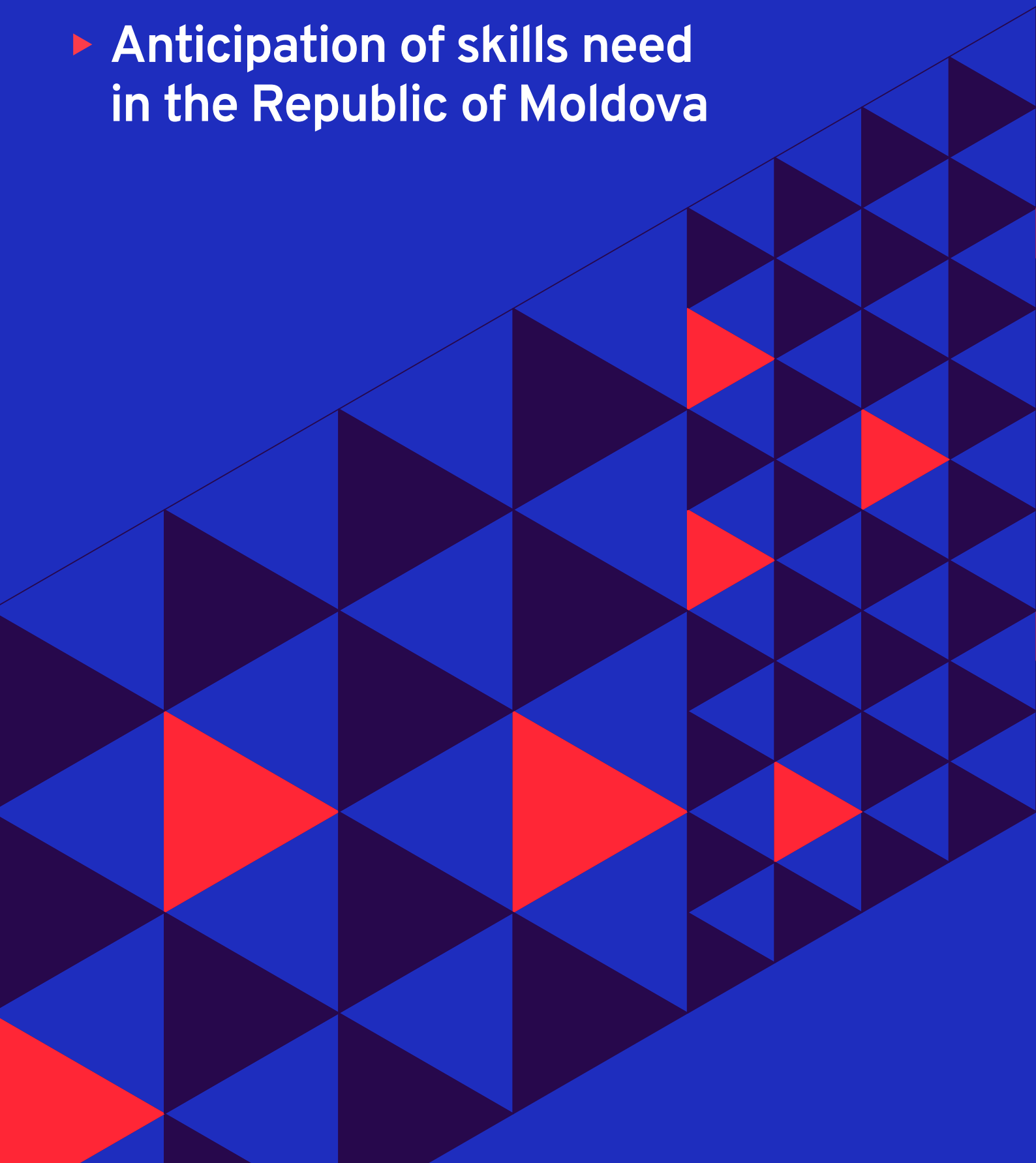
International Labour Organization

Anticipation of skills need in the Republic of Moldova



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▶ Content

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The analysis is based on desk research on the existing evidence and on qualitative interviews, which were conducted in the first half of 2023.

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▶ Abbreviations

ADA	Austrian Development Agency
ANOFM	National Employment Agency of the Republic of Moldova
ASEM	Academy of Economic Studies of Moldova
BoMA	Bureau of Migration and Asylum
CoCI	Chamber of Commerce and Industry
CORM 006-2021	Classifier of Occupations in the Republic of Moldova
DevRAM	Development of Rural Areas in the Republic of Moldova
DWCP	Decent Work Country Programme
EU	European Union
ESCO	European Skills, Competences, Qualifications and Occupations
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoM	Government of Moldova
HE	Higher education
ICJPS	Public Institute of Legal, Political and Sociological Research
ICT	Information and communications technologies
ILO	International Labour Organization
INCE	National Institute for Economic Research
ISCO - 08	International Standard Classification of Occupations
ISE	Institute of Educational Sciences
IT	Information technologies
ITCILO	International Training Centre of the International Labour Organization
LFS	Labour Force Survey
LLL	Lifelong learning
LM	Labour market
LMIS	Labour market information system
LMO	Labour Market Observatory
MADRE	Ministry of Agriculture, Regional Development and Environment
MoAFI	Ministry of Agriculture and Food Industry
MoEc	Ministry of the Economy
MoEcDD	Ministry of Economic Development and Digitalization
MoECR	Ministry of Education, Culture and Research,
MoEdR	Ministry of Education and Research
MoEn	Ministry of Energy

MoF	Ministry of Finance
MoHLSP	Ministry of Health, Labour and Social Protection
MoIRD	Ministry of Infrastructure and Regional Development
MoLSP	Ministry of Labour and Social Policy
NBS	National Bureau of Statistics of the Republic of Moldova
NCoE	National Confederation of Employers
NGO	Non-governmental organization
NHoSI	National House of Social Insurance
NQF	National Qualification Framework of the Republic of Moldova
OECD	Organization for Economic Co-operation and Development
OP	Occupational profile
OS	Occupational standard
PES	Public employment service
QS	Qualification standard
RM	Republic of Moldova
SNA	Skills needs anticipation
SECO	Swiss State Secretariat for Economic Affairs
SIME	Informational Management System in Education
STED	Skills for Trade and Economic Diversification
TU	National Confederation of Trade Unions
TVET	Technical vocational education and training
USM	State University of Moldova
UTM	Technical University of Moldova
VET	Vocational education and training
WB	World Bank
WBL	Work-based learning
UTA	Territorial-Administrative Unit (refers to Gagauzia)

▸ 1. Introduction

1.1. Background and context

This evaluation was carried out within the framework of the Inclusive and Productive Employment Programme, developed by the ILO and SECO. The programme applies a systemic approach to decent work and supports implementation of the ILO Decent Work Country Programme 2021–2024 for the Republic of Moldova.

The Programme is also intended to achieve lasting change by tackling the root causes of low employment rates and skills mismatches.

Outcome 2 of the Programme aims to improve the access of young people and adults to better quality vocational and professional training, in line with the demands of the labour market, and to being it about that "national institutions, technical staff and teachers have capacities and knowledge to foster advanced skill needs anticipation systems, modern and digital TVET and lifelong learning" by carrying out specific practical activities, including interventions to improve skill needs anticipation.

1.2. Skill needs anticipation

This chapter describes the concept of skill needs assessment and anticipation and defines some related terms used in the report.

▸ What is skill needs anticipation?

Skills anticipation is a strategic and systematic process through which labour market actors identify and prepare to meet future skill needs, thus helping to avoid potential gaps between skills demand and supply.

Skills anticipation enables training providers, young people, policymakers, employers and workers to make better educational and training choices, and through institutional mechanisms and information resources leads to improved use of skills and human capital development.

"There is no one agreed definition of skill needs anticipation, and the term is often used interchangeably with 'early identification of skill needs', 'skill needs assessment' or 'forecasting' or even 'job/occupation needs assessment'.

In a broad sense, skill needs anticipation refers to activities to assess future skill needs in the labour market in a strategic way, using consistent and systematic methods."

▸ Sursa: ILO (2015) Anticipating and Matching Skills and Jobs. Guidance Note.

▸ Some key terms used in this report and relevant for the anticipation of skill needs

The term "skills" is used as an overarching term for the knowledge, competence and experience needed to perform a specific task or job. (Adapted from ILO: Glossary of key terms on learning and training for work, 2006)

Skill is defined as the ability to carry out the tasks and duties of a given job (Source: ILO-ISCO). Competence is the ability to apply learning outcomes adequately in a defined context (education, work, personal or professional development). Competence is not limited to cognitive elements (involving the use of theory, concepts or tacit knowledge); it also encompasses functional aspects (involving technical skills) as well as interpersonal attributes (such as social or organizational skills) and ethical values. (Source: Cedefop, 2004, European Commission, 2006a.)

A qualification is a certified outcome of training and education programmes. The term "qualification" covers a variety of aspects:

- formal qualifications: the formal outcome (certificate, diploma or title) of an assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes to a given standard and/or possesses the necessary competence to do a job in a specific area of work. A qualification confers official recognition of the value of learning outcomes in the labour market and in education and training. A qualification can be a legal entitlement to practice a trade (OECD);
- job requirements: the knowledge, aptitudes and skills required to perform the specific tasks attached to a particular work position (ILO).

Skill needs is another overarching term, which refers to both qualitative and quantitative needs. It is not merely the difference between supply and demand but also the result of their interaction. For instance, growing supply of university graduates can result in growing demand for higher skilled people and the crowding out of the lower skilled from the labour market.

Skill needs assessment serves broad policy objectives, including initial and continuing education and training policy, all forms of human resource development, financing of training, migration policy, and so on. It should be noted that skill needs assessment is a much broader term than training needs assessment.

Skill needs anticipation. There is no uniform definition of this. It usually stands for any forward-looking diagnostics of the future skill needs expected in the labour market carried out using any method, be it quantitative or qualitative, including interaction, exchange and signalling between labour market actors. (Adapted from ILO: Glossary of key terms on learning and training for work, 2006.)

Skill mismatch is an encompassing term referring to different types of skill gaps and imbalances, such as over-education, under-education, over-qualification, under-qualification, over-skilling, skill shortages and surpluses, skills obsolescence and so forth. Hence, skill mismatch can be both qualitative and quantitative, referring both to situations in which a person does not meet the relevant job requirements and those in which there is a shortage or surplus of persons with a specific skill. Skill mismatch can be identified at various levels, including the individual, the employer, the sector or the economy. Several types of skill mismatch can coincide (DTI/ÖSB/IER, 2010).

