

Assessment of training needs and institutional potential of the potable water supply and disposal sector in the Kyrgyz Republic

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Abstract. This article explores the issue of training needs and the institutional potential of potable water supply and disposal sector in the Kyrgyz Republic. Reforming the sector would entail transformational changes in the activity of the regulatory agency – State Agency of Architecture, Construction and Municipal Housing Economy under the Cabinet of Ministers of the Kyrgyz Republic, as well as in the work of the agent performing the function of enhancement and development of the institutional potential in the potable water supply and disposal sector – Department for development of potable water supply and disposal. The introduction of new functions is conditioned by the use of new technologies in the area of water supply and disposal and by the new requirements for specialists operating the new equipment. The acute shortage of qualified specialists has drawn attention of all stakeholders engaged in drinking water supply to the population. The following methods were used in the study: desk review of documents, focus group discussion, in-depth interviewing, comparative analysis, system analysis, structural analysis – which allowed for a comprehensive analysis. **Keywords:** assessment of training needs, institutional capacity, water supply and sanitation, human resource management, professional and technical development.

1 Introduction

Nature has generously endowed the mountainous expanse of the Kyrgyz Republic with enormous freshwater resources contained in vast glaciers, full-flowing rivers, large and small lakes, as well as with large groundwater resources. Natural water resources fully cover the needs of Kyrgyzstan and are also the main source of water supply for significant downstream water users in Central Asia [1].

According to the National Statistical Committee of the Kyrgyz Republic, the population covered by centralised water supply in 2019 amounted to the following figures: in the urban areas 64.3%, in the rural areas 13.1%; those using faucet columns: in the urban areas 32.4%, in the rural areas 73.1%. In 2019, according to the integrated household and labour force sampling survey, centralised water supply is mainly used by the urban population

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(over 64%), while the rural population uses faucet columns (73%). About 6% of the population do not have access to safe drinking water sources, using water from open water bodies (springs and irrigation ditches), which is dangerous for their health [2].

Proceeding from the current situation in Kyrgyzstan, the solution of the problem of people's provision with clean drinking water and improvement of their sanitary and hygienic conditions has become a nation-wide task bringing together all the stakeholders: the state, drinking water users, international donors and social partners. The state policy on potable water supply is reflected in the following documents:

- "Strategy for development of potable water supply and disposal systems of populated areas in the Kyrgyz Republic until 2026" [3];

- "Programme for development of potable water supply and disposal systems of populated areas in the Kyrgyz Republic until 2026" [4] (this Programme was developed with the support of the partners towards achievement of the Sustainable Development Goals (SDG 6), realisation of the National Sustainable Development Strategy of the Kyrgyz Republic for the period 2018-2040, as approved by the Decree of the President of the Kyrgyz Republic No. 221 of 31 October, 2018 [5] and the Programme of the Kyrgyz Republic Government for the period 2018-2022 "Unity. Trust. Creation" approved by the Decree of Jogorku Kenesh (Parliament) of the Kyrgyz Republic on April 20, 2018 No. 2377-VI [6], as well as towards the realisation of the international obligations of the Kyrgyz Republic on adaptation to the climate change in the potable WSWD sector).

The realisation of the above programme entails a great number of significant measures, in terms of their amount and content, to be implemented by the WSWD Department, involving human resource management functions in the WSWD sector, namely, enhancement of the sector employees' potential as one of the key tasks.

As part of the realisation of the Strategy and the Programme, the Department for development of potable water supply and disposal (WSWD Department) launched a programme for realisation of investment projects in the WSWD sector. Under this programme, the Community Development and Investment Agency of the Kyrgyz Republic is realising the "Sustainable rural water supply and sanitation project". The project was designed to support the verifiable and long-term capacity-building programme for various target categories of WSWD sector participants.

The WSWD Department initiates due changes in the system of relations between the sector – represented by its employers – and the education system represented by the Ministry of Education and Science of the Kyrgyz Republic with the support of the Community Development and Investment Agency of the Kyrgyz Republic within the framework of the Sustainable rural water supply and sanitation project. Prospectively, the Department, as the executive body in the sector, should develop respective policies as concerns, in particular, strategic human capital development in the sector, including supply of human resources, development of unified professional requirements, etc. Thus, the WSWD Department will act as a customer requiring training, retraining and professional development, including certification of qualifications for the sector; the project aims at securing due training of specialists through commissioning the respective order to the Ministry. It is planned that, from the outset, the sector itself will dictate the requirements underlying training and further certification of qualifications and skills – in order to evaluate the qualification of specialists trained under the sector's instruction; therefore, the sector will engage in prognostication and planning of human resource development.

