Repair of Mining Workings	9
7. Crusher Operator	9

The metallurgy sector, especially non-ferrous metallurgy, holds significant importance for the country and serves as its primary export industry. The largest enterprise in this sector is the Tajik Aluminum Plant in the city of Tursunzade, which generates substantial financial profit annually. Currently, Tajikistan's non-ferrous metallurgy sector encompasses the production of primary aluminum, metallic lead and antimony, lead and zinc concentrates, antimony, copper, and lead-silver alloys.

**Table 2. Shortage and turnover of specialists in the metallurgy sector**

<b>Occupations where there is a shortage and high turnover among employers</b>	<b>Percentage of respondents' answer</b>
<i>Staff shortage</i>	
1. Metallurgical Production Engineer.	27
2. Metallurgical Engineer	20
3. Non-Ferrous Metals, Metals, and Alloys Foundry Worker	13
4. Hydrometallurgy Specialist	13
<i>Employee turnover</i>	
1. Metallurgical Production Engineer	27
2. Hydrometallurgy Engineer	13
3. Machine Operators and Machine Tool Setters	13

4. Metallurgical Engineer	8
5. Blacksmiths	7

**Table 3. Shortage and turnover of specialists in the machine building sector**

<b>Occupations where there is a shortage and high turnover among employers</b>	<b>Percentage of respondents' answer</b>
<i>Staff shortage</i>	
1. Production startup and control setup specialist	42
2. Operator of complex machines and production lines	34
3. Operator of the technological line control station	27
4. Mechatronics engineer, Mechatronics technician	22
5. Assembly controller for electrical machines, apparatus, and instruments.	20
<i>Employee turnover</i>	
1. Mechatronics engineer, Mechatronics technician	
2. Specialist in Analysis and Diagnostics of Production Technological Complexes	27
3. Assembly Controller for Electrical Machines, Devices, and Instruments	23
4. Operator of the Technological Line Control Station	20
5. Operator of Complex Machines and Production lines	20

**B. Current situation.** *The mechanisms for developing educational programs for vocational training (primary, secondary, and higher) and standards for assessing skills and competencies in your country - how do labor market requirements for skills and competencies are taken into account.*

Educational programs are designed in accordance with the Law of the Republic of Tajikistan “On Education” dated July 22, 2013, No. 1004 (Article 9, Paragraph 1, Paragraph 9), the State Standard for Higher Professional Education of the Republic of Tajikistan, approved on February 25, 2017, No. 94 (Article 7, Subparagraphs 48-51), Guidelines for the development and revision of educational programs for higher professional education in the Republic of Tajikistan (Vladimir Brillier. Guidelines for the development and revision of educational programs for higher professional education in the Republic of Tajikistan. - Dushanbe, 2021. - 117 p.) and include the following requirements:

- The structure of the main educational programs (including the ratio of the mandatory basic part of the main educational program and the optional part formed by the participants in the educational process) and their volume.
- The procedure for designing the main educational programs.
- Conditions for the implementation of the main educational programs, including staffing, financial, material-technical, and other conditions.
- Outcomes of mastering the main educational programs.
- The system for assessing the quality of graduate training.

The scheme of the life cycle of an educational program is a two-loop model that establishes relationships between internal quality assurance processes within universities and the external environment. It is presented in Figure 3.