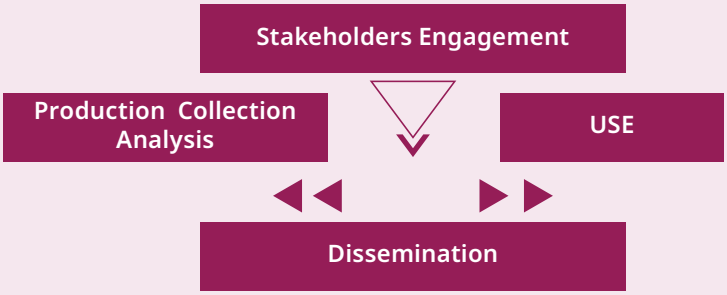
This analysis provides an overview of the current practices and mechanisms related to skill needs identification in the Republic of Moldova. It should be noted that in this Report the term "skill needs assessment and anticipation" refers mainly to job/occupation needs assessment and anticipation, and not solely to skill or competence needs. The study concludes with recommendations on enhancing the functioning and effectiveness of the system, as well as the capacity-building needs of SNA stakeholders.

2. Methodology and scope

The mapping study is aimed at obtaining a comprehensive overview of the Skill Needs Anticipation System in the Republic of Moldova.

The research focuses on the identification of institutions, key actors and their roles, as well as the processes, production, collection, analysis, mediation and usage of the SNA outputs (see Figure 1).

Figure 1: Skills assessment and anticipation – production-to-use processes



The key research questions of the mapping are as follows:

- What is the institutional setting of skill needs assessment and anticipation?
- Who takes the decisions and sets the objectives pertaining to the data and information to be produced?
- What methods and approaches are used for skills assessment and anticipation?
- What is the main use of the results of skills assessment and anticipation in policy and decision-making?
- What factors favour or inhibit the proper flow and use or results of skills assessment and anticipation?

To meet the objectives a combination of desk research and qualitative interviews was used.

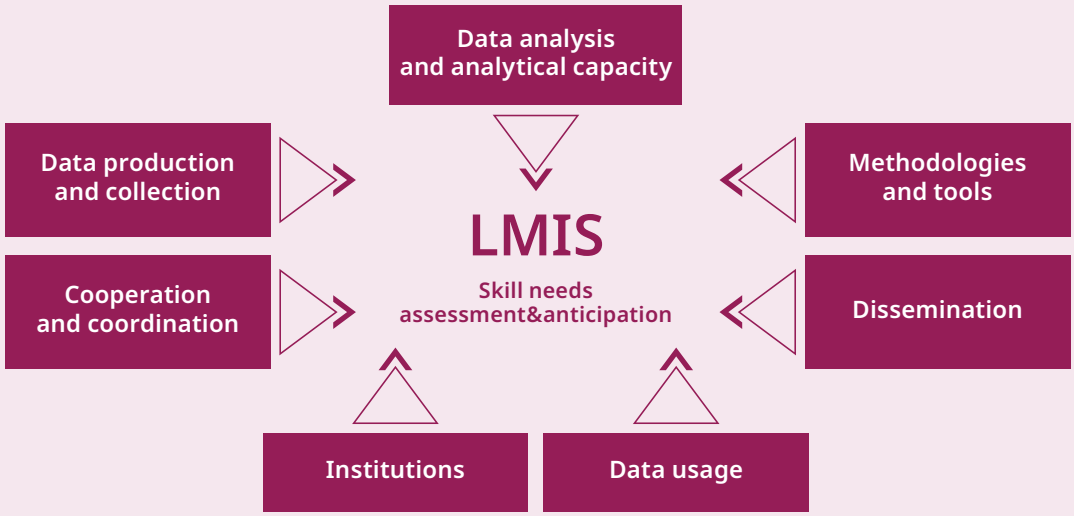
Desk research was used to collect key information, including policy documents, formal agreements between various institutions, agencies and stakeholders, relevant research, analytical documents and reports related to the subject of the study.

Semi-structured in-depth interviews were conducted with key players including government stakeholders, namely MoLSP and MoEdR, the research community, Sector Skills Committees, ANOFM, education and training providers, education and labour market experts, and the social partners.

▶ 3. The essential components of skill needs assessment and anticipation in Moldova

Skill needs[1] anticipation is an integral part of the broader labour market information system in Moldova. This study focuses on a number of essential components, including data (production and collection), methods and tools, information flow and use, as well as analytical capacity and institutions, coordination and cooperation (Figure 2).

▶ Figure 2: Components of skill needs anticipation



Note: Developed by author based on ILO (2015), Anticipating and matching skills and jobs, Guidance Note, p. 4.

[1] To be regarded as the need for jobs and occupations in Moldova.

In Moldova, skill needs anticipation aims to provide labour market actors with information on current job vacancies and future occupational imbalances and needs, so that they can make decisions, develop measures and take actions with a view to meeting the needs and avoiding the imbalances.

In general terms, skill needs anticipation in Moldova refers mainly to activities involved in the assessment of current needs with regard to occupations/jobs, using consistent, systematic methods.

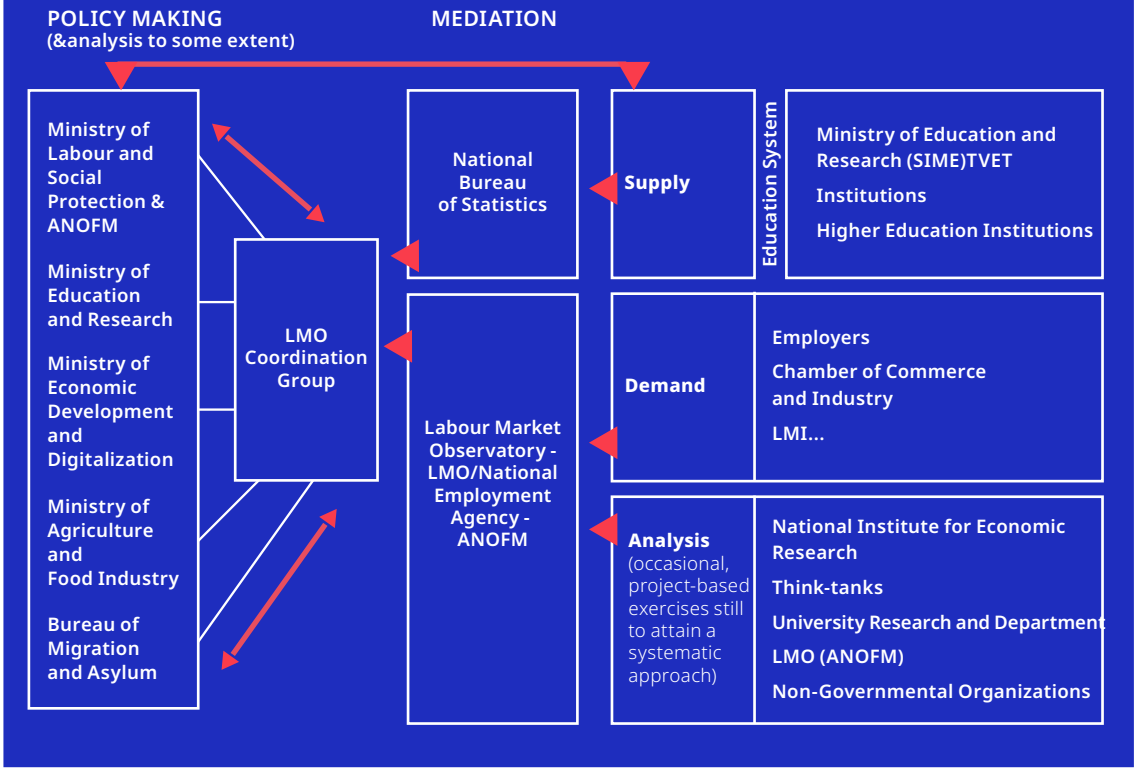
However, the aim of these activities is not to provide exact numbers of employees likely to be required in the future, classified by types and levels of qualifications, in each economic field and subfield.

Such activities and research are also found at sectoral and sub-sectoral level and the relevant competences and skills are needed there, but they are more sporadic, occasional and project based.

▶ 4. Main findings

This chapter maps the production-to-use cycle, that is, the creation, mediation and usage of results pertaining to skill needs anticipation (see Figure 3).

▶ Figure 3: Skills assessment and anticipation cycle and information flow



[(occasional, project-based exercises that have yet to be put on a systematic footing)]

In the next sections we analyse each dimension, focusing on processes, institutions and their role, analytical capacity, stakeholder involvement and coordination, data collection and data sources, methods, approaches, and tools for skill needs analysis and anticipation, flow and use of information in Moldova.

4.1. Institutions and their role – stakeholder participation

A range of public and private institutions and stakeholders are involved in the development and discussion of skill needs. Skill needs assessment and anticipation fall mainly under the responsibility of the MoLSP, which plays a key role in overseeing various exercises in the assessment of current skill needs and in cooperation and coordination between all the other institutions, generating, managing and disseminating information on labour market and skill needs. The implementing body is the National Employment Agency (ANOFM), which may also contract some services out to external providers.

The ANOFM performs a number of functions mainly related to employment and social policy, as well as to studying, monitoring and producing forecasts on the labour market at national level. Other functions of the ANOFM include the organization of vocational training for the unemployed; registration of jobseekers and vacancies; monitoring job placement after implementing active employment measures; monitoring of the registered unemployed. The National Employment Agency is also tasked with informing the public about the labour market at national level.

The ANOFM's territorial subdivisions cooperate with public and private organizations, local authorities, civil society organizations, and training providers.

The LMO operates within the ANOFM with the status of a department. It was set up in 2018[2] with the mandate to identify and analyse labour market trends and challenges. The LMO is governed by the orders of the MoLSP.

The Regulation[3] on the LMO confers a number of functions on it:

- analysis of existing labour market information (official statistical data, administrative data sources of public authorities and institutions, labour force surveys, employee questionnaires, systematic, qualitative and quantitative analysis of developments and changes in employment, skills at national, sectoral and regional level, as well as benchmarking against international standards, experience and performance);
- conducting research and studies;
- forecasting labour supply and demand, both short and medium term[4];
- disseminating labour market information by organising public debates, seminars and publishing materials in an accessible format.

The LMO operates on the basis of a partnership agreement[5] signed between the MoHLSP and the ANOFM on one side and the MoEc, MoECR, MADRE, NBS, INCE, NCoE, TU, CoCI and BoMA, on the other. Based on the partnership agreement the Coordination Group at Decision-making Level and the Technical Working Group are formed.

The Coordination Group consists of representatives of the partner institutions with decision-making powers. The Coordination Group is responsible for making decisions based on the recommendations of the Technical Working Group.