Relevance of the research. At present, the potable water supply and disposal sector of the Kyrgyz Republic is experiencing an acute shortage of qualified specialists, both dedicated and integral experts. The technical and technological progress is placing increased new demands on specialists in the sphere of water supply and disposal. For the potable water supply and disposal sector (hereinafter referred to as WSWD sector) to be

professionally staffed and attractive to both young and experienced specialists, it is necessary to identify the actual and required professional competencies of the sector employees, those to be developed, and to assess whether the sector currently has due conditions for training, retraining and professional development of its workers. The authors of the present study were engaged as consultants to develop a vocational development programme for the WSWD sector, that would promote stable provision of water supply and disposal services in the Kyrgyz Republic. In the course of the research, the authors used such methods as desk review of documents, questioning, focus group discussion, in-depth interviews.

The purpose of the study is to assess the training needs and the institutional potential for the development of the Professional and technical development programme for the WSWD sector (PTD Programme).

The object of the study is the potable water supply and disposal sector (PWSWD sector) of the Kyrgyz Republic.

2 Materials and methods

The assessment of the training needs and the institutional potential of the PTD Programme designed for the WSWD sector was made by collecting information and analysing the obtained data with the use of the following tools:

- desk review of documents of the WSWD Department, potable water supply and disposal service providers, relevant educational organisations and international donors;
- focus group discussion with employees of the WSWD-sector organisations and enterprises;
- in-depth interviewing of managers of WSWD-sector organisations and enterprises, as well as of the teachers of vocational training institutions, which revealed a number of typical problems and limitations on the part of sector service providers, those hampering the development of the sector potential.

The team of experts, relying on the results of the implemented work, identified and mapped:

- target groups within the PWSWD sector;
- target groups having the capacity to provide potential enhancement and organise professional development courses for the sector in different areas;
- training areas requiring international/regional expertise of the development partners.

3 Results

The study involved a number of PWSWD suppliers (organisations and enterprises) – municipal water supply and disposal enterprises (hereinafter – municipal enterprises), rural public associations of potable water consumers (hereinafter – RPAPWC) of the cities: Bishkek, Kant, Osh, Kara-Suu, Jalal-Abad, Naryn, Karakol, villages: Maevka, Alexeevka and others.

The consultants' team was assisted in the study by primary, secondary and higher vocational education institutions, in particular:

- Department of water supply/disposal and hydraulic engineering of Kyrgyz State University of Construction, Transport and Architecture (KSUCTA);
- Naryn State University;
- Issyk-Kul State University;
- Bishkek Agro-Economic College named after S. Tursunov;
- Bishkek College of Architecture and Construction Management;

- Vocational school No. 5;
- Vocational school No. 16.

The common problems of drinking water providers in the sector were identified as follows:

1. Regulatory framework

- absence of standard qualification requirements for the sector employees;
- job descriptions are compiled for particular employees, not for the position;
- the regulations and instructions in the sector are obsolete and have not been updated;
- no normative documents on human resource development have been developed, including in respect of training and staff development.

2. Sector's workforce capacity

- no approved human resource policy, strategy and plans for the development of workforce capacity, including candidate pool;
- inconsistency between the employees' actual qualifications and held position;
- lack of qualified specialists in managerial and key positions;
- low level of staffers' professional knowledge and skills;
- chief executives' poor digital literacy;
- no opportunity for specialists and workers to acquire special and profile-specific skills (technical, communication-related, digital, etc.) needed to upgrade the sector infrastructure, to operate and maintain modern tools and equipment, including input-output systems;
- a need to develop specific skills (technical, communication-related, digital, etc.)
- staff turnover caused by low salaries;
- no statistics on human resource management – staff turnover, forecast needs in necessary specialists and blue-collar jobs, factual training statistics, as concerns subjects, number of participants, etc;
- no targeted training based at institutions of primary-, secondary- and higher vocational education as well as professional improvement centres;
- no systemic work on the part of the WSWD Department towards improving the workforce capacity of water and wastewater service providers [12];
- no budget line for staff development;
- the cost of drinking water does not include the sector's staff-related professional development costs

3. Organisation of management in the sector

- no vertical management and coordination of sector enterprises [11];
- inconsistencies in management of sector enterprises: administrative subordination to local authorities, functional subordination to the WSWD Department;
- managerial decisions are taken by local authorities without due qualification in the sector [10];
- the decisions of the WSWD Department are advisory for PWSWD providers [13];
- no system to motivate the sector staff;
- no enterprise management information system (database, communication channels);
- no active cooperation between the WSWD Department and local authorities, water services companies, municipal water supply companies and rural public associations of potable water consumers;

4. Lack of financial resources

- low pay leads to staff turnover and is a barrier to attracting young professionals;
- no possibility to organise due training, development of knowledge and skills at the local level;
- no possibility to organise due training, acquisition of knowledge, including the same outside the company: attending courses, seminars, training sessions, etc;

- absence of necessary communication and office equipment to enable participation in online potential building activities.

