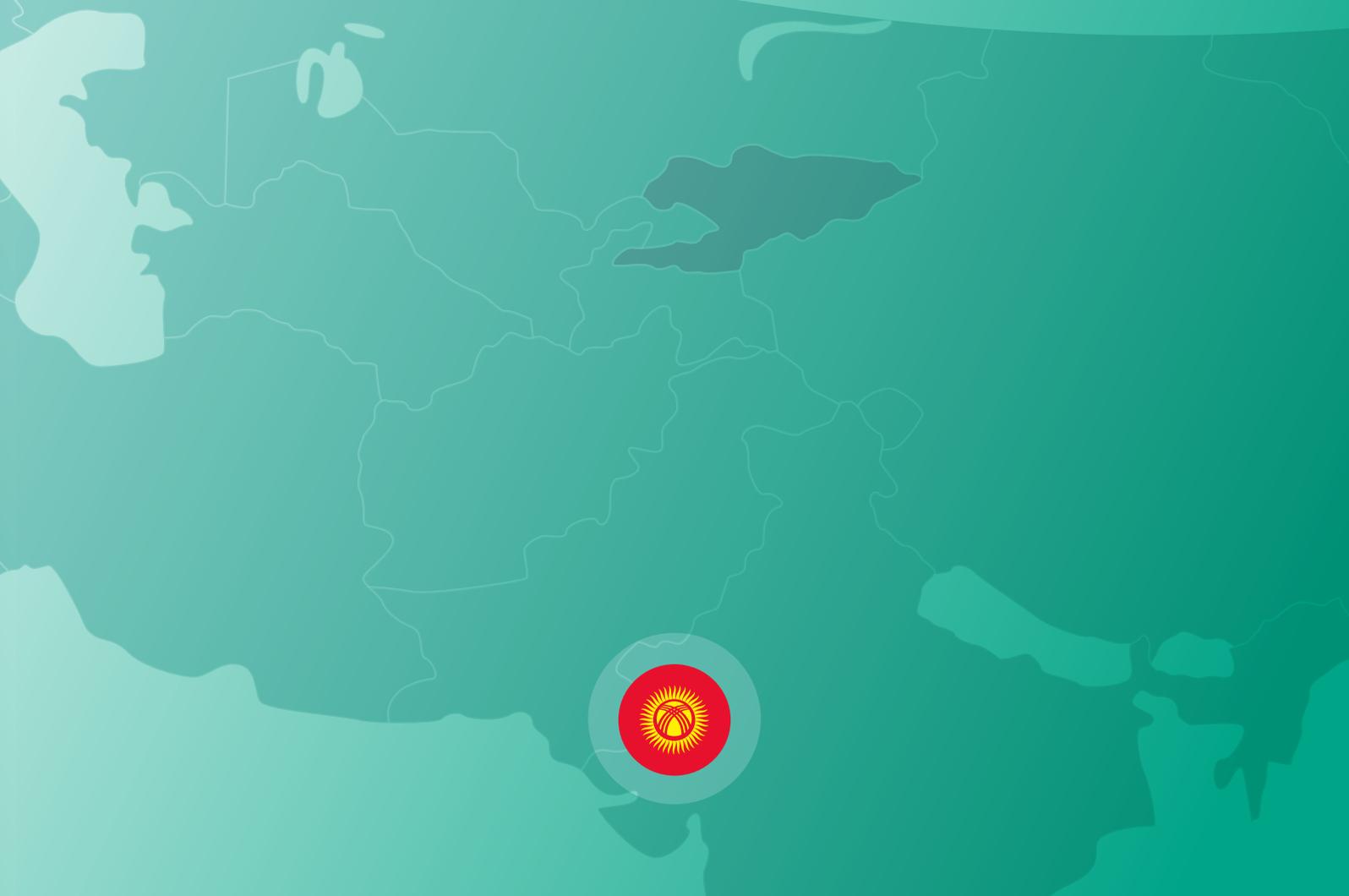




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Skills for Green Jobs in Kyrgyz Republic





Skills for Green Jobs in **Kyrgyz Republic**

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Skills for Green Jobs in Kyrgyz Republic

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Abbreviations and Acronyms

ADB	Asian Development Bank
EDS 2020	Education Development Strategy of the Kyrgyz Republic 2020
GDP	Gross Domestic Product
GIZ	German Society for International Cooperation
HEI	Higher education institution
ICT	Information and communication technology
ILC	International Labour Conference
ILO	International Labour Organization
IOE	International Organization of Employers
ITUC	International Trade Union Confederation
JICA	Japan International Cooperation Agency
KNAU	Kyrgyz National Agrarian University named after Skryabin
MAFIM	Ministry of Agriculture, Food Industry and Melioration
ME KR	Ministry of Economy of the Kyrgyz Republic
MES	Ministry of Education and Science of the Kyrgyz Republic
MIS	Management information system
MLSD	Ministry of Labour and Social Development of the Kyrgyz Republic
NCPSD	National Council for Professional Skills Development
NSC	National Statistical Committee of the Kyrgyz Republic
NSSD	National Strategy of Sustainable Development
PVET	Primary vocational education and training
PwD	Person with disabilities
RSMC	Republican Science and Methodology Centre
SDE	Sustainable Development Education
SVET	Secondary vocational education and training
SDGs	Sustainable Development Goals
ToT	Training of trainers
TVET	Professional and Technical Education and Training
UN	United Nations
UNDP	UN Development Programme
UNEP	UN Environment Programme
PSVETA	Primary and Secondary Vocational Education and Training Agency

1. Introduction

1.1 Background

In the Kyrgyz Republic, the issues relating to sustainable development are being taken to a new level and are reflected in the public policy of the country¹.

On its way to development the Kyrgyz Republic faces problems threatening future sustainable development, many relating to depletion of natural resources without creating effective alternatives, losses of major natural ecosystems, and stagnation of human capital.

The expected climate change will significantly affect the life conditions and health of the population, but the most vulnerable will be the water resources of the country, with the risk of reducing opportunities for developing hydro-energy and agricultural production.

Technological changes, globalization, ageing population and climate change will dramatically increase the pace of change in the labour market, including skills needs for new and current jobs alike.