The Coordination Group approves the LMO Action Plan, that is elaborated by the Technical Group, and adopts decisions regarding priority areas of study. In addition, the Coordination Group is supposed to intervene to deal with any hindrance to the collection, processing, analysis, and dissemination of LMO data and information. It offers support and, if needed, takes action, issuing specific requests to different institutions and partners.

[2] It was established in accordance with Government Decision № 990, 10 October 2018, which approved the Regulation of ANOFM.
[3] Regulation on the LMO, 5 October 2018, approved by the ANOFM.
[4] The ANOFM Activity Plan for the year 2023, approved by the MLSP, provides for the elaboration of the Methodology and of the labour market forecast for the medium term (three years). These activities were performed with the support of external development partners.
[5] The LMO operates on the basis of a partnership agreement concluded on 18/01/2019.

Secretarial activities and the organization of meetings, at least twice a year, of the Coordination Group are to be carried out by the MoLSP in cooperation with ANOFM.

The Technical Working Group consists of the partners' representatives, whose direct functions include responsibility for collecting, storing, analysing and disseminating relevant LMO information, formulating recommendations and proposals regarding concrete policy actions.

Another important actor is the National Bureau of Statistics.[6] The NBS is the main source of data generation at the national level. Under various legal acts the NBS is supposed to provide users with quality and timely statistical information, necessary for the development and monitoring of economic and social policies, decisions of public authorities and the business environment, as well as for scientific research, society at large and certain categories of users, finalizing and implementing the normative and institutional framework necessary to accomplish tasks related to official statistics.

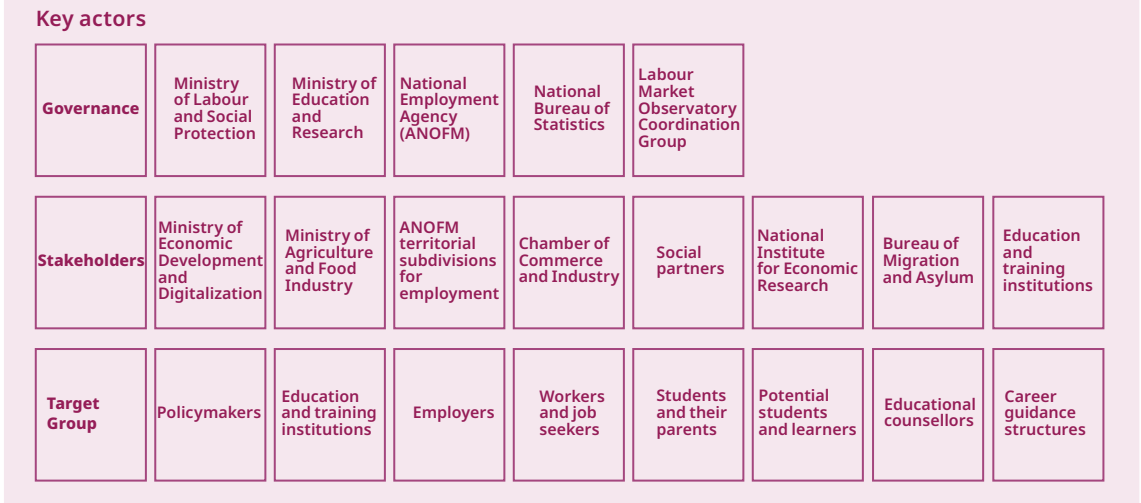
The MoEdR, together with its educational institutions, has an important role on the supply side. In parallel with the data submitted to the NBS, the MoEdR hosts the SIME data portal.

In addition to the abovementioned institutions, a number of other public and private entities and bodies, belonging to various categories, are directly or indirectly involved in skill needs anticipation in Moldova. Levels of influence and implication vary, but the role of each of them is significant. In the following chapters, more details will be presented regarding their role and involvement at different stages in the skill needs anticipation and matching process. For a quick overview, Figure 4 sets out a schematic representation of the key institutions and actors involved in the SNA cycle.

4.2. Data sources, production and collection

A range of institutions and bodies, including the NBS, the MoLSP, the ANOFM, the MoEdR and educational institutions, as well as some universities and research institutes are directly or indirectly involved in gathering general information on the labour market situation in the country, information related to labour market skills needs, educational offers, trends in supply and demand of skills, and other relevant data for skill needs assessment (for more information see Figure 4 and Table 1).

▶ **Figure 4: Key institutions and actors in the skill needs assessment and anticipation cycle**



[6] The NBS is acting according with the new Law no. 93 on official statistics, adopted by the Parliament on 26 May 2017. There is also the Regulation on the organization and operation of the NBS, approved by Government Decision No. 935, 24 September 2018 and the Strategy for Development of the National Statistical System 2016–2020 with its Action Plan (Government Decision № 1451, 30 December 2016).

The NBS is the main source of data generation at the national level. The ANOFM is another important actor. Within the NBS and ANOFM there are specific departments for gathering and processing information and both agencies are also supported by their territorial subdivisions in these exercises. Information is gathered in printed documents and in e-reports.

The NBS and ANOFM are involved in the compilation of regular labour force surveys, household and census statistical surveys, and vacancy and jobseeker data.

The NBS produces statistical data based on two major data sources: statistical surveys and questionnaires conducted by the NBS, and administrative data provided by other public authorities, according to their area of competence. Annually, the NBS develops statistical work programmes, which are approved by the Government, in order to provide ministries, other central administrative authorities, local public administration authorities, educational and academic and research institutions, civil society organizations, the media, and international organizations, as well as other users with relevant, timely statistical information.

The annual programme includes the statistical works and research that are to be carried out by the NBS but also by other institutions responsible for producing official and administrative statistical information necessary for its elaboration, as well as the level of disaggregation, scope, periodicity and term of information dissemination.

Regarding labour market statistics, the National Bureau of Statistics elaborates selective statistical surveys which include quarterly and annual earnings, earnings and labour costs, employee mobility and jobs, accidents at work, professional training of employees, distribution of employees by salary, calculated for one month of the year, statistical research on households and the Labour Force Survey. Labour market data are published annually in the statistical compilation "Labour force in the Republic of Moldova. Employment and unemployment".

Collection periodicity is mostly annually and quarterly, but monthly for the LFS.

Ministries and other authorities of the central public administration and other entities provide the NBS with statistical and administrative information for the elaboration of official statistics.

The NBS collects and periodically publishes data on sectors of economy, such as agriculture, construction, manufacturing, transport and communications, education and health care, as well as on cross-cutting issues (gender, poverty and so on).

On the supply side, the NBS produces annual education statistics, which include sections on all levels of education, early education, primary and general secondary education, VET education, higher education, and postgraduate education. The data are based on administrative sources, cleaned and processed by the statistics office.

Education statistics refer to formal education. The information comes from statistical surveys carried out annually by educational institutions authorized under the Education Code to organize and conduct formal education programmes and provide information needed to describe the functioning and performance of the education system.

Statistical research makes it possible to analyse the evolution of education in space and time, providing comparable data at national and international levels to users involved in the definition, implementation and evaluation of education policies.

Annual publications on education contain the main statistical indicators covering the country's education system from 2009 to 2023. Data are disaggregated by educational level, statistical data in terms of the International Standard Classification of Education (ISCED 2011), and broken up by age group, gender, residence, background, types of institutions, and economic region of development (North, Centre, South, Chisinau municipality, UTA Gagauzia).

Administrative data on educational institutions, enrolment and school-leavers are cleaned up and processed by the Statistical Office and published in the NBS education statistics.
Annual reports are published systematically by the NBS. The documents are publicly available on the NBS official website. Statistical data on education can be also found in the Statistical Yearbook.

We will also refer to the data and information collected, processed and provided by the ANOFM.

The LMO within the ANOFM and the ANOFM territorial subdivisions handle the collection of information. The ANOFM territorial subdivisions cooperate with public and private organizations, local authorities, civil society organizations, and training providers. The ANOFM also has the task of informing the public about the labour market at national level.

Tasked with monitoring labour market supply and demand and with reducing the gap between the training offered by educational institutions and the needs of economic agents, the LMO has, since its establishment, undertaken a range of activities, including the development of

- informative analytical notes on labour market trends (employment and unemployment) based on ANOFM and NBS administrative data;
- infographics on various topics;
- the analytical note “Labour Migration and Its Impact on the Labour Market in the Republic of Moldova" (with the support of the UNDP-funded project “Migration and Local Development”);
- online surveys of employers, which collect information on labour shortages, skills demand, company development plans, future worker recruitment by economic sector and occupational profile;
- information bulletins on labour demand and supply by semester and at the end of the year;
- LMF (short term), Barometer of Occupations from the employers' perspective.

The ANOFM also oversees the “Jobless” digital platform. The platform provides information on registered job vacancies, the unemployed and jobseekers, disaggregated by sex, age, educational attainment, regional distribution, duration of unemployment, reason for unemployment, programme and service offered. In case of job vacancies, data are disaggregated by occupational code, size of enterprise and territorial distribution.

And for a better understanding of the labour market situation the ANOFM monitors monthly, quarterly, half-yearly and yearly trends related to job seekers, including the registration of unemployed people and job vacancies.

The automated Registration with Unemployed Status (RUS) system is used by the ANOFM and its territorial subdivisions to register the unemployed and jobseekers, based on which unemployment figures can be calculated. The information from RUS is automatically inserted in Jobless, which generates reports based on queries.

Information releases on the registered unemployment situation are also prepared monthly and made available on the ANOFM website.
Decisions on which data and information should be collected are usually taken jointly by the ANOFM management in consultation with MoLSP. They are defined as targets which are included in the annual action plan.

It is also important to mention that, within the framework of the World Bank project "Higher Education in Moldova 2021–2025", specific activities have been planned to support the development and installation of two information systems, a unified electronic HE admission system (e-Admission) and a unique HE Management Information System (HEMIS).[7]

Another source of statistical information on education is the open data portal SIME, hosted by the MoEdR. The SIME data portal is intended to be used for the interactive dissemination and visualization of educational data, integrating and consolidating data from the General Education module (SIME), the Vocational Technical Education (VET) module and the Early Education module (IET). The SIME portal was implemented in 2017 and updated in 2020, undergoing a phased process of expansion and development.

The main purpose of this data portal is to provide quick and easy access to various statistical data at school level to a wide range of users, public and private institutions, parents and children. It contains statistical data at the level of educational institutions, which are grouped by locality and district/ municipality/ UTA. The portal provides easy and quick access to various statistical data from SIME.

This portal also offers functionalities such as "electronic catalogue" or "e-admission".

At the moment the portal includes statistical data on early education, primary, secondary and high school education, and VET.