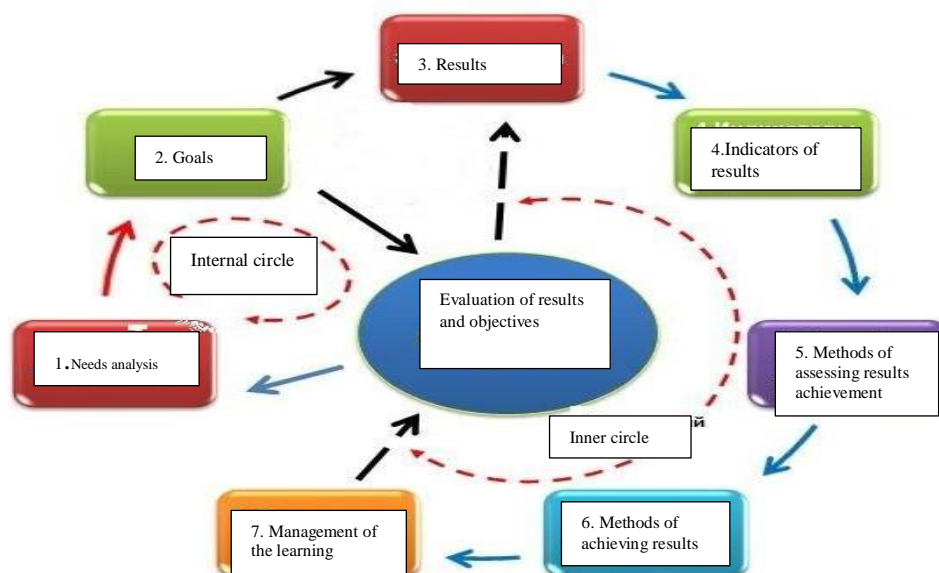


Fig. 3. Diagram of the life cycle of an educational program.

**C. Analysis.** *Think about the current situation: what are the main challenges and obstacles that your country needs to overcome in the field of regular collection and analysis of information about the needs of employers and industries in skills?*

Factors that hinder progress in education include: low availability of quality primary and secondary education, especially in rural areas, for vulnerable population groups; inadequacy of the regulatory framework for creating a competitive environment in the education system; *unattractiveness of primary and secondary vocational education institutions for young people; underdevelopment of systems involving the business community in activities related to reforming the professional education system.*

Despite the increasing population coverage with general secondary education, there is a shortage of qualified technical specialists while there is excess employment in agriculture (constituting 75% of the total workforce) and the public sector (with 19.4% of the employed population in the public sector). This is why a significant portion of skilled workers is forced to seek employment outside the country, *reflecting the inadequacy of the educational system in producing professionals adapted to the real labor market demand.* Additionally, the following problems exist in this regard:

- Imbalance between the market for educational services and the labor market
- Low quality of education and skills in the workforce, particularly among women and rural populations
- Lack of developed mechanisms for feedback and insufficient measures to involve employers, parents, and local communities in the process of shaping educational programs and assessing the quality of training

**D. Plans and Vision.** *What are the main steps planned in your country to ensure that information about labor market needs is used to develop in-demand skills and competencies?*

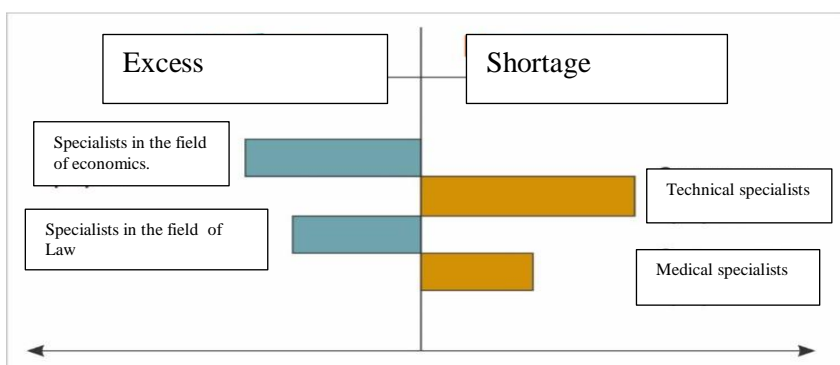
The development of human resources and ensuring employment are closely related to the government's policy in the field of technical and vocational education and training (TVET). At the same time, the key areas of strategic planning for TVET in Tajikistan are aligned with national programmatic documents and the Sustainable Development Goals (SDGs) for 2030 adopted by the United Nations in September 2015 and approved by the President of the country. Therefore, a crucial requirement of the modern stage of socio-economic development in the Republic of Tajikistan is the improvement of professional training for workers as a component of the country's development strategy. Ensuring the priorities of the Sustainable Development Goals (SDGs), the National Development Strategy of the Republic of Tajikistan for the period up to 2030, sectoral and national development strategies and programs, and aligning the goals of the national Technical and Vocational Education and Training (TVET) with international policy requirements are of particular importance. These priorities have been clearly reflected in the President's Addresses to the Parliament of the Republic of Tajikistan in the years 2012-2018, as well as in the National Development Strategy of the Republic of Tajikistan for the period up to 2030 and the Medium-Term Development Program of Tajikistan for 2021-2025, the State Strategy for Labor Market Development of the Republic of Tajikistan for the period up to 2020, and other national programmatic documents.