The International Labour Conference of June 2008 stated that skills² development should form part of an effective response to changing conditions, climate change among them. Identification of skills needs for transition to sustainable development has an important role to play in policy development.

The growing importance of sustainable development and the shift to a low-carbon economy will also require new skills and

qualifications, offering great potential for the creation of green jobs³ but also entailing structural change and transformation of existing jobs.

Meeting skills needs is a critical factor for productivity, employment growth and development. At present the Kyrgyz Republic is among those countries in which sustainable development based on green economy is especially crucial due to its focus on economic growth while protecting natural resources.

The Government of the KR has been taking action on the introduction of sustainable development principles and green skills in programme and strategic documents. This is reflected in a key document on sustainable development “National Strategy for Sustainable Development of the KR 2013-2017”. The correct skills for green jobs are the prerequisite for making transition to a greener economy happen.

Today skills gaps are already recognized as a major bottleneck in a number of areas such as renewable energy, energy and resource efficiency, renovation of buildings, construction, environmental services, and manufacturing.

Adoption and dissemination of clean technologies require skills in technology application, adaptation and maintenance. Skills are also crucial for businesses, workers and entrepreneurs, as well as livelihoods in terms of rapid adaptation to changes consequent on environmental policies or climate change.

Given the challenges, ILO joined forces with the European Centre for the Development of Vocational Training (Cedefop) and produced a

¹ National Strategy for Sustainable Development 2013-2017, adopted by the President's Decree on January 21, 2013, No 11.

² The term 'skills' is used throughout this document as an overarching term which refers to the knowledge, competence and experience needed to perform a specific task or job. Skills development in this context comprises all forms of human resource development: lifelong learning including initial and continuing vocational education and training, and the whole breadth of learning, both formal and informal/non-formal.

³ Green jobs are those that reduce the environmental impact of enterprises and economic sectors, ultimately to levels that are sustainable. The Green Jobs Report defines “green jobs” as work in agriculture, industry, services and administration that contributes to preserving or restoring the quality of the environment while also meeting the requirements of decent work – adequate wages, safe conditions, workers' rights, social dialogue and social protection (UNEP, ILO, IOE, ITUC 2008).

report *Skills for Green Jobs: A Global View (2011)*. The research was based on 21 country studies with a primary focus on good practice examples of how national policies for greening economies are complemented by identification of skills needs and efficient skills response strategies.

These country studies will be updated for the 2018 ILO flagship report *World Employment and Social Outlook (WESO 2018)* on green economies and the world of work. This report is expected to come out in May 2018. The content of the report is directly linked to SDG 8 on promoting inclusive and sustainable economic growth, and employment and decent work for all, as well as SDGs 4, 6, 7, 11, 12, 13, 14 and 15 which target different aspects of environmental sustainability.

The main goal of the report is to analyse the trends towards decent work and environmental sustainability and assess the impact on the world of work of a transition to a low-carbon, resource-efficient economy.

The main tasks to be performed by the expert group were to:

- ▶ identify major challenges and priorities relating to climate change (as defined in Nationally Determined Contributions – NDCs) and the subsequent greening policies and strategies;
- ▶ identify major sectors with a greening potential in the country, particularly those affected by green stimulus packages and programmes;
- ▶ analyse whether and how skills response strategies are incorporated into wider 'greening' policies and programmes;
- ▶ analyse skills needs for new occupations, new skills for greening existing occupations, and retraining needs in the sectors undergoing structural changes as a result of policy implementation and introduction of greening technologies and practices;
- ▶ identify which methods, tools, systems and institutional frameworks relating to skills anticipation and assessment are in use that ensure correspondence of skills provision with current and future labour market demand for workers in transition to a greener economy,

both quantitatively and qualitatively and at different levels, i.e. national, sectoral, regional, company, training providers;

- ▶ analyse how the skills response is organised so as to effectively meet the challenge of greening the economy, paying specific attention to planning initial and continuing training, institutional frameworks, systemic provisions, delivery channels, *ad hoc versus* anticipated skills responses, and skills responses by different actors and providers;
- ▶ draw conclusions and policy recommendations for skills policies and strategies, skills provision at national, sectoral, local and enterprise levels, and identify further research needs to meet the demand for greening the country's economy.

The study combines both quantitative and qualitative research methods in accordance with the availability of data. In conditions of limited statistics and information in the area of green skills, the study relies on a qualitative approach which includes interviews and focus group discussions with corresponding agencies and organizations at different levels, as well as with the private sector, trade unions, vocational education and training organizations, and so forth.

Analysis of skills needs includes a number of in-depth case studies. During the course of the study, meetings with experts of government and non-government sector were conducted.

In the present report official data of the National Statistical Committee of the Kyrgyz Republic⁴ were used, as well as official data from government institutions.

⁴ Social Trends of the Kyrgyz Republic: 2011-2015: Issue 11 - Bishkek: National Statistical Committee of the Kyrgyz Republic, 2016 - 147 p. ISBN 978-9967-26-605-6

2. Major changes in the Kyrgyz Republic economy and employment shifts in the green transition 2011-2015



PICTURE 1. Source: Information agency Vecherniy Bishkek web-site (www.vb.kg)

2.1 Economic changes in the country by 2015

The Kyrgyz Republic is a low-income country and the poorest country in the Central Asian region⁵. The country's economy remains resistant to an unfavorable and volatile external situation, and growth is provided by the gold-mining sector and an increase in private consumption as a result of an increase of remittances, as well as an increase of government expenditure (World Bank, 2017).

In 2015 GDP in current prices was KGS 430.5 billion, and GDP *per capita* was KGS 75,500 (in 2011 the equivalent figures were KGS 286.0 billion and KGS 54,400 respectively) (NSC).

Over five years (2011-2015) its real growth was 26.9%, increasing on average by 4.9 percentage points annually, and *per capita* it has grown by 15.4% or by 2.9 percentage points annually.

The structure of Gross Domestic Product for the last five years has changed. The share of services in GDP has grown since 2011 by 4.1 percentage points and reached 49.1% of GDP.