For example, the VET data category provides information on

- VET institutions (centres of excellence, colleges and vocational schools), including the profile of the institution, financial activity and institutional capacity;
- students in VET institutions, disaggregated by gender, quota, attendance, assessments, as well as by trades and years of study, gender, age and ethnicity, not to mention scholarships awarded, number of students enrolled in vocational training programmes, number of graduates and employment rate of graduates;
- staff of VET institutions, including their number, qualifications and length of service;
- all categories of data, including institutions, classes, students and staff, grouped by a variety of indicators.

In addition to the abovementioned institutions, there are other public[8] and private[9] bodies, think tanks, and NGOs that can collect and provide data and information needed for skill needs assessment and anticipation.

Periodically, the Sectoral Skills Committees, as well as some NGOs collect data on the need for skills in the process of developing occupational standards[10] or occupational profiles in accordance with an approved methodology[11] on the development of qualification standards.

Overall, the collection of data on supply and demand and to some extant data analysis (as the case may be) is carried out by relevant ministries and their analytical departments, donors, NGOs, think tanks and research institutions.

[7] Initially, the World Bank project was intended to support the development and installation of three information systems, including the creation of LMIS (a draft Government Decision was prepared by the MoLSP), but this was later eliminated, leaving only the two mentioned above.
[8] For example, the NHoSI periodically provides data on beneficiaries of pensions and state social allowances, while the State Labour Inspectorate produces official statistics on occupational safety and health, accidents at work, and so on.
[9] For example, private institutions such as Prodidactica EC, the Expert-Grup independent think tank and NGO, the IDIS “Viitorul” independent think tank and other NGOs can provide ad hoc data on request and public institutions provide periodic information.
[10] The document that describes the attributions and professional tasks specific to a job/profession/specialty/occupation in a particular field of activity and the quality benchmarks associated with their successful fulfilment, in accordance with labour market needs.
[11] Government Decision No. 863 of 08-10-2014 for the approval of the Methodology for the development of occupational standards.

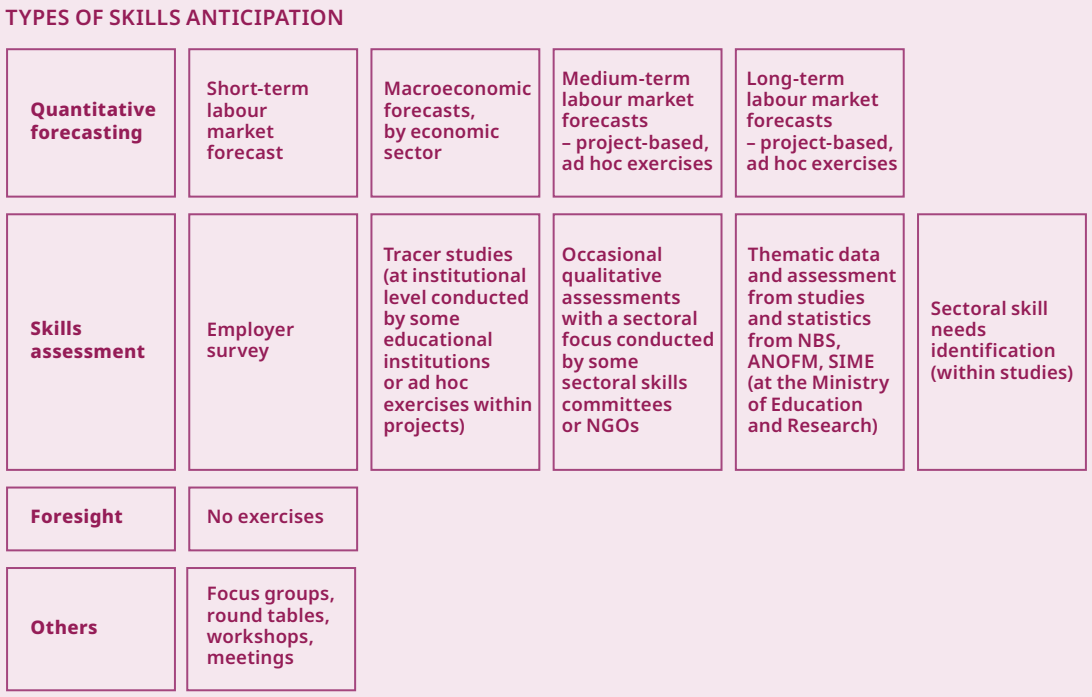
▶ Table 1: Overview of the main data relevant to SNA exercises

Data title	Data provider	Data type / tool	Periodicity
Population and Housing Census	NBS	Census	Every 10 years (next one due in 2024)
Labour Force Survey	NBS	Survey	Quarterly
Survey on Employee Salaries	NBS	Survey	Quarterly
Survey on Earnings and Total Labour Costs	NBS	Survey	Yearly
Survey on Professional Training of Employees	NBS	Survey	Yearly
Statistics on economic enterprises	NBS	Administrative data; Survey	Yearly
Education statistics (number of institutions; type of institution, teaching staff; students/ pupils; key indicators for monitoring education policies; general statistics on education)	NBS	Administrative data	Yearly
Data on the registered unemployed (the structure of the unemployed; access to active measures for stimulating employment; access to passive measures for the social protection of the unemployed)	ANOFM	Administrative data	Continually
Job vacancies	ANOFM	Administrative data	Ongoing
Survey of economic agents (employers)	ANOFM /LMO	Survey	Yearly
SIME (statistical data on early education, primary, secondary, and high school education, and TVET)	MoEdR (and educational institutions)	Administrative data	Yearly
Tracer Study (in-house, not coordinated at national level)	A few TVET institutions and HE institutions	Survey	Yearly
Sectoral skill needs identification (within studies)	NGO/ think tank/ research institutions/ HE institutions	Mixed qualitative and quantitative data from primary and secondary sources/ survey, focus groups, meetings	Ad hoc
Skill needs identification for an occupation	Sectoral skills committees/ NGOs	Survey/ focus groups/ round tables/ workshops	Ad hoc

4.3. Methods and approaches used for skill needs anticipation

The mapping of skill needs assessment and anticipation in Moldova has highlighted a number of methods and approaches (see Figure 5).

▶ Figure 5: Types of skills anticipation



They include both quantitative and qualitative methods.

The Moldova SNA system (if it can be called that) involves elements of the following approaches:

- formal, national level, quantitative methods, forecasts, model-based projections;
- regular enterprise surveys, surveys of other groups, interviews, focus groups and round tables to reach a consensus view (these approaches include some quantitative aspects but are generally more qualitative);
- ad hoc sectoral or occupational studies, which involve both quantitative and qualitative methods and focus on particular areas, being project based.

The methods and approaches are well supported and facilitated by the availability of information and statistical data offered by the national agencies, namely the NBS and the ANOFM.

Information is collected both in paper form and via e-reports.

The main outputs range from short reports, various informative and analytical notes, short-term labour market forecasts and barometers of occupations (see Annex 1) to longer research and a significant database that can be used and analysed by various interested end-users.

We shall now turn to the most important outputs for skills assessment and anticipation.

In the past four years, the LMO work programme has encompassed structural publications on labour demand and supply and analysis of job vacancies. Analytical notes were also produced on labour market trends (employment and unemployment) based on NBS and administrative data. The aim was to analyse labour market trends and identify solutions to correlate demand with supply. The LMO monitored and analysed the survey of economically active establishments conducted by the territorial subdivisions for employment.

The ANOFM produces the Short-Term LMF on an annual basis. This forecast is developed based on data from employers surveyed in the automated LMF application system. (The LMF is a separate information system, through which the sampling is done independently in accordance with the methodology. After generating the sample, each territorial subdivision surveys the employers in their region. The LMF system generates an Excel document and data are then processed by the LMO, combining different fields. However, it is not an econometric programme with interactive data processing that yields analyses.)

As regards skills assessment and anticipation, some forward-looking analyses have been carried out, along with analytical reports on labour market trends:

a) Forecasts
   - Short-term labour market forecast for 2023 from the employers' perspective,
   - Short-term labour market forecast for 2022 from the employers' perspective,
   - Short-term labour market forecast for 2021 from the employers' perspective,
   - Short-term labour market forecast for 2020 from the employers' perspective.

b) Analytical reports
   - Analytical report on employment and labour market trends for 2022,
   - Analytical report on employment and labour market trends for 2021,
   - Analytical report on employment and labour market trends for 2020,
   - Analytical report on employment and labour market trends for 2019.

The LMO also produces infographics along with its analysis.

Research and analysis are carried out periodically by other institutions and organizations, private sector think tanks, or individual experts funded from budgets other than the state. These studies are mostly ad hoc and, in most cases, in line with funders' requests and their priorities:

- Medium-term labour market forecast (2024–2026), carried out by the Expert Group Independent Think Tank NGO in 2023[12]
- Long-term labour market forecast 2025, carried out by the Expert Group Independent Think Tank NGO in 2020, funded by GIZ
- The State of Skills in Moldova, update, ILO, 2021
- The State of Skills in Moldova, ILO, 2019
- Assessing the skill needs of the workforce in key value chains, 2018, USAID, Agriculture in Moldova Project
- Report on the results of a project aimed at identifying medium-term labour market demand for higher and technical vocational education in pyrotechnics, horticulture, paedology and soil protection, crop production and animal husbandry, animal husbandry and veterinary medicine, the technology of plant products, DevRAM, ADA, 2019
- What are the skills of the current labour force in Moldova? Skills measurement and labour market barriers in Moldova (STEP-lite), Kupets, O. (2019), funded by WB Group
- Report on skills mismatch, World Bank, 2019
- Results of the Skills Module from the study on the LMF in the Western Balkans, WB, 2018

[12] Funded by the European Union, the German Federal Ministry for Economic Cooperation and Development, the Austrian Development Cooperation and the Ministry of Foreign Affairs of the Republic of Poland - Assistance to Poland; and implemented by the Austrian Development Agency and Solidarity Fund PL in Moldova.

It is important to specify that the main focus is on economic sectors and occupations rather than on skills.

The information on occupations is complemented by data on qualification patterns within occupations and the implications for skills are derived from an analysis of needs for skills and competences. This is for the purpose of the development/review of an occupational standard, occupational profile, and qualification standard.

Occupations are classified using the standard Classifier of Occupations from the Republic of Moldova[13] (CORM 006-2021) which establishes the names of the occupations (functions and professions) practiced by the active population of the Republic of Moldova and their classification into groups, depending on the level of homogeneity of the relevant activity and the level of competences/skills required to practice it.

CORM 006-2021 was developed based on ISCO-08 and the ESCO, ensuring the comparability of occupations for both statistical and administrative purposes. Qualifications are measured using the NQF.

The National Bureau of Statistics' focus is on more general economic development, not simply on skills. Sectoral skills committees and some NGOs may conduct qualitative assessments with a sectoral focus. These assessment exercises focus on identifying needs for skills and competences, a mandatory process required by the Methodologies on OS development and QS elaboration.