It's worth noting that in the Medium-Term Development Program of the Republic of Tajikistan for the period from 2016 to 2020, the most important tasks in the field of human capital development included establishing sustainable linkages between the vocational education system and the labor market through:

- Training specialists to meet modern requirements
- Improving the qualifications planning system and labor market orientation
- Developing mechanisms for professional orientation

Based on the mentioned measures, it was expected that by 2020, there would be regular updates of professional educational programs based on labor market demand *monitoring, the introduction of external evaluation of educational outcomes, and qualifications certification.* An analysis indicates that these expectations and goals remain relevant, and they are also highlighted in the new Medium-Term Development Program of the Republic of Tajikistan for the period 2021-2025.

While the need to ensure and expand productive employment in the country through increased formal employment and labor productivity is recognized as a strategic goal in the Medium-Term Development Program of the Republic of Tajikistan



for the period 2021-2025, one of the main challenges in achieving these goals is the mismatch between the content of professional education and the economic needs. On one hand, the program highlights an excess of specialists in economics and law and issues related to their employment. On the other hand, it identifies a shortage of specialists in various medical and technical fields. The program also emphasizes the existing demand for specialized professionals in the fields of transport, construction, high technology (manufacturing, information services, engineering).

In order to stimulate economic entities to create jobs and ensure productive employment of labor resources, the program includes measures *to improve the regulatory framework that shapes the labor market analysis and forecasting system taking into account the development of sectoral and regional labor resource balances.*

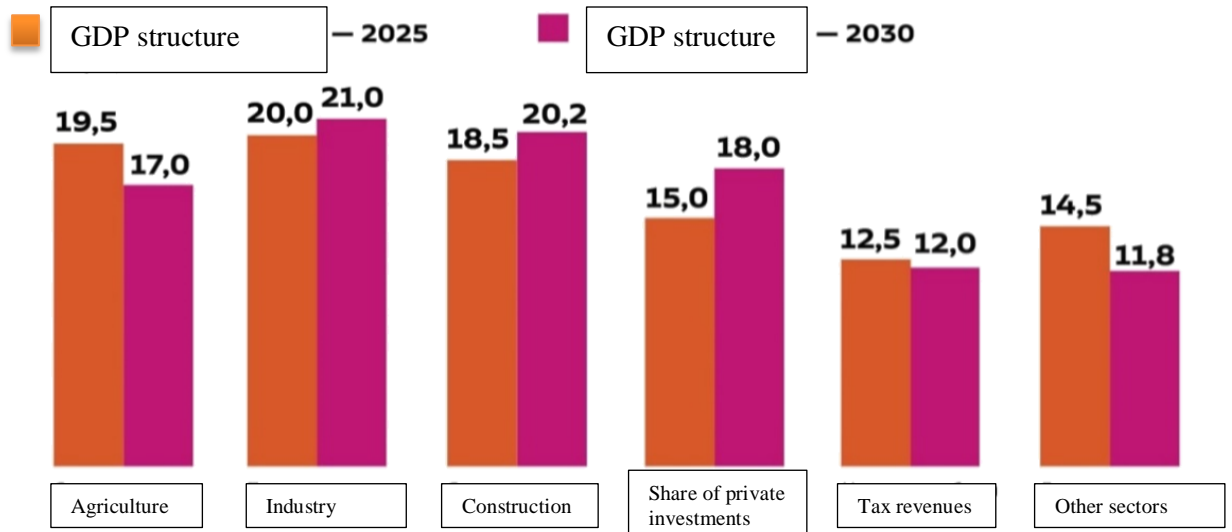
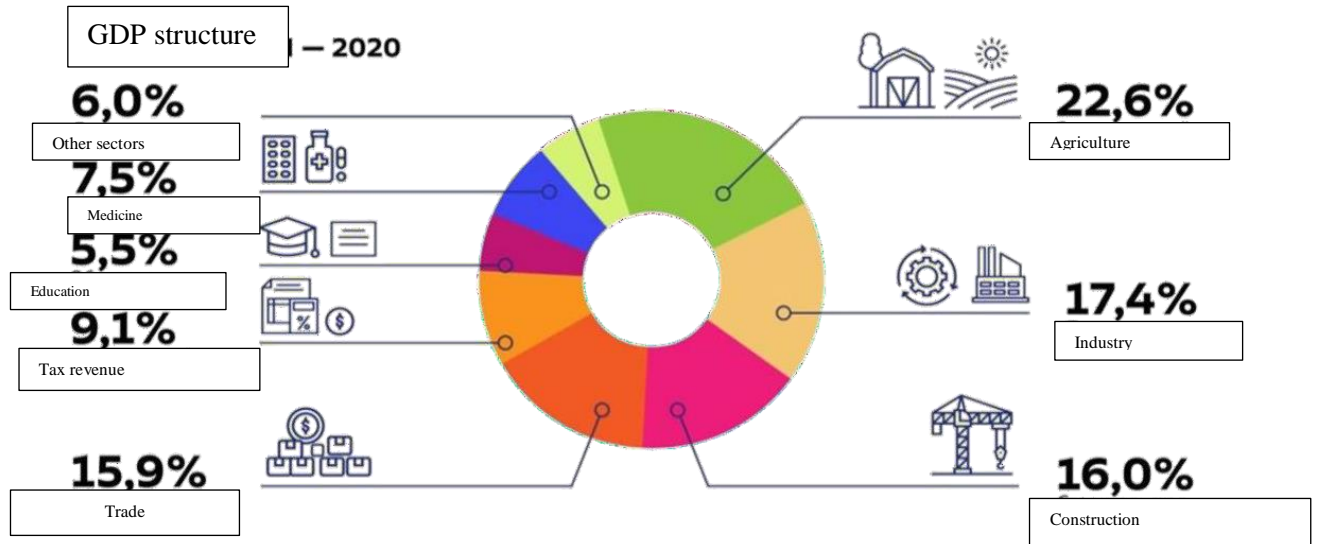
The Labor Market Development Strategy also outlines measures for establishing a system of labor market analysis and forecasting labor market changes while strengthening labor statistics. It emphasizes the importance of having sufficient data and the ability to make accurate forecasts over different time frames to formulate effective labor market development policies. The strategy recognizes that all labor market policies should be based on the actual situation, which can change rapidly due to various factors. Inability to forecast the situation can lead to rigidity in government policies in this area. Therefore, the strategy envisions the implementation of short-term, medium-term, and long-term forecasting methods taking into account the use of best international practices, to create a system for analyzing and predicting labor market changes.