In contrast the share of commodity production in 2015, compared to 2011, had decreased by 4.9

5 GNP per capita is USD 1100 in 2016 (World Bank, 2017)

percentage points to 39.1% of GDP. At the same time the share of industry was 16.7% in 2015, a decrease of 5.8 percentage points since 2011, and of agriculture 14.1%, a decrease of 2.5 percentage points over the same period. The share of construction share in GDP was 8.3% in 2015, an increase of 3.4 percentage points compared to 2011.

The consumer price index (CPI), which characterizes the level of inflation, was 103.4% as of December 2015 in comparison with December of the previous year, the equivalent figure for December 2014 being 110.5%. Average annual inflation (January-December 2015 *versus* January-December 2014) was 106.5%, while the equivalent figure for January-December 2014 was 107.5%.

The poverty level measured by consumption costs decreased from 33.7% in 2011 to 32.1% in 2015, as compared to its highest level of 38% in 2012.

According to data from the Central Treasury of the Ministry of Finance of the Kyrgyz Republic, total public revenue in 2015 was over KGS 128 billion and had increased 1.6-fold since 2011. The share of public revenue in GDP in 2015 compared to 2011 grew by 2.6 percentage points and became 29.8%.

In 2015 public expenditure was KGS 134 billion, 1.5 times more than in 2011. However, the share of public expenditure in GDP decreased by 0.7 percentage points and reached 31.2%.

Foreign national debt in 2015 was USD 3.6 billion, its share in GDP fluctuating between 44% and 64%.

In the foreign trade sector, both exports and imports decreased. The decrease in exports was caused by low demand in foreign markets and a decrease in the competitiveness of local goods, which could not meet the rigid quality standards of the Eurasian Economic Union. For the period January-December 2015 foreign trade turnover was USD 5,636.8 billion, having decreased since 2010. The share of exports in 2015 was 26.3% (USD 1,482.9 billion), imports 73.7% (USD 4,153 billion).

2.2 Major employment shifts in the green transition 2011-2015

According to the statistics of the KR, the resident population of the Kyrgyz Republic as at the beginning of 2016 was 6.02 million⁶, an increase of 8% over 2012.

At the beginning of 2016 33% of the total population were children and adolescents, 60% were of working age and around 7% were over the working age limit.

There is a decreasing trend in the working-age population as a percentage of the total population (from 61.1% at the beginning of 2011 to 59.6% at the beginning of 2015).

In 2015 the number of economically active members of the population aged 15 or over was 2,544,300 people, of whom 2,352,100 were employed and 192,200 were unemployed⁷.

In urban areas the employment level is slightly lower than in rural areas (56% versus 59%) which is explained by specific features of employment in the rural population. In villages enterprises are mostly family-based, in which all able family members work.

In 2015 the share of those working in farm households within the total number of employed was 21% (in 2011 the share was over 22%); and within the number of employed in agriculture sector and in the share of agriculture as a whole in the total number of employed in agriculture the share was 70% (as in 2011– 70%).

The number of self-employed increased by a factor of 1.2 over the five-year period 2011–2015, reaching 18% in 2015 (cf. 15% in 2011). Self-employment is widespread in the wholesale and retail trades, transport, construction and agriculture.

There have not been many changes in the

⁶ NSC data: <http://www.stat.kg/ru/statistics/naselenie/>

⁷ Social trends of the Kyrgyz Republic: 2011-2015: Issue 11 - Bishkek: National Statistical Committee of the Kyrgyz Republic, 2016 - 147 pages. ISBN 978-9967-26-605-6

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distribution of population by the four main economic sectors over the last five years (see **Figure 1**).

The share of women in the total employed population is highest in the service sector, especially in such economic activities as real estate operations (93%), health and social services (84%), education (79%), and hotel and restaurant services (59%) (NSC, 2015).

The share of men is highest in the production sectors: construction (96%), freight activities and storage of cargo (95%), supply of power, gas, steam and conditioned air (88%) and mining (81%) (Ibid).

The largest share of employment is attributable to qualified workers in agriculture, services and trade, construction, transport and communication.

In rural areas, around 37% of total employed population includes workers in agriculture (around 37%); construction, transport and communication (around 18%); and the services and trade sector (12%) (Ibid).

The number of unemployed in 2015 was 192,200. The highest significant level of unemployment was among youth in the 15-19 age range (17.3%). The number of unemployed lacking any experience is 90,800, or 47% of the total number of unemployed.

The lowest level of unemployment is among the population with higher education (7.0%) and a complete general education (7.1%). High levels of unemployment are among those with incomplete higher education (9.6%) and secondary vocational education (8.0%), significantly higher than the country's average level.

Of the total number of unemployed, 2.1% were employed in newly-created jobs under the microcredit programme. The major proportion of employed citizens found work in the areas of utilities, social and personal services (20.3%); agriculture (13.6%); trade, repair of cars, household goods (12.8%); and construction (12.5%).

From 2005 worker efficiency grew on average by 4.3% per year, which is lower than worker efficiency indicators in CIS countries and far behind indicators of the poorest CIS countries.