A number of sectoral skills committees rely on qualitative approaches (surveys) to assess the current occupation and skill needs in a certain sector. Some sectoral skills committees conduct their own surveys, develop their own quantitative models, and use various technics (round tables, focus groups, and so on). This is usually done in-house, but when resources are available extensive use is made of external consultants for the relevant knowledge and expertise.

This year a methodology[14] was developed for medium-term labour market forecasting, a quantitative labour market model for medium-term skills anticipation.

An ad hoc project-based attempt at skills anticipation in the medium- and long terms using quantitative extrapolation was carried out by the Expert Group Independent Think Tank NGO in 2020 and 2023.

A few VET institutions and many universities developed their in-house approaches by carrying out tracer studies.

However, they recognized that these approaches tell only part of the story and need to be complemented with other methods, including employers' surveys and other qualitative and quantitative procedures.

[13] https://social.gov.md/wp-content/uploads/2022/01/CORM.pdf

[14] The newly developed methodology has not been approved by either ANOFM (OPM) or the MMPS, as according to them, the results of the forecasting carried out under the new methodology remain rather general, with no added value with regard to the provision of information on specific skills needs.

4.4. Dissemination

The aim of the skill needs anticipation exercises is to ensure a substantial impact. They are disseminated to relevant institutions and bodies, in other words, the end-users (government ministries and agencies, educational institutions, career guidance structures/educational counsellors, social partners, employers, students, and their parents).

At present in Moldova there is no structured dissemination that systematically provides the target groups with skill needs information from the skills anticipation exercises.

The main dissemination channels are institutional websites, online portals, published reports, information notes and analytical reports, executive summaries, as well as various dissemination events. Relevant stakeholders may be engaged with directly or in meetings and ad hoc workshops. In addition, the NBS, the ANOFM, ministries and development partners take advantage of public media (TV, radio, newspapers or magazines) to disseminate information and the findings of skill needs anticipation exercises (see Figure 6: Dissemination and use in the SNA cycle).

Generally speaking, data and information reach users in the form of raw data and reports.

Most of the outputs produced by public bodies (NBS, ANOFM, SIME at the MoEdR) are regarded as public and therefore are freely available and widely disseminated to the general public.

At the same time, some stakeholders we interviewed stressed that there is only limited access to the microdata relevant to research on skills and labour market issues. Given that access to microdata is often subject to a range of legal and technical restrictions (including data confidentiality and non-disclosure rules) special stakeholder requests must receive administrative approval, which might be time consuming.

4.5. Using the outputs of skill needs anticipation

As illustrated in Figure 6, Dissemination and use in the SNA cycle, skill assessment and anticipation outputs are employed primarily in labour market policymaking, in employment and career guidance and, to a lesser extent, in education policy.

In employment policy, skill needs information is typically used for the

- development and/or updating of occupational standards;
- revision or design of training programmes and allocation of funds for training the unemployed;
- provision of information to jobseekers and the unemployed about labour market demand; and the
- development of incentive mechanisms to support and guide individuals and institutions to address changes in skill needs.

In education policy, skill assessment and anticipation outputs are used mainly to

- develop/update qualifications frameworks and curricula based on OS or occupational profiles;
- provide information to students, pupils and their parents about labour market prospects;
- make decisions on CVET course provisions; and
- make decisions on and develop dual education VET programmes.

As regards the social partners, skill needs information is utilized mainly to

- advise members on jobs and skills that should be promoted;
- lobby and influence labour and education policy by providing consultancy and recommendations.

Other applications of the results of job and skill needs anticipation exercises include informing decision-making and migration policy.

The main users of skill anticipation outputs are policymakers, ANOFM employees and, to a certain degree, educational institutions and some non-governmental bodies.

The elaboration, promotion and implementation of state employment policies is part of the MoLSP's mission. The main sources commonly used to develop employment and social protection policies and to reduce future labour market disparities incorporate employer and occupational skills surveys produced by ANOFM and quantitative data from the NBS. The MoLSP also use skills assessment and anticipation to coordinate the development and updating of occupational standards. The newly developed or updated occupational standards and/or occupational profiles are used most frequently to obtain new insights into the skill set pertaining to the qualification standard, which in turn serves as basis for the development or updating of curricula.

▶ Figure 6: Dissemination and use in the SNA cycle

Dissemination

Channels	**Institutional website**	**Online portals**	**Published reports**	**Information notes and analytical reports, as well as executive summaries newspapers or magazines**	**Various dissemination events (engaging directly with relevant stakeholders in meetings and ad hoc workshops)**	**Public media (TV, radio, newspapers, magazines)**	**Social media**
Use (main users include policymakers [MoLSP], ANOFM, employees, to a certain extent educational institutions and some non-governmental bodies)	In employment policy ▶ development and/or updating of occupational standards ▶ revision, design, allocation of training programmes for the unemployed ▶ provision of information to jobseekers and the unemployed about labour market demand ▶ development of incentive mechanisms to support and guide individuals and institutions to address changes in skill needs		In education policy ▶ development/updating of qualifications frameworks and curricula based on OS or occupational profile ▶ provision of information to students, pupils and their parents about labour market prospects ▶ decision-making on CVET course provision decision-making on and development of dual education VET programmes		Social partners ▶ advise members on what jobs and skills are to be promoted ▶ lobby and influence labour and education policy, providing consultancy and recommendations		Other applications, including informing decision-making and migration policy

The skills assessment exercises provide support to the MoEdR in defining dual training programmes in occupations in which shortages are identified, to design or revise CVET courses and provide information for career guidance.

The employers' surveys and the LMF prepared by ANOFM are used by the MoEdR (lifelong learning department) to support their decisions on CVET course provision, to assess the number and type of CVET programmes. A successful partnership has been established between ANOFM and the lifelong learning department at the MoEdR to support the provision of training to the registered unemployed.

Evidence from skills assessment exercises carried out by the ANOFM also feed into various job training elements in defining the content and number of existing or newly designed programmes for the registered unemployed. To a degree, skill needs information is also used in the development of incentives to facilitate and guide individuals and institutions in addressing the necessary skill changes.
Skill anticipation outputs are used by career and vocational guidance services provided by ANOFM and educational institutions, particularly TVET institutions. The ANOFM and TVET institutions use the information to enhance their advice and provide help to guide individuals towards appropriate training programmes and qualifications.

The ANOFM, through its territorial employment subdivisions, provides career guidance services to all people looking for a job, including schoolchildren, students and people with disabilities.

ANOFM career guidance counsellors are trained and provided with information based on skills anticipation data to support young people, the unemployed, jobseekers and other beneficiaries in identifying educational and vocational opportunities. People who apply to ANOFM or to ANOFM territorial subdivisions are interviewed for the purpose of drawing up a personal profile. Based on that profile (based on three categories), an individual employment plan is developed, or the person is directed to training courses (although not necessarily). The Cognitrom Career Planner platform is used in career counselling for people who are identified as requiring such services, based on their profile.

For school pupils and students, career guidance and consultancy are also the responsibility of the relevant educational institution. This draws on ANOFM information and NBS data, sometimes coupled with Tracer study outputs (carried out by a few institutions in the country) and some information from other external sources (such as skill needs exercises delivered as part of a project).

Overall, the ANOFM surveys and its web portal are used mainly by career guidance practitioners, labour market and education experts, jobseekers, employers, and training providers for the purpose of career guidance and for planning CVET courses.

Individuals (students, potential students and their parents, jobseekers) usually make use of this information through intermediaries, career counsellors and teachers.

▶ 5. Overview and lessons learned

Some NGOs, research institutes such as INCE, ICJPS and ISE, and research units within the country's universities (ASEM, UTM, USM, etc.), as well as think tanks periodically analyse and use the skill needs information within the framework of particular projects, generally to justify or plan project/programme interventions.
This study has looked at the SNA cycle to map the flow of information and processes and to gain some understanding of cooperation between the stakeholders, the relationships between data sources, methods and approaches, data production, collection, analysis, dissemination and usage of SNA outputs and existing analytical capacity in order to be able to interpret and use the SNA results.

The skill needs assessment and anticipation system is still in the process of development in Moldova. It includes SNA exercises, a good database at the level of the National Bureau of Statistics, ANOFM and SIME for supply side at the MoEdR, and some basic elements of the quantitative forecasting system. The data infrastructure with regular labour force surveys is well established, and some attempts have also been made to combine different data sources to extrapolate future trends.
Nevertheless, a systematic and well-coordinated skill anticipation process has yet to be developed. Although in theory there is common agreement between key authorities on the direction of policy and

SNA practices, the current fragmented processes do not currently operate as a well-functioning SNA system and the impact of various SNA exercises has been limited so far.

Currently, however, the SNA exercises have the potential to inform some policy dimensions related to employment prospects, as well as – to some extent – career guidance services, and they contribute to the development of some CVET and dual training programmes, and training courses for registered jobseekers. Little influence is exercised, however, on the planning and development of initial education programmes and curricula to reduce the discrepancies between skilled labour supply and demand.

In this respect, there are a number of broad challenges that need to be overcome to ensure that information on skill needs is used more widely and effectively.

The mapping process revealed a series of problems affecting all processes in the SNA cycle, starting with setting objectives and target groups. The challenges include

- data sources and data processing;
- the quality and efficiency of the available tools and approaches taken to skill needs assessment and anticipation, mediation and use of the SNA outputs;
- existing analytical capacity to interpret SNA information; and
- coordination and cooperation between key actors.

While the challenges may vary essentially from one aspect to another, ultimately, if one of these components is weak or missing, it affects the functionality of the whole SNA system. Furthermore, the deficiencies of an exercise have an adverse knock-on effect on other SNA processes. Another potential problem is that single exercises may be carried out piecemeal (even if they are of high quality) without ensuring their connection with an integrated SNA system, which ultimately leads to inefficient use of time, and human and financial resources with no expectation that the set objectives will be achieved.

Skill needs assessment and anticipation exercises and policy responses touch on policy areas covered by two ministries in particular, MoLSP and MoEdR. Nevertheless, the functioning and efficiency of an SNA system does not depend solely on the two ministries but also requires the active involvement of other key actors, including MoEcDD, MoF, other ministries, agencies, employers` associations/ national confederation of employers, and trade unions. Furthermore, setting objectives, establishing target groups, planning and implementing SNA processes, providing feedback and dealing with responses have to be properly coordinated, not only between ministries but also beyond, with all key stakeholders.

Some of the main challenges to developing robust skill needs anticipation are outlined below.

▸ SNA coordination

SNA coordination is dealt with in various official papers,[15] including the partnership agreement on cooperation between the partners[16] to ensure the functionality of the LMO. But despite the existence of this formal agreement requiring the involvement of all key stakeholders, in fact the coordination of skill needs anticipation leaves much to be desired, and remains difficult and inefficient.