5. Partnership network

- insufficient communication and coordination between the WSWD Department, water service companies and rural public associations of potable water consumers, poor use of digital technologies and tools for communication within the system (e-mail, online meeting platforms, etc.);

- weak links with specialised institutions of primary-, secondary- and higher vocational education;

- poor exchange of experience with other suppliers of water supply and disposal, with other departments and structures of the State Agency of Architecture, Construction and Municipal Housing Economy.

It is also necessary to mention a number of difficulties in the course of the analysis, such as no access or limited access to accurate and reliable information, no feedback from information providers, poor or delayed interaction.

The study revealed that over the past 5 years the sector employees had not been provided with full-value training/professional advancement in their profile [9]. Training was provided randomly, being based on various international projects, mostly in the areas “Ecology”, “Climate change”.

At the same time there is an outflow of experienced and qualified personnel in the sector, factually replaced by specialists with no qualification in the profile “Water supply and disposal”, “Installation and operation of internal sanitary/technical installations and ventilation”, “Installation of sanitary/technical, ventilation systems and equipment”. The age category of the sector personnel is represented by young professionals and specialists of retirement and pre-retirement age – i.e. middle-age experts are practically absent. One can also observe that young people are not attracted by mastering this specialty because of low salaries, no practical information about this specialty, poor vocational guidance at educational institutions, people’s low culture of drinking water consumption, no joint projects or other initiatives on the part of educational institutions and sector enterprises towards due positioning of sector-specific professions and specialties [8].

The survey involved over 80 respondents, more than 10 of them being managers.

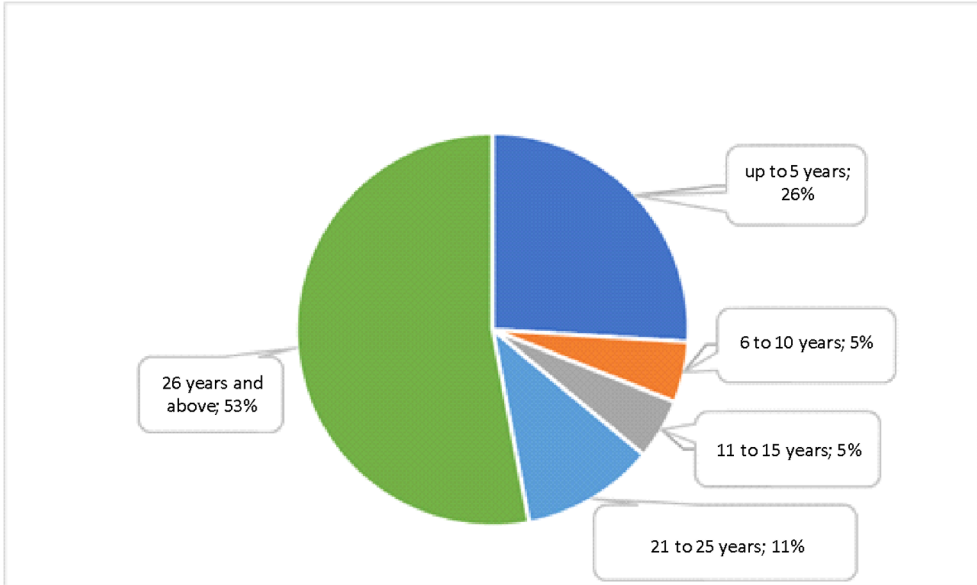


Fig. 1. Total work record.

As shown in Fig. 1, 26% of the workforce are young people with less than 5 year experience; the employees with a service record of 6-10 and 11-15 years make 5%; 16-20 years – less than 1%; 21-25 years – 11%; most of the workforce is represented by employees with a total work experience of 26 years and above – 53%.