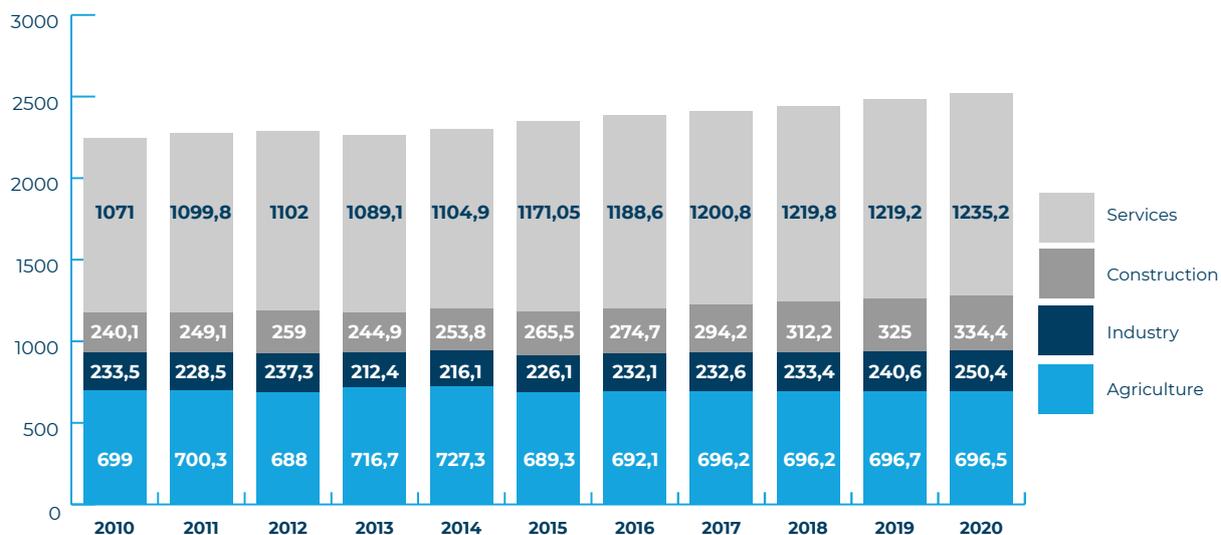
The largest share of jobs (93.2%) is in the informal economic sector (individual entrepreneurs and household farms), where over 102,000 new jobs were created. In the informal sector most of the created jobs (33.6%) were in agriculture and 26.0% were in trade⁸.

The employment model has changed from permanent paid jobs (mainly guaranteed) to a dominant model of non-permanent employment and self-employment. This transition was especially clearly observed in the agriculture and services sector, in which the share of workers with guaranteed salaries decreased from six out of ten workers in 1990 to two out of ten workers at the beginning of the 2000s.

The level of real wages in 2015 was 1.2 times higher than in 2011, average monthly nominal wages being 1.4 times higher. During recent years there has been an annual overrun of wages over the minimum substance subsistence level for the able-bodied population (**Figure 2**).

8 Sattar, Sarosh; Keller, Jennifer L.; Baibagysh Uulu, Aibek. 2015. *Transitioning to better jobs in the Kyrgyz Republic: a jobs diagnostic*. Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/293461468197977737/Transitioning-to-better-jobs-in-the-Kyrgyz-Republic-a-jobs-diagnostic>

Figure 1: Employment by economic sectors



Source: ME KR, 2016

Figure 2: Average monthly nominal wages and minimum substance level of able-bodies population



Source: NSC, 2016

Note: Blue bars - Average monthly nominal wage per worker; Red line: - Ratio of Average monthly wage to minimum living standards

3. Key policies and regulations

(green economy, climate change, and related employment/ green jobs, policy coherence and coordination, role of social dialogue)



PICTURE 2. Vocational schools of Kyrgyzstan.
Source: Official web-site of Ministry of Education and Science of the KR (www.edu.gov.kg)

3.1 Policy on green economy and climate change

There are prerequisites in the Kyrgyz Republic for development of green economy and integration of green jobs and skills, which are supported by laws and in national strategic documents⁹. The Kyrgyz Republic is a member of a number of international environment conventions and protocols¹⁰.

Kyrgyzstan, a mountainous country, is vulnerable to natural and human-caused effects and has relatively small areas for comfortable living (20% of the country's area¹¹). The natural ecosystems of the country have not lost their ability to self-regulate the processes of restoration of bio-resources and provision of ecological balance¹². In the Ecologic Effectiveness Index rating, the Kyrgyz Republic had moved up from rank 127 in 2012 to rank 71 in 2016, implying an improvement

9 Inclusive Green Economy in the Kyrgyz Republic: Stocktaking Report. Partnership for Action on Green Economy (PAGE). Annex 3. Strategic Framework. Current national strategies, programs and legislation, related to issues of green economy in the Kyrgyz Republic.

10 Inclusive Green Economy in the Kyrgyz Republic:

Stocktaking Report. Partnership for Action on Green Economy (PAGE). Annex 2. List of international environmental conventions.

11 Third National Communication of the KR under the UN Framework Convention on Climate Change, 2016.

12 Inclusive Green Economy in the Kyrgyz Republic: Stocktaking Report. Partnership for Action on Green Economy (PAGE).

of its ecological effectiveness to 23.53% over 10 years.

Despite the fact that the Kyrgyz Republic is a country with relatively small GHG emissions¹³, planned development will inescapably lead to sharp growth of such emissions¹⁴. The observed and expected climate changes are unfavorable for the country's economy, especially for agriculture, population health and natural ecosystems¹⁵.

Among ecological problems are air pollution, limited access to drinking water, degradation of land resources, loss of biodiversity, accumulation of hard domestic waste, and a growth in the number and range of emergencies of natural or human origin¹⁶.

Global temperature increase leads to melting of glaciers. According to specialists, for the last 30 years 15% of the glaciers in Kyrgyzstan have melted and disappeared. If air temperatures remain at their present levels, then by 2025 the total area of glaciers in Kyrgyzstan may have shrunk by 30-40%, as a result of which the water content of rivers in Central Asia will decrease by 25-35%.

Kyrgyzstan, together with 196 other countries, is a signatory of the Paris Climate Declaration, which is currently being ratified¹⁷.

Starting from 2012, in the main direction of developing the green economy, creation of green jobs has featured in national legislation and is included in the priorities development of the Kyrgyz Republic, which include growth of income and employment from external and

domestic green investments targeted on (i) promotion of new technologies for improvement of energy and resource effectiveness in both manufacturing and consumption, (ii) a decrease in emissions and environment pollution, and (iii) prevention of biodiversity losses.

At the UN Conference on Sustainable Development "Rio +20" in 2012, Kyrgyzstan expressed a commitment to long-term sustainable development through promotion of "green economy" priorities. Basic factors are: (i) the country's capacity to use its natural resources for low-carbon development, owing mainly to its hydro-energy potential; (ii) the fact that the economic priorities of the green economy (energy and agriculture) together with water resources are the main driving forces of the economic development of the country; (iii) the fact that the levels of poverty in mountainous areas (over 50%) and of social tension may be decreased through creation of green jobs, (iv) the availability of preserved natural communities with capacity for stabilization of the ecological situation in the country and the Central Asian region (Rio +20).