[15] MoHLSP Order No. 3 of 9 January 2019 on Approval of the Regulation of the Tripartite Council of the ANOFM; Government Decision No. 935 of 24 September 2018 on Approval of the New Regulation of the NBS; Government Decision No. 990 of 10 October 2018 on Approval of the Regulation of the ANOFM; Government Decision No. 386 of 17 June 2020 on the Planning, Elaboration, Approval, Implementation, Monitoring and Evaluation of Public Policy Documents; Government Decision No. 168 of 9 March 2010 on Approval of the Framework Regulation of Policy Analysis, Monitoring and Evaluation Department; Government Decision No. 244 of 21 March 2018 on the Establishment of the National Council of Statistics.

[16] The partnership agreement was signed by MoHLSP and ANOFM on one side and MoEcI, MoF, MoECR, MADRE, NBS, INCE, NCoE, trade unions, CoCI, BoMA, on the other.

Among the reasons for this, mentioned by most respondents, are the frequent changes in government in the past seven years, because of which the participation of decision-makers in the coordination group is almost nil, leaving decision-making on the development of the work programme to the discretion of the relevant institution.

For example, the LMO has a coordination group consisting of representatives of the partner institutions with decision-making competence, including state secretaries. The aim of the group is to approve the LMO's annual activity plan and make decisions on its priorities for research and analysis. Furthermore, the Coordination Group is supposed to provide support and intervene if any impediments are detected in the collection, processing, analysis and dissemination of relevant information. Owing to changes in government over recent years, the LMO coordination group did not meet for several years after it was established. As a result, all decisions on activities and the types of data and information to be collected remained largely at the discretion of ANOFM and MoLSP.

Another reason is that many actors are not entirely aware of their role in the SNA process as a whole, and do not fully understand the functioning and importance of skill needs anticipation. An important factor in this is the lack of personnel and the excessive burden placed on public institutions, sometimes coupled with insufficient capacity and/or reluctance to take on additional burden of activities that are not part of their main profile.

Thus, in the best case the role of important actors is limited to their attendance of some meetings. Their absence from subsequent collaboration and active involvement affects the formulation of specific objectives, taking each target group into consideration, together with indicators of progress and impact.

The collected evidence suggests that there is limited or a total lack of feedback on the results, the degree and effectiveness of SNA output use, and the priorities that should be considered and perhaps incorporated into the annual work programmes.

Getting the social partners to involve themselves in SNA exercises continues to be a challenge. Despite the increasing involvement of social partners in the development of TVET, and success in persuading employers to engage in TVET activities and to communicate their skills needs, the process of identifying skills needs remains a challenge, as reported by most respondents.

Finally, regardless of the partnership agreement formally established between the key institutions, effective communication is still lacking and those using the data are not formulating and conveying their needs and expectations clearly.

Implementing SNA outcomes

Implementing SNA outcomes in policymaking and practice remains the most challenging phase of the SNA cycle.

To maximise the utilization of skill needs anticipation, it is important to ensure that SNA results are not only reliable and up to date but also relevant to the needs of different users (OECD, 2016).

However, according to respondents the development of robust SNA tools and existing SNA information and products are still not easy and are far from being fully exploited (see comments in Box 1: Interview statements on the use/lack of use of SNA information and outputs.

While it is clear that data use does not depend solely on the availability and quality of information, but also on the capabilities and predilections of the relevant institutions, and sometimes on political will, the

extent to which SNA data is used or not depends also – in the view of stakeholders – on its complexity, quality, appropriateness to their specific needs, and reliability.

The use of SNA information and outputs faces difficulties because of the lack of sufficient and relevant data and results specific to the user group, but also because the relevant exercises are not aligned with potential policy use, or not trustworthy, whether in fact or merely because they are perceived to be unreliable.

In addition, all partner organizations and institutions face their own, internal constraints in dealing with skills assessment and in formulating policy responses due to a lack of confidence or an inability or limited knowledge of how to use the SNA products. Without competent staff with sufficient knowledge of qualitative and quantitative data management, it is not possible to take full advantage of the available data to exploit meaningful insights and information (ILO, 2017).

For example, the LMO is well placed to collect and combine data sources and to provide information to various stakeholders. However, it still needs to strengthen its staff's capacities and their ability to handle data and microdata. Furthermore, additional data analysis, the development of individual modules, and the further development of an econometric model are well beyond the capacity of the LMO as things stand.

Overall, as mentioned by all respondents, most decision-makers appear to find it challenging to interpret SNA outputs, and to combine facts and research findings. Their lack of analytical capacity and knowledge of how to interpret data mean that it may not be properly taken into consideration when drafting policies, whether on employment or education.

Finally, the lack of well structured, relational databases to store (or provide direct access to) data gathered from different institutions and organizations is a major impediment to comprehensive and exhaustive analysis. This was highlighted as among the main challenges by LMO and ANOFM respondents in particular.

- **Data analysis also remains a challenge.**

The findings reveal that there is no specific entity acting as an intermediary body with a mediation function between the supply and demand sides, and no structures that analyse and coordinate feedback on results.

Information is collected and the data is condensed in tabulated form, but usually there is no follow-up analysis. In general, raw data are collected, but trends and patterns are not monitored and the LFS is not fully exploited to monitor labour market trends.

For example, the data obtained from the existing SIME platform is not used or analysed in the institutional planning process, and its usefulness is often limited and formal.

For more information see Annex 3: Interview statements on the analysis of data and information.

- **Data issues / data limitations**

Moldova has a good foundation of basic data for skill needs assessment and anticipation. There is still considerable room for improvement, however.

The interview respondents pointed out the following main shortcomings related to data:

- information is too general;
- it is too technical for many users without special knowledge of the subject,
- the collected information is not aligned with policy objectives or framed so that it can serve different users.

SNA exercises frequently focus on occupational demand as proxy and only a few exercises (mainly within donor funded projects) assess specific skill needs. The assessments carried out by NBS and ANOFM are done by industry and by occupation. National assessments or aggregated data can thus sometimes overlook specific skills needs in a particular region or sector.

Thus, the current SNA exercises are unable to provide meaningful messages for the design and/or adaptation of education and training provision. They lack a broader vision of future economic development, and find it difficult to identify short- and medium-term skills needs or to capture changes in skills demand.

Another issue is the quality of information provided by respondents. For example, once every three years the employer survey questionnaires include a section with specific questions on skills needs. Unfortunately, employers simply do not have the capacity to perform analysis on their own and to convey their findings in terms of clear skills needs. This is particularly true of small and medium-sized companies, which constitute more than 90 per cent of the total number of enterprises in the country. y are simply not in a position to formulate any present or future skill demands.

▸ Some issues related to the SNA methodology and tools

The synergies between the quantitative and qualitative SNA methodologies remain largely unexploited.

Even though the data contains all the necessary elements, it is still a challenge to master the development of quantitative forecasts.

Macroeconomic forecasting is still not geared towards sectoral employment forecasting. This would require either further development of macroeconomic forecasting at the ministry, such that detailed employment forecasts at sectoral level could be provided regularly, or the development of a methodology to use the available macroeconomic forecasts to produce consistent employment forecasts.

The LFS is comprehensive and includes the necessary information. However, issues may arise because longer time-series are required to identify developments at the level of occupations or qualifications. This also requires that the classifications used remain stable, or that the time-series can be reconstructed by overlapping classifications. Reconstructing a time-series encompassing the period up to 2018 and the data from 2019 onwards would be ideal for constructing longer series.

Another challenge is related to the lack of tracer studies in the country, with the exception of a few TVET institutions that carry out tracer studies for their own use.

For more information see Annex 4: Interview statements on data quality.

▸ Others barriers identified include the following:

- the shortage of staff (human resources) with the relevant knowledge and experience constitutes a crucial factor hindering the development of SNA exercises;
- the low budgets, insufficient staff and demotivating salaries in the public sector also threaten further development of the SNA system or even the ability to conduct exercises regularly.

Insufficient financial resources set a limit on development of the instruments needed to collect and process data, conduct SNA exercises or outsource SNA research.

In fact, the lack of funds is tangentially linked to the lack of political will to support such exercises, as they require long-term investment without immediate results, and usually go beyond the term of a particular government, beyond the usual political cycle.

6. Recommendations on opportunities for the development of the skill needs anticipation and assessment system

... or, What we can do to develop the SNA system further.

In light of the evidence gathered from mapping the SNA exercises, and building on existing potential and on well constructed elements, together with critical analysis of the issues identified, a set of recommendations were formulated that could help in developing a robust SNA system in Moldova.

The recommendations may be expressed in terms of two "opportunities":

Opportunity 1: consolidation and continuous development of each part of the SNA cycle;
Opportunity 2: amalgamation of the existing SNA exercises into a functional SNA system.

▸ Recommendations for Opportunity 1

There are multiple effective ways to overcome the obstacles mentioned in the previous section in order to improve and strengthen the existing SNA exercises, as well as to create those that are still missing. These include the following:

A. improve the efficiency of SNA coordination;
B. strengthen the capacities of all pivotal actors and awareness-raising among key players;
C. enhance the use of SNA information to inform policymaking and stakeholders' choices and decision-making;
D. take further methodological steps towards a functional, forward-looking analysis of the labour market and skills needs.

A. Recommendations for improving the efficiency of SNA coordination

In order to develop an efficient SNA system that produces relevant and credible outputs, taking into consideration the needs and interests of all stakeholders, said stakeholders should be directly involved in SNA processes to ensure acceptance and ownership of the results.

SNA coordination should be improved by making the involvement of all stakeholders a legal obligation.

The recommendation is to develop an SNA work programme conducive to this goal.

The SNA work programme should be developed by MoLSP[17] with ANOFM (LMO) and jointly with MoEdR, MoEcDD, MoF, MoAFI, MoEn, MoIRD, NBS, INCE, NCoE, TU, CoCI, and BoMA, and approved by government decision to hold all institutions accountable.

The SNA work programme developed annually by MoLSP should set clear objectives and incorporate the various SNA activities and products, including statistical information, data sources, data and information collected, level of disaggregation, methods and tools, analytical reports, formats for needs assessment and anticipation, and outputs, indicating costs and resources, periodicity, responsible institutions and deadline for dissemination of information, as well as the main policy documents/decisions that are to be based on SNA evidence.

[17] This recommendation is based on the fact that MoLSP already plays an important role and has accumulated experience of coordination, and additionally that ANOFM is subordinate to it. At the same time, this role can be taken over by any other governmental structure, such as MoEcDD or MoEdR.