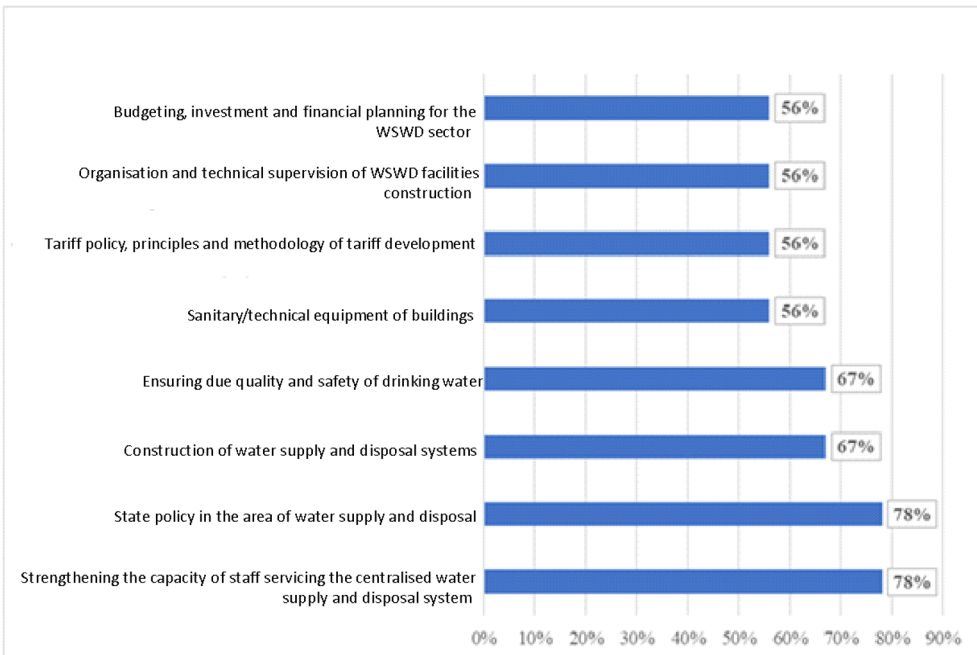


Fig. 2. Training areas of interest.

According to Fig. 2, the employees of the WSWD sector marked the following training topics related to their job functions: “Strengthening the capacity of staff servicing the

centralised water supply and disposal system” – 78%, “State policy in the area of water supply and disposal” – 78%, “Construction of water supply and disposal systems” – 67%, “Ensuring due quality and safety of drinking water” – 67%.