By the end of 2012, with a view to the country's orientation towards sustainable progressive development, a National Council on Sustainable Development of the Kyrgyz Republic was created, and in January 2013 the National Strategy for Sustainable Development 2013-2017 was adopted, whereby the policy direction of the country was oriented towards sustainable development, and on the basis of this strategy a Sustainable Development Programme (2013-2017) was developed and adopted by the Government, in which issues of green economy development were also covered.

On 1 January 2016 the 17 Sustainable Development Goals (SDGs) became officially effective in the Agenda to 2030 adopted by the UN General Assembly on 25 September 2015, at which the Kyrgyz Republic once again confirmed its commitment to sustainable development and supported adoption of the SDGs, which covered new directions of development including goals on provision of access to sustainable energy resources, assistance for sustainable economic growth, innovations, infrastructures, and so forth.

¹³ In 2010, the country's contribution to the world GHG emissions from burning fossil fuels was 0.023% whilst its population was 0.079% of the world population. Hence, volume of GHG missions per capita in the Kyrgyz Republic is over three times lower than average world indicators.

¹⁴ Nationally Determined Contributions of the Kyrgyz Republic to Agreement of 2015 UN Framework Convention on Climate Change.

¹⁵ Third National Communication of the KR under the UN Framework Convention on Climate Change, 2016.

¹⁶ Inclusive Green Economy in the Kyrgyz Republic: Stocktaking Report. Partnership for Action on Green Economy (PAGE).

¹⁷ Resolution of Government of the KR "On approval of Paris Agreement on UN Framework Convention on Climate Change" No 297, as of 29 June, 2016.

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In the context of achievement of the sustainable development goals, the principles of green economy are often mentioned and taken into account as a contribution to economic growth, suggesting a significant decrease in the pressure on natural resources.

In accordance with the National Strategy for Sustainable Development 2013-2017¹⁸ (NSSD), economic development policy will be targeted on rational usage of natural resources, overcoming social impacts and bringing the economy under the sustainable vector of development in the context of rehabilitation of the country's political situation.

Among the main objectives of NSSD in implementation of public policy on environment and provision of ecological safety are the following:

- improvement of environment protection legislation and economic mechanisms for use of natural resources to create favorable conditions for application of new technologies, attraction of “green” investments and adaptation to climate change;
- introduction of new financial tools to promote green technologies *via* green taxes, customs duties, green procurements, and green investments;
- rational use of renewable natural resources which precludes their degradation through incorporation of monitoring and evaluation of indicators of environmental conditions and security into industry-specific use of natural resources;
- increase in energy efficiency and reduction of losses, especially in respect of heat and electrical energy and promotion of renewable energy sources;
- State support for sectors of the economy aimed at creating “green” jobs.

In the context of sustainable development and taking into account an ecosystem approach,

an Ecological Safety Concept of the Kyrgyz Republic to 2020 has been developed and approved, whereby key ecological issues threatening social and economic development and the public health of the country have been identified, as well as principles and measures for their mitigation and prevention. Directions and mechanisms for providing ecological safety are also defined in the Concept for the short-, medium- and long-term periods.

According to the Resolution of the Government of the KR No. 549 “On approval of priorities for adaptation to climate changes in the Kyrgyz Republic by 2017” of 2 October 2013, climate change adaptation priorities wherever risks of losses are highest are focused on the following:

- water resources;
- agriculture;
- energy;
- emergencies;
- health;
- forests and biodiversity.

Green economy is a promising vector for the long-term sustainable development prospects for the Kyrgyz Republic. In the KR legislation there are preconditions for greening the economy, as well as the basis for creating new jobs and training on green economy principles¹⁹. Specifically, in the **Law of the Kyrgyz Republic “On Environmental Protection”** of 16 June 1999, No53, Article 41, it is noted that within the competences of the **State Agency of Environmental Protection and Forestry under the Government of the KR** there are issues relating to participation of the agency in the organization of the general lifelong ecological education of citizens.

Concept of Ecological Safety of the Kyrgyz Republic foresees development of a Sustainable Development Education Concept targeted on formation of a normative and legal base for ecological enlightenment. In the Law of the Kyrgyz Republic “On Energy Saving”

¹⁸ National Strategy for Sustainable Development 2013-2017, adopted by the President's Decree on January 21, 2013, No 11. Available at: http://www.president.kg/ru/news/ukazy/1466_tekst_natsionalnoy_strategii_ustoychivogo_razvitiya_kyrgyzskoy_respubliki_na_period_2013-2017_godyi/

¹⁹ Duishenova J., K., Cadykova Ch., M., Chokoeva B., N., Transition to Green Economy in the Kyrgyz Republic and small businesses: role of education in sustainable development/Analytical review- B:2015. P. 16.

it is indicated that secondary, higher and postgraduate professional education institutions, as well as training and re-training organizations possessing the right to undertake education activities, should include in their curricula for energy-saving personnel the basics of energy efficiency, including the use of renewable energy sources and alternative fuel.

3.2 Employment/green jobs/skills policies

In the Government Programme on Transition to Sustainable Development (2013-2017), the objective of the Section “Labour market and employment” is to extend the structure and quality of the services provided for promotion of employment and improvement of the quality of the labour force. The mid-term policy of the country will be focused on the following priorities: (i) government support for employment, (ii) government support for citizens of the Kyrgyz Republic, employed at external labour markets, and (iii) ensuring the right to work for vulnerable people, namely women, youth, and PwDs.

Under the first priority, there are the following objectives: (i) develop a legal framework aimed at implementing sustainable development principles in the labour market; (ii) facilitate an increase in employment rates among the employable population; (iii) arrange training for the unemployed based on labour market demand; (iv) ensure provision of staff training based on domestic and regional labour market demand.