Some important aspects to be considered when drafting the SNA work programme are as follows:

- formulation of clear and relevant objectives, aligned to the final use of information and outputs, policy development and strategic planning, including state order – Annual Government Plan for admission to TVET and HE institutions;
- determination of activities needed in pursuit of the set objectives;
- decision-making on priorities;
- setting indicators for measuring progress and results;
- pragmatic decision-making taking into consideration available resources and capacities, and procuring resources;
- including exercises that fully exploit qualitative and quantitative data on skills needs;
- framing exercises on the sectoral and regional dimensions.

The development and implementation of the SNA work programme should be complemented with effective follow-up activities_(with specific objectives and timelines), including dissemination_of the products of SNA exercises in an accessible way, using stakeholder channels for dissemination and use of SNA outputs, and feedback on stakeholders' use of SNA results. Good practice from a range of countries shows that SNA exercises are most successful when there is a general culture of discussion and use of the results.

In pursuit of the same goal of ensuring a continuous flow of information and an efficient circuit of SNA processes we have one more recommendation:

- Make arrangements at ANOFM level within the LMO or MoLSP to analyse and properly coordinate responses and feedback on the use of SNA results. It is also necessary to provide the requisite advice and consultancy, as well as sustainable and continuous support for the various institutions, organizations and stakeholders involved in developing and sustaining knowledge about SNA processes.
- A better alternative would be to establish the SNA Secretariat at State Chancellery level, or at least at MoLSP level.

The SNA system must be based on appropriate processes, facilitated and strongly supported by government authorities, and owned and nurtured by stakeholder contributions and engagement.

B. Recommendations for strengthening the capacities of key actors and awareness-raising

The human factor has a primary role in the SNA system. Thus, the capacities of all actors must be developed and enhanced in order to obtain a clear picture of how the entire SNA system works and its impact. We also need to understand the role of each actor in the system and how the processes are interconnected. The system must function smoothly, which will also help to raise awareness of the importance of SNA and its broad impact.

Following this logic, the recommendation is to strengthen and enhance the capacities of all SNA constituents to obtain new knowledge and experience by pursuing:

- training programmes for all stakeholders so that they can acquire general knowledge on skill needs anticipation at ITCILO (for example, the course on Skill Needs Anticipation and Matching or a tailored course on capacity-building in the use of LMI, supply and demand, for better skills anticipation and matching). The idea is to help constituents better understand the central importance of identifying current and future skills needs and labour market imbalances in a broader policy framework, or related courses delivered by other providers;
- thematic training courses on the implementation and efficiency of the various exercises for separate groups of stakeholders (use of LMI, developing skills foresights, scenarios and forecasts, working at sectoral level, developing and conducting skills surveys, developing and carrying out

tracer studies, skills anticipation and matching, work with data and microdata, use of big data, and so on); as well as

- organizing peer learning activities and study visits to countries in which SNA systems are well developed.

Moldova should learn from the experience of other countries and strengthen:

- quantitative analytical tools – the Institute for Employment Research at Warwick University UK and Cambridge Econometrics, as well as the OECD Skills for Jobs indicators and methodology could be also used for inspiration;
- synergies between quantitative and qualitative SNA methodologies – Sweden's National Institute of Economic Research (Konjunkturinstitutet, NIER);
- SNA coordination – Estonia's OSCA system (OSCA coordination council);
- production and dissemination of SNA outputs – Estonia and France;
- production of SNA tools relevant to the needs of end users and dissemination of SNA outputs – take the example of sector skills councils in the United Kingdom and the Czech Republic; national skills advisory groups in Finland, Germany and Denmark; the ILO guide on Skill Needs Anticipation. Methodological guides on anticipation and matching of skills supply and demand;[18]
- interministerial dialogue – Estonia and France;
- dissemination of SNA tools – Estonia and France;
- creation of a one-stop shop, an accessible way of gathering and providing relevant information in
- one place – Denmark, UddannelsesGuiden (www.ug.dk) website and the JobKompasset tool;
- implementation of sectoral approaches, sectoral analysis – Finland, ILO STED Methodology[19] implemented in other countries;
- participation of end users in the design of SNA exercises to maximise use and impact – Estonia's OSCA system;
- production of forecasts jointly developed by education and labour market authorities – Statistics Norway;
- creation of user-friendly ways of delivering data – PES, Austria, (www.amsforschungsnetzwerk.at);
- generation of qualitative and forward-looking models for skill anticipation – Finnish National Agency for Education/EDUFI.

C. Recommendations for enhancing the effective use of SNA information to inform policymaking and stakeholders' choices and decision-making

Likewise, just as there is a whole range of reasons for the under-use or non-use of SNA results, the recommendations for ensuring use of SNA outputs address a number of dimensions, as follows:

- there should be consensus building among stakeholders in setting clear and relevant objectives aligned to their needs;
- develop SNA exercises and tailor the outputs to policy needs and the needs of end-users taking sectoral and regional coverage into consideration, along with occupational disaggregation and skills measurement;
- increase engagement of all stakeholders and end-users in the development of SNA exercises;
- punctilious monitoring activities by the State Chancellery to ensure implementation of Government Decision No. 386/2020 on the planning, drafting, approval, implementation, monitoring and evaluation of public policy documents, and to assess the extent to which the SNA results are used in employment, education and migration policy documents, through the elaboration and dissemination of Impact Analysis Reports;

[18] Volume 1: Using labour market information; Volume 2: Developing skills foresights, scenarios and forecasts; Volume 3: Working at sector level; Volume 4: The role of employment service providers; Volume 5: How to develop and run an establishment skills survey; Volume 6: Carrying out tracer studies. Available at: https://www.ilo.org/employment/Whatwedo/Projects/WCMS_534345/lang--en/index.htm

[19] The STED programme is a sector-based approach developed by the ILO to help developing countries and emerging economies to identify the skills development strategies required for future success in international trade.

- use clear language in all outputs and engaging in broad dissemination, also via the channels of all stakeholders, including trade unions, employers' associations, sector skills committees, NCoE, educational and training institutions, the research community, NGOs, and other relevant public and private institutions and organizations;
- create feedback loops and reporting on the use and usefulness of LMO outputs, not only between ministries and public agencies but also beyond them, with other key stakeholders;
- the LMO should also continue to improve the dissemination of its products and the formulation and communication of policy recommendations based on analysis;
- develop a consolidated portal at the level of the MoEdR to provide all institutions and individuals with access to easy-to-use information on skill needs, labour market trends and work opportunities, and training and educational provision;
- develop practices for the use of SNA results by trade unions, NCoE, employers` associations and sector skills committees to inform decision-making at sectoral or company level;
- set up at institutional level – in particular at the MoLSP and MoEdR – at least one data analyst position or ideally a forecasting and statistics unit, identifying/hiring qualified person(s) with analytical skills to engage with other actors in the SNA system, monitor trends, assess statistical data, conduct analyses, and formulate policy recommendations on the basis of the analysis conducted in order to provide regular evidence for both decision-making and policy development. In the first instance, in order to boost implementation of the SNA exercises, experts in the field could be temporarily seconded to key institutions (ANOFM/ LMO, MoLSP, MoEdR) with the support of development partners;
- upgrade analytical capabilities.

D. Recommendations for further methodological steps and development towards a functional, forward-looking labour market and skills analysis

To move forward, it is recommended to take the following methodological and practical steps to better identify and support skills and job-matching needs.

- Conduct medium-term skills anticipation on a regular basis. The existing quantitative labour market model could and should be used routinely by the LMO for medium-term skills anticipation.
- Conduct macroeconomic forecasts that make it possible to identify employment development in terms of economic activities.

This forecast could be based on the economic model of the Ministry of the Economy, which prepares GDP predictions for four years ahead, but only covers economic development (growth/decline of output) by broad sectors rather than specifically in relation to employment.

The suggestion is to translate the existing forecast on sectoral development to encompass employment outcomes. and to further develop the capacity to model the country`s economy fully, including employment.

Macroeconomic employment forecasts should be developed to include employment by occupation and qualifications should be carried out using matrices of occupational shares by sector or economic activity using information from the Labour Force Survey.

- Functional skills forecasts calculating (at least) the following module results:
  - macroeconomic forecast (potentially also based on assumptions or extrapolated),
  - forecast of supply, by qualifications,
  - forecast of (expanded) demand,

  and some additional skills anticipation modules to add more details and realism to the overall outcome:

- replacement demand estimation (identifying the people who will need to be replaced),
- tackling supply and demand (imbalances)/reconciling supply/demand imbalances module.

The development of a quantitative skills forecasting model at the LMO level within two years will require hiring additional personnel, including two or three (empirical) social scientists, with experience working with microdata and an understanding of labour and education economics. To alleviate the workload on staff, LMO could externalise the macroeconomic forecast to develop some modules and elements.

As an alternative, the macroeconomic model could also be developed within the forecasting group at the MoLSP. Also highly recommended is to integrate information flows and exchanges of insights between all national institutions that are involved in (economic) forecasting and measurement.

Furthermore, it is recommended, along with methodological development, to secure funding, develop the capacity of LMO staff to work with data and microdata, and ensure the institutional embeddedness of the skills anticipation project in Moldova's labour market information structures.

A forecasting project should also be seen as a long-term commitment. It is important to build up the necessary basis, expertise and experience within the forecasting group and the group of stakeholders and users in order to establish a national anticipation project for the long term.

It is also crucially important to establish various forms of review of the forecast results, and to include stakeholders in the discussion, interpretation and use of forecast outcomes.

Some more recommendations

- Ensure synergies between the quantitative and qualitative SNA methodologies.
- Develop exercises that make the most of qualitative and quantitative information on skill needs.
- Establish dissemination and follow trends, presenting information in a structured way, making it relevant and understandable (avoid too many technical terms) so that it can serve different constituents, including policymakers, education providers, and individuals.
- Offer guidance and/or training to potential respondents to enable them to provide qualitative answers. LMO, NCoE, employers' organizations and sector skills committees should guide and consult employers so they can clearly express and convey their needs for skills, current and future. Training and educational institutions should be helped to motivate and work with graduates/ future graduates to answer tracer study questionaries.
- Exploit big data approaches to monitor changes in skills needs in real time; for example, examining online vacancies to monitor labour market demand is very important, particularly in case of crises such as war in a neighbouring country and an ensuing wave of immigrants, but also a pandemic (Covid-19) or an energy crisis.
- Conduct centralised tracer studies (outsourced to INCE for example) at the level of VET institutions.
- Enrich SIME with data received from tracer study data and information.
- Develop and conduct sectoral skills approaches (for example, in priority sectors[20] in rotation) to strengthen SNA in the longer term. To reduce resource intensity and financial cost it is recommended that such exercises be done annually for two or three priority sectors, as chosen by stakeholders on a rotating basis.