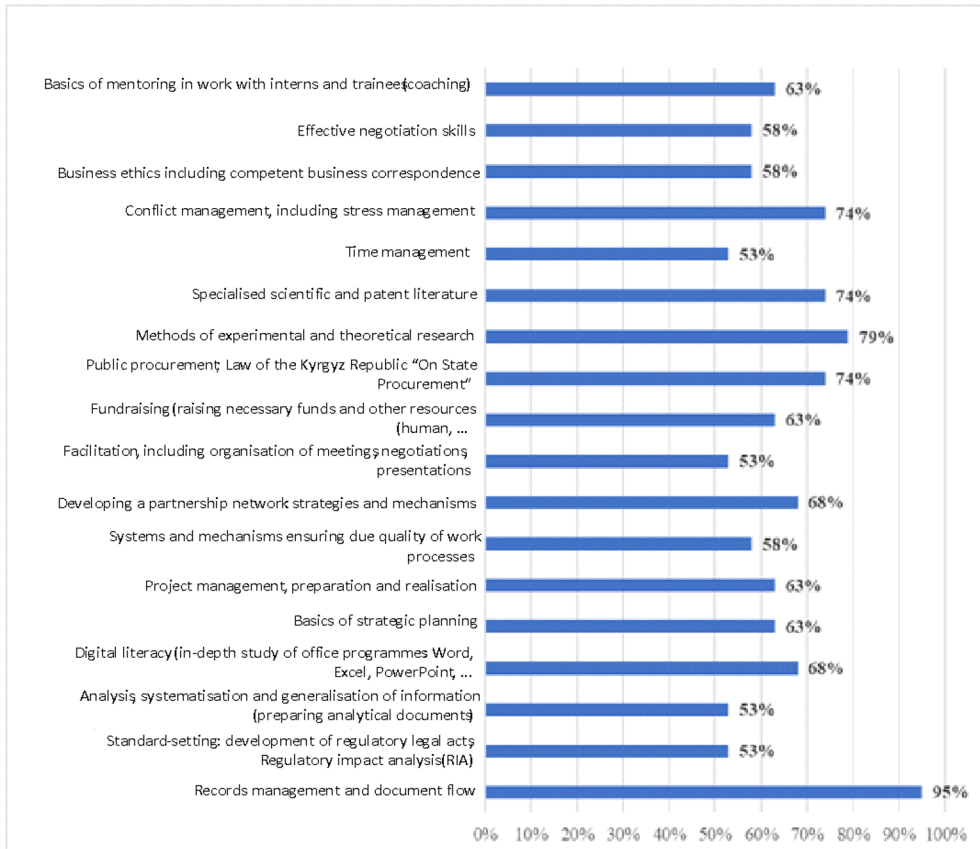


Fig. 3. Special knowledge of civil and municipal servants.

Data in Fig. 3 reflect the WSWD sector employees' interest in advanced training in the following programmes: “Records management and document flow” – 95%, “Methods of experimental and theoretical research” – 79%, “Conflict management, including stress management” – 74%, “Law of the Kyrgyz Republic “On State Procurement” – 74%, “Digital literacy” (in-depth study of office programmes Word, Excel, Power Point, CorelDraw, AutoCAD, GIS, online communication platforms Zoom, Google Meeting, Jitsi Meeting, MS TeamMeeting, etc.) – 68%.

Recent research has resulted in a report [7] that identifies the stakeholders' potential buildup needs in the water supply sector and provides recommendations for further potential enhancement.

The principal findings revealed by the survey of WSWD Department employees, heads of rural municipalities, managers of public water service companies, as well as the interviewing results for the employees of rural public associations of potable water consumers in the regions, showed that:

- the buildup of potential should be effectuated systemically at local, regional and national levels, since the training topics at different level can be different and tailored to specific needs;

- communication/interaction between the involved agencies/organisations is an important factor (collaboration of the WSWD Department with municipalities and operators);

- recognition of the value and need for continued professional development.

It was suggested, on the basis of identification of general needs for the potable water supply sector, that special attention should be paid to:

- development of a training database accessible to all WSWD sector workers;
- development of some unsophisticated structure for capacity development (training);
- orientation towards practical case studies in training.

The training programmes should take into account two important components:

1. Training is intended for adults (professionals from rural public associations of potable water consumers have some experience, but they are not dedicated experts);
2. This training method should be used within the framework of coaching.

The future educational programmes should use the potential and principles of adult education.

It should be mentioned that the report points to the need to develop and realise the “Potential enhancement plan” where the WSWD Department is recognised as the main coordinating organisation. The Department is proposed to form a team of trainers for enhancing the potential of local organisations and to set up district-level advisory centres engaged in capacity building of organisations providing potable water services.

4 Conclusion

The implemented research has shown that:

- the assessment of training needs and institutional capacities is the first and one of the key stages in the development process of the WSWD sector, being a process encompassing all the parties interested in providing clean/safe drinking water to the population of Kyrgyzstan;

- the WSWD Department has a leading role as an organiser and regulator of vocational/technical development in the WSWD sector; it is supposed to develop and realise the training needs identification and assessment process and create due conditions for improvement of the institutional potential of the sector;

- the employees of the WSWD sector need further training not only in the core areas, but also in related spheres (e.g. economics and finance, budgeting and planning); the specialists lack due knowledge in public procurement, tendering, strategic planning and project management;

- the sector needs a functioning education system for proper operation of the water infrastructure – based on classical schooling or representing a follow-up system of professional development, retraining and continuing education [14].

The research results formed a basis of the draft PTD Programme for the WSWD sector, to be implemented in the Kyrgyz Republic, and the Action plan for its realisation.

The authors would like to express their gratitude to: 1. Ismailov Iskender Samybekovich, Head of Monitoring and Analysis Division at the Department for development of potable water supply and disposal under the State Agency of Architecture, Construction and Municipal Housing Economy under the Cabinet of Ministers of the Kyrgyz Republic – for his valuable comments and expert support in implementation of the study; 2. Chynaliev Chubak Turdubekovich, Senior specialist in institutional development working under the Sustainable rural water supply and sanitation project at the Community Development and Investment Agency of the Kyrgyz Republic – for objective feedback that enabled the authors to improve the quality of reports and for overall positive evaluation of the research results. 3. Akeleyev Azamat, Director of Promotank Consulting Company, and the colleagues working under the project “Development of the programme for professional and technical

development of the water supply and disposal sector in the Kyrgyz Republic” within the framework of the Sustainable rural water supply and sanitation project – for fruitful joint work, partnership and mutual understanding.

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