The Kyrgyz Republic Government is aiming to address the first objective through the following steps: (i) develop a long-term national programme “The Kyrgyz Republic Employment Policy 2020”; (ii) develop and introduce a map forecasting the economy’s demand for workforce by speciality and region; (iii) develop a new version of the draft Kyrgyz Republic law on employment and other regulations oriented at increasing employment efficiency (coverage of all employment areas, forms of participation,

responsibility of all entities involved in addressing employment issues); (iv) adopt regulations providing mechanisms for cooperation between government and the private sector on the labour market; (v) develop quality-oriented social service standards/passports (13 standards); (vi) develop and introduce methods for ensuring tracking of all indicators, with sufficient details on all labour market segments and a focus on the informal sector.

With the aim of increasing employment and support for citizens of the Kyrgyz Republic on internal and external labour markets, the Government Resolution of 6 September 2013, No.485 on Support to Employment and Internal and External Labour Migration Regulation Programme to 2020 was approved.

The goal of the Programme²⁰ is creation of conditions for productive employment and decreases in unemployment and in the imbalance of demand and supply in the labour market through (i) activation of measures of support for employment, (ii) fuller and more rational employment of labour resources, and (iii) rights protection for Kyrgyz citizens working abroad.

Within the priorities of the Programme the following objectives are to be achieved:

- development and adoption of legislation targeted on support for employment and internal and external labour migration regulation;
- creation of conditions for employment support in State and non-State economic sectors, including the following:
- development and implementation of programmes for the social and economic development of regions with a view to reducing unemployment;
- implementation of clauses of General Agreement between the Government of the Kyrgyz Republic, Trade Union Federation of Kyrgyzstan, and Republic Employers’ Associations of 2013-2015;

²⁰ Resolution of the Government of the Kyrgyz Republic as of 6 September 2013, No 485

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strengthening of active measures of support for employment in the labour market;

- increasing the skills and education level of labour migrants, and the level of awareness among citizens of the Kyrgyz Republic of the possibilities for and conditions of employment, both within the country and beyond it;
- improvement of the analysis and forecasting system for the labour market;
- increasing the effectiveness of government offices concerned with employment and migration.

The main laws of the Kyrgyz Republic regulating employment policies are:

- “Constitution of the Kyrgyz Republic”
- “Labour Code of the Kyrgyz Republic”
- “On Labour Protection”
- “On Support of Employment”
- “On External Migration”
- “On Internal Migration”
- “On Refugees”
- “On External Labour Migration”
- “On Prevention and Combating Human Trafficking”.

Key institutions and organizations:

- Ministry of Labour and Social Development
- State Service on Migration under the Government of the Kyrgyz Republic
- State Inspection on Ecological and Technical Safety under the Government of the Kyrgyz Republic
- Trade Unions
- Employers' Associations
- Stakeholders groups lobbying interests of disabled people and women
- International Labour Organization

3.3 Gender issues in programmes on new green skills

The Kyrgyz legislation is progressive enough in terms of provision of gender equality, covering economic sectors, access to resources, and combining of work and family duties; and it covers international commitments and national legislation.

The main strategic document on gender equality is the National Gender Equality Strategy of the Kyrgyz Republic 2020 and the national 3-year action plans for its implementation (Resolution of the Government of KR as of 27 June 2012, No. 443). This document is a priority for the Government, but it does not specify activities on the green economy.

One of the strategic priorities is extending economic opportunities for women, viz.:

- i. improve working conditions for combining labour and family duties;
- ii. reduce gender segregation in the labour market through diversification of female and male employment;
- iii. provide jobs for women through extension of sources of strengthening of economic opportunities for women;
- iv. tracking the economic impact of women on community development through improvement of national accounts.

The top-paying economic sectors are dominated by men. Hence, men are the majority in the mining sector (80.6%), construction (95.6%), transport (94.9%), and in electricity, gas and water production and distribution (88.4%), whilst women dominate in such sectors as health and social services (84.1%), education (78.7%), real estate (93.2%), and hotels and restaurants (59.4%).

Salaries in “female” sectors are about 40% of those in “male” sectors and account for 86% of the minimum consumption budget. Sectors with the prevailing number of women are mostly financed from the government budget and are not well influenced by market conditions. At the

same time it is worth noting that the female population works in the green economic sectors.

The foregoing include the beauty and health industry (hair salons, fitness clubs, beauty centers); garment and handicraft businesses; education and training for children and adults, including private kindergartens and various courses; the wholesale and retail trade; fast food companies; and tourist services, including hotels, guesthouses, and so forth. Rural women's businesses develop mainly in the form of small businesses: tailors, drugstores, wholesale shops, production and sales of souvenirs, and home-based work.

In Kyrgyzstan women entrepreneurship is developing in rural areas, especially in the area of agricultural processing, handicrafts and rural tourism. More and more women run small and medium businesses in rural areas.

3.4 ILO Tripartite

The Kyrgyz Republic has been a member of the International Labour Organization (ILO) since 1992. Since that time it has ratified 53 ILO Conventions.

For effective development of social dialogue, the Kyrgyz Republic has ratified a number of conventions, including ILO Convention No. 144 "Tripartite Consultation" and two fundamental Conventions, No. 87 "Freedom of Associations" and No. 98 "Right to Organize and Collective Bargaining".

The provisions of ILO Conventions were reflected in the Labour Code and a number of laws of the Kyrgyz Republic, viz.: "On Trade Unions", "On Employers' Associations", "On Collective Bargaining", "On Social Partnership in Labour Relations in the KR".

Starting from 1997, with the new Provisions on Republic Tripartite Commission approved by the Government of the Kyrgyz Republic, a process of regulation of social and labour relations was initiated through the General Tripartite Agreement between the Government, Trade

Union Federation and Republican Employers' Association, and through sectoral (tariff) agreements.

The following General Agreement between Government, Trade Union Federation and Republican Employers' Association 2017-2019 was approved by Order of the Government of the KR as of 18 January 2017, No. 12-p.

The General Agreement foresees agreed measures on key issues of regulating social and labour and related economic relations. The document includes sections on the following:

- Economic development;
- Regulation of labour remuneration and social support;
- Labour market development and support for the population's employment;
- Labour rights protection, labour safety and ecological safety;
- Creation of favourable living conditions for workers and their families;
- Development of social partnership.