[20] The six sectoral priorities highlighted in the National Industrial Development Programme for the years 2024–2028 (file:///C:/Users/Darwin/Downloads/Anexa-Anexa-PNDI.pdf):
• electronics industry
• chemical and pharmaceutical industry
• manufacturing of cars and auto parts
• textile and clothing industry
• construction materials industry
• food industry

- Establish a well-structured database with direct access to administrative databases maintained by other public institutions, a relational database with separate subject and topic-based information on a new platform with specific fields by domain or theme, with statistics by theme. The ANOFM/LMO should be data holders and conduct correlational, comprehensive and multivariate analysis. This should constitute a good pool of information for other stakeholders.
- Build one-stop shops to provide all relevant information accessibly in the same place for various beneficiaries.

Recommendations for Opportunity 2

The harmonious incorporation of all SNA components into a continuous circuit in an integrated SNA system is paramount for efficient functioning.

Governance is of the utmost importance in enabling all processes to co-function in a single system. This is not an easy task, however, given that SNA systems require the engagement of many and various stakeholders, and the coordination of all actors, processes and target groups. Key government authorities must support data identification, collecting, analysing, dissemination and ownership of SNA results, feedback on output usage, as well as clear setting of priorities and objectives. This must also be embraced and enriched by stakeholder inputs and commitment.

Following on from the above, a national reference document should be elaborated for the development of the SNA system. This SNA agenda, a cyclical document, should also be updated annually, and would be the reference document in the process of setting annual objectives. The Ministry of Labour and Social Protection would oversee implementation.

This reference document (the SNA Agenda) should consist of a descriptive part and an operational part (action plan). They should be structured in terms of objectives and priorities set by all SNA actors.

The operational part should define the authorities responsible for each action and concrete measures to increase their implementation capacity. It should also outline the collaboration needed between authorities at different levels and sectors, as well as partnerships with civil society and development partners in order to develop the SNA system. Accurate estimates of costs and the contribution of development partners are also important, with effective coordination, monitoring and evaluation mechanisms, and reporting tools for each institution, as well as at system level for the MoLSP.

The results of the evaluation should be included in the annual progress report, which should serve as a benchmark for the annual update of the provisions of the document, with a redesign of measures for the next planning period.

The reader should note that it is beyond the framework of this study to provide detailed guidelines and possible technical solutions for implementing the recommendations.

These aspects are to be further debated and mutually agreed by all concerned stakeholders, supported and assisted by external development partners. Many of these recommendations can be the subject of specific projects.

Follow-up activities were to be held in the final quarter of 2023 to identify and decide upon the most feasible recommendations and implementation opportunities.

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▸ Annexes

Annex 1: Example of sampling and elaboration of the Labour Market Forecast and Barometer of Occupations

Example of elaboration of the Labour Market Forecast and Barometer of Occupations:

The current sampling is based on the list of active economic agents drawn up by the NBS and sent to NEA. It includes about 17,000 economic agents with five or more employees, which submit their financial report annually, and employ a total number of about 1.2 million employees. Every year all large enterprises with more than 100 employees are surveyed, while a sample is drawn from among small and medium-sized enterprises, with 5–20 employees and 21–99 employees, respectively.

The LMF sample is formed using a stratified probability model (using size and region as the main strata), aiming to keep the model as simple as possible, while retaining the essential requirements.

The Labour Market Forecast and the Barometer of Occupations comprise a sequence of steps: the survey of a sample of about 3500 economic agents per year with subsequent analysis of the data obtained and its weighting, then presentation, promotion and dissemination of the LMF and the BO. The data obtained from the survey of economic agents is used for preparing the LMF.

The aim of the LMF is to study and anticipate changes in employment in terms of labour supply and demand.

The first section of the LMF provides information on labour market trends: working-age population by labour market status and unemployment trends broken down into various components. Data sources for this section include the NBS Labour Force Survey, among others.

The second section of the LMF presents information on the survey of economic agents. All the questions in the questionnaire are structured in tabular form and analysed. Most of the data is distributed according to economic activities and regions (Chisinau, North, Centre, South and Gagauzia).

Section three presents labour market trends, with key information at national and regional levels.

The fourth section indicates the national and four regional Barometers of Occupations, which are developed based on questioning economic agents and consultations with the territorial subdivisions. It provides a short-term assessment of the evolution of the labour market.

The Barometers include information for both employers and jobseekers. A total of five Barometers are produced, one national and four regional. They present forecasts of labour shortages, and the balance or surplus of labour demand, in accordance with CORM (006-21).

The aim of the BO is to coordinate and increase the accessibility of skills anticipation and occupational information, especially for young people and other job seekers, who are in need of career guidance, as well as for people working in career guidance.

The questionnaire consists of 18 questions and is divided into three sections, which include:

- general information about economic agents (economic activity, form of ownership, number of employees);
- the evolution of demand for current employees, the need for manpower in the past 12 months and the period immediately following (12 months), concrete information on the number of people made redundant in the past 12 months and the following 12 months. This section also contains detailed information on the new jobs created by occupation and the reasons for labour shortages faced by companies. The question on a company's ability to increase production (in per cent), investment in equipment/ technology/premises and the creation of new jobs, measures the link between imminent investment and production/services, which is a measure of expansion capacity.
- Information from the economic agent on whether or not it will face a labour shortage when hiring new people over the next 12 months and whether the shortage relates to skilled/unskilled labour and what the consequences of this shortage are, with approximate wage growth over the past 12 months. Additionally, in this section the company indicates whether it intends to cooperate with ANOFM in vocational training and subsequent employment programmes after graduation and the professions for which vocational training is needed for the next year, the level of qualification, the number of persons involved and the period of training.

Source: ANOFM reports.

Annex 2: Interview statements on the use or not of SNA information and outputs

"The LMO reports complement the information presented to students for career guidance, informing the graduates of gymnasiums and high schools about the priority professions required on the labour market. Analytical studies at system level provide us with figures that can only be used as information support." (Educational provider)

"Likewise, the LMO information and reports serve to configure the offer of vocational training courses for the unemployed." (Educational provider)

"Our sector committee uses NBS and ANOFM information to monitor the sectoral labour market to develop occupational standards. Also, we prepared the Sector Report, referring to the data of the ANOFM and LMO reports." (Sector committee representative)

"We use data from the NBS as they are trustworthy and sometimes we use LMO data in analytical studies conducted by INCE." (Representative of research community)

"In our activity we depend largely on external donor funding, and we are not able to conduct research on a regular basis, but we rather engage in sporadic research. And we face problems, for example in analysing and elaborating trends over the past five years. It is very challenging to embed conclusions in policies in the absence of regular analysis and previous studies in the field." (Representative of a private research community)

"We use data from ANOFM – we establish templates for reports in which they must present data to us, for example, by beneficiaries, by employment measures, by gender, by age, by level of training, etc. Maybe the data is not the most accurate, but it depends on the information system, for which, most of the time, there is not enough money from the state budget for improvements or for maintenance. [...] we use only NBS data, the labour market survey. I can rely on NBS data. They regularly come up with data that I can compare over a period of several years." (Public servant, MoLSP)

"Our department does not use the LMO data as we do macro-level analysis. I am a member of the LMO Technical Group. I attended a meeting, I always get invited but I cannot always participate. The MoEcDD uses statistical data on Labour, Employment and Unemployment in the Monthly Reports on the socio-economic evolution of the Republic of Moldova, it provides information about labour market trends in the process of forecasting the main medium-term macroeconomic indicators (social sector) using data from BNS." (Public servant, MoEcDD)

"We also look at studies done by other actors (NGOs), but with great caution, especially when the data are based on questionnaires (their quality / credibility depends a lot on the person who conducted them). I do not have enough confidence in these data. Each item of research is not done according to a unique methodology... So individual decisions are made about the methodology/tools/sample and so on ... occasional research is done, there is no continuity, and we have no opportunity for reflection." (Public servant, MoHLSP)

"As long as we lack a clear methodology, and research is done at the discretion of those who want it and using their own methodology, we cannot rely on this research, whatever it may be. We also do not take into account the research done by development partners." (Public servant, MoEdR)

"We do not and cannot take into consideration the SNA information produced by the LMO. The information is mainly on current vacancies, not on skills needs. And we also do not take into account the research done by development partners. And we plan annual admissions to institutions based on last year's plan, taking into consideration the possibilities of educational institutions, and their proposals when they need to add or cut a training programme. In addition, because there is no clear methodology, we cannot rely on this research, whatever it may be. It is difficult for us to make robust decisions based on sporadic research." (Public servant, MoEdR)

"Regarding research institutes in general I don't know what they do, what their products are, apart from INCE. We at the ministry do not know what they are doing, we are not informed, they do not come to ask us what research is needed, etc." (Public servant, Ministry)

Annex 3: Interview statements on data and information analysis

"Regarding the analysis ... you don't even have much to analyse and even if you did, you are put in a situation in which you can't implement those analyses. However, an analysis system would be very welcome. There should be a systemic approach; the Ministry should commission certain research projects so that the research does not take place at the discretion of just anyone within a certain project. For the purpose of analysis we need dedicated entities to produce it. It is not currently feasible at the level of the Ministry.

You need specific skills and specialized institutions with the right capacities and budget." (Public servant, MoEdR)

"LMO have done some very good analysis lately. I think they are making progress in their reports. They also need more training to learn from the experience of other countries, and if they have more funding to develop a common database to receive more and better information, they will do much better analysis." (Public servant, Ministry)

"We have rich data and information, but we need help to do the analysis. We monitor our activity but not the situation on the whole labour market. How can we analyse the entire labour market, when there are so many issues, and we have a shortage of staff, particularly qualified staff, and no money to outsource research." (ANOFM)

"... if I am very honest, analytical capacities in Ministries are practically non-existent." (Public servant, GoM)

"There is no one to produce analyses at the Ministry level ... For this you need specialized institutions, a budget." (Public servant, MoEdR)

"This year INCE participated in a tender to obtain funding for a project on the Economic Forecast in the RM, but they did not win, so no funds were allocated. This shows the attitude of the state to the country's priorities!" (Representative of research community)

Annex 4: Interview statements on data quality

"The NBS provides mostly general data for the entire country, but we would be interested in data distributed per region, even by districts, so that we can compare cities with other districts or with Chisinau on several indicators." (Think tank representative)

"The NBS does not offer data on occupations. For example, we have data that there is a shortage of labour in agriculture, but agriculture is very broad." (Public servant, Ministry)

"The products developed by LMO are not always useful and high quality. LMO is not yet well known on the market." (Public servant, MoLSP)

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Report on mapping and analysis of the skill needs anticipation system (processes, institutions, collection, flow and use of information) in Moldova.

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