The Law of the Republic of Tajikistan "[On the Training of Specialists Taking into Account Labor Market Needs](#)" (adopted by the Resolution of the Majlisi Namoyandagon of Majlisi Oili (Upper House of the Parliament of the Republic of Tajikistan) on November 25, 2020, No. 253, approved by the Resolution of the Majlisi Mili of Majlisi Oili of the Parliament of the Republic of Tajikistan (Lower House of the Parliament of the Republic of Tajikistan) on January 25, 2021, No. 121) establishes the legal, financial, and organizational foundations of the partnership between the state and the private sector in the professional education system and regulates relations in the process of interaction within the professional education system when preparing specialists that meet the needs of the labor market.

- Article 3 of this law identifies one of the main objectives of the regulatory act, which is to promote the coordination of activities among entities within the professional education system to study the actual situation in the labor market. This involves monitoring the labor market, identifying and assessing current and prospective labor market needs for specialists in accordance with the socio-economic development strategy of the Republic of Tajikistan.
- The Law highlights the necessity of planning and implementing state policies in the field of specialist training within the professional education system, taking into account the labor market's needs. To achieve the goals of state policy, the law defines the need for the implementation of organizational, economic, and legal measures, such as:
  - introducing continuous monitoring and forecasting of labor market needs for specialists and workers, considering labor market needs, and ensuring that these needs are reflected in statistical data and shared with relevant authorities and individuals.
  - Forecasting labor market needs for specialist training in line with the socio-economic development strategies of the Republic of Tajikistan and other sectoral programs.

Based on the analysis of the above-mentioned strategic documents and programs, as well as a review of local analytical materials and research conducted in recent years, it can be concluded that the structure of workforce preparation has remained largely unchanged. The needs of sectors such as agriculture (especially in the adoption of innovations and advanced technologies, biotechnology, etc.), heavy industry, food production, mining, transportation, and energy still remain unmet in terms of qualified workforce.

Furthermore, there is a contradiction between the labor market's demand for workers in specific fields and the overproduction of workers in areas where the economy of the Republic has already met the demand. Within the framework of these program documents, Tajikistan's industrialization aims to establish the foundation of the country's economy by implementing reforms in the education and training system to prepare modern professionals for various sectors of the economy.



Source: Sputnik Tajikistan, "The Path of Tajikistan towards Industrialization", based on the data from the "National Development Strategy of the Country for the Period until 2030."

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