One of the main priorities of the Programme for Employment Promotion and Internal and External Labour Migration to 2020 is creation of conditions for facilitation of population employment in government and non-government economic sectors and implementation of the provisions of the General Agreement between the Government of the Kyrgyz Republic, Trade Union Federation and Republican Employers' Association.

The principles and legal basis of collective-agreement-based relations in the Kyrgyz Republic, the regulation system, and improvements in organizational forms of social partnership and in their legal, scientific and personnel provisions are defined in the Social Partnership System Development Concept of the Kyrgyz Republic, approved by the Resolution of the Government of the KR of 30 July 2001, No. 395.

Social Dialogue in the Kyrgyz Republic is one of the key (democratic) tools for development and implementation of policy at both central

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and local levels of management. However this platform does not give rise to a constructive dialogue on promotion of the green jobs policy in the country.

Despite some achievements, there are problems of provision of full participation of social partnerships in the democratization of management. Both trade unions and employers' associations represent only a small proportion of labour market participants.

The main reasons for the foregoing are:

- social partnership has not yet become a focus of public policy;
- the process of developing one of the parties to the partnership, namely the employers' associations, is not active;
- the employers' associations do not use contracts and agreements as an agreed programme of action for accumulation of income, provision of jobs, social protection, labour protection or vocational education;
- trade unions, as social partners, have only limited participation in development of collective-agreement-based regulation of social and labour relations in enterprises and non-governmental organizations.

The capacity of employers' organizations and trade unions is insufficient for work on extension of their membership and for regular consultations on the most important social, economic and labour issues.

So far a significant factor impeding effective social dialogue has been the absence of a permanent tripartite commission secretariat capable of providing a regular working institutional mechanism of collaboration between social partners.

Decisions made in the absence of agreement with partners have resulted in a lack of meaningful dialogue. Therefore it is recommended that social policy be developed on the basis of tripartite consultations, with decisions fulfilled consistently by all participants in line with agreements and on time.

4. Skills development measures for the green economy



PICTURE 3. Farmers of Kyrgyzstan, information agency: sputnik kg (www.sputnik.kg)

4.1 Skills needs identification/anticipation

In order to introduce a mechanism for anticipating labour market needs and for strategic planning of training and re-training of personnel, Resolution No 203 of the Government of the KR of 26 March 2012 approved the Government Programme Methodology of Labour Resources Needs Anticipation at Labour Market²¹. Anticipation of the labour resource needs of the country necessitates identification of the requirements of the structure and retraining of specialists in the country's economic sectors. At the same time it is worth noting that the special

criteria for skills promotion in the green economy are not recognised by the Government of the KR.

The methodology for anticipation of labour resource needs combines two approaches:

- estimation and analysis based on macroeconomic indicators for the social and economic development strategies of the Kyrgyz Republic;
- expert evaluation methods based on direct interviews with employers.

Summarized anticipation of needs covers:

- identification of current and future workforce needs by types of economic activity and occupation;
- anticipation of labour resource needs by region.

²¹ Government Programme "Stability and Decent Life" as of January 26, 2012, no 55. Resolution of the Government of the KR as of March 26, 2012, No 203. Available in Russian at: <http://cbd.minjust.gov.kg/act/view/ru-ru/92986?cl=ru-ru>

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A forecast of labour resource needs (“needs map”) was prepared for 2013-2017 on the basis of data provided by ministries, agencies and employers. The labour resources needs map was updated taking into account the changes in the country’s economy attributable to joining the Eurasian Economic Union. The forecast of needs is used by the Ministry of Education and Science to assess financing needs for education in the priority sectors²².

Based on sectoral ministries’ and employers’ data, there was an estimated need for over 70,000 specialists in 2016-2017.

The lowest percentages of needs are in public management (0.7%, c.1,000 persons), culture and arts (0.6%, c.800 persons), and financial activity (0.9%, c.1,200 persons).

In general, based on the updated needs map, priority sectors are manufacturing, construction, agriculture, transport and communication, education, services and health.

No methodology has been adopted for anticipating the level of skills needs in Kyrgyzstan. Sectoral studies using functional analysis and professional techniques based on functional mapping provide the possibility of identifying needed skills in the short or long terms, and of planning the training content. There are no regulations in the Kyrgyz Republic which provide for assessment of green skills. Thus it would be important to introduce regulations and recommendations at legislative level which could facilitate assessment of green skills needs at policy and implementation levels.

Sectoral Studies

The Primary and Secondary Vocational Education and Training Agency under the Ministry of Education and Science of the KR²³, along with that Agency’s Republican Scientific and Methodology Center, conducted sectoral

studies²⁴ with the financial and expertise assistance of the European Union’s “Support to the Education Sector of the Kyrgyz Republic” project.

Studies were conducted in the priority sectors which, according to the forecasts of the Ministry of Labour, Migration and Youth of the Kyrgyz Republic, need the largest number of specialists, include construction, agriculture, light industry, mining and services.

The study results showed that there are no clear data relating to the number and features of specialists dropping out of labour markets owing to migration, health conditions or change of marital status, or for forecasting the need for training of specialists to replace dropped-out workers.

Additionally, few employers have any clear vision of their specialist needs or experience in labour resource planning and assessment of future needs, thus impairing the accuracy of forecasting. Employers cannot formulate requirements in terms of graduate competences. At the same time initiatives exist on production among exporters who generate competitiveness of goods produced for export.

Research has shown that there is a structural imbalance in training of personnel by sector, causing a lack of training for one type of specialist and an oversupply of others.

Changes in a sector, the structure of a sector, production organization, job structures, aging factors and levels of job turnover are the factors determining labour resource shortfalls and needs.

Hence the sectors with the greatest job shortfalls include the following:

- Agriculture – agronomists, veterinarians, agricultural engineers, machine operators²⁵;

22 See: Decree of the Government of the Kyrgyz Republic N995 dated from 2015 “On approval of the List of specialties and the number of budgetary places for admission of students to educational organizations of secondary vocational education for 2015-2016 academic year”

23 Before October 2015 the Agency was under the Ministry of Labor, Migration and Youth of the Kyrgyz Republic

24 Sectoral studies and skills needs analysis in the Kyrgyz Republic: construction, mining, metal processing, sales, repair and maintenance of household appliance, sales, repair and maintenance of computer facilities and mobile network means, 2016

25 Study of Agriculture of the Kyrgyz Republic: analysis of sectoral skills, 2013

- Construction –estimating engineers-budget officers, welders, crane operators²⁶;
- Mining – crew captains, mining engineers, shotfirers;
- Metalworking – metalworkers, moulders, steel melters, drillers, millers, turners, foundry workers, welders²⁷;
- Repair of household appliances – electricians, electrical and mechanical appliance repair specialists²⁸;
- Computer equipment repair – (micro) electronics engineers, programmers²⁹;
- Garment industry – designers, tailors, garment product process engineers, sewing equipment technicians, and dress cutters³⁰.

Agriculture

Technical skills – skills in and knowledge of innovation technologies relating to cropping, including organic methodologies, selection, cultivation, harvesting, transportation, storage of agricultural crops, management/feeding/breeding/raising of agricultural animals, information provision, cultivation of agricultural products, skills in pedigree selection work, sustainable management of resources, and environmental protection.

General skills – IT skills and preparedness to be trained, work independently, work in teams, take responsibility for one's own and others' work, and more generally innovative and creative approaches and the ability to be flexible and adapt to changes;

²⁶ Study of Construction of the Kyrgyz Republic: analysis of sectoral skills, 2015

²⁷ Sectoral studies and skills needs analysis in the Kyrgyz Republic: construction, mining, metal processing, sales, repair and maintenance of household appliance, sales, repair and maintenance of computer facilities and mobile network means, 2016

²⁸ Ibid

²⁹ Ibid

³⁰ Study of Labour Market and Labour Resources in Light Industry Sector, 2013

Construction

Technical skills – competences related to working with new equipment, modern cranes, excavators, bulldozers (with computer control), maintenance of high technology construction equipment, use of innovation technologies relating to finishing, heat insulation/heating up, and others. In small enterprises there is a need for integrated/multitasking skills, and in large enterprises for very specialized skills.

General and personal skills – working in teams, using IT, communication, taking responsibility, decision-making, independent working, and methodological and social competences, of which the most significant is trainability.

Garment industry

Technical skills – bespoke tailoring; skills related to working with new and updated equipment models (automated/computerized), sewing, cutting and embroidery equipment, and software skills (Grafis, Julivi, Excel, etc.), organization of waste-free production; installation and start-up of sewing and other specialized equipment; debugging of computerised sewing equipment, installation or repair of sewing equipment; understanding of the organizational structure and business processes of garment manufacture; knowledge of theory of optimization, organization of flow-line production, entrepreneurship skills; general and personal skills including responsibility for the quality of work and interest in the work.

On the basis of specific studies and functional analysis of sectors involving the participation of sectoral representatives, there was included development of professional standards (55), training programmes and materials (14), and assessment tools (22) adopted by the Ministry of Education, although the foregoing do not include references to green skills.

Plan-forecast based on labour market analysis

Plan forecasting takes place in the primary vocational education and training (PVET) system for meeting the needs of national and regional

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economic sectors in respect of skill qualifications and specialists, bringing training supply and profiles into line with current and prospective labour market needs, optimizing the structure of educational institutions and improving their training establishments; it is also the basis for the planning of manpower training budgets.

According to the Instruction³¹, plan forecasting consists of two stages: (a) plan forecasts for PVET institutions based on assessments of the labour market in the short term (up to 1 year), the medium term (1-3 years) and the long term (3-5 years); and (b) job needs analyses at country level based on data from sector agencies and employers' associations. Evaluation of draft plan forecasting takes into account development of priority economic sectors, provision of quality education by education institutions, and general decision-making.

Keeping track of graduates³²

In order to assess the quality of vocational education graduates' skills and match them with labour market needs, the Primary and Secondary Vocation Education and Training Agency, with the support of international partners (EFO, ADB project), have developed and adopted a methodology for monitoring of graduates^{33 34}.

The survey is conducted online in two phases: an independent assessment of training up to graduation (Phase 1), and an independent assessment of training nine months after graduation (Phase 2). Difficulties with data collection relate to communication methods and work pressures, and also to changes in contact details and the unwillingness of graduates to spend time filling in questionnaires, etc.).

At present the methodology is distributed across

31 Instruction on formation of plan-forecast of acceptance of students by primary vocational education and training institutions for a new academic year, Order of PSVETA No1/55 as of 25.03.17.

32 Monitoring of graduates is collection and analysis of data received from graduated on the quality of education institution's services including conditions of learning and employment of graduates (efficiency of training).

33 Order of the Ministry of Education and Science No1307/1 of 20.09.16

34 Above described Methodology does not specify references related to green skills.

the whole system; the research covered 45% of PVET students.

The results of pilot monitoring³⁵ in 18 PVET institutions across all regions of the country and Bishkek city show that over half of respondents started working immediately after graduation (duration of job hunting was less than 3 months), and 59% of graduates were working in their areas of specialization; most were working in construction, public catering, light industry and services. The main basic skills used in their work were responsibility, sociability and teamwork.

Analysis of staff training by region

Under the ADB Second Vocational Education and Skills Development Project, an analysis of staff training had been conducted in the regions to assess the match of needs in regional economy with those of the labour market in the context of further rationalization of PVET and SVET systems in the Kyrgyz Republic. This included data on demography, the qualification structure of the regional workforce, and the structure of the TVET system of educational services (persons and occupations). Observations from the analysis are described below.

Until 2020 it is expected that the 15-24-year age group will be reduced. In some regions, for example in Chui oblast, this group is diminishing by 2.3% per year. The greatest reductions are in Chui oblast and in Osh and Naryn cities (2010-2014).

In respect of workforce structure (2005-2014), there are negative trends in agriculture, forestry and fishery (-3.7%) and in production and processing of minerals (-1.5%), but positive trends in construction (31.0%) and services (10.0%).

According to the report's data on the workforce in four leading economic sectors and on the numbers of PVET and SVET graduates in corresponding areas, the largest shares of the regional workforce in all regions except for Bishkek are in agriculture, forestry and

35 Report on the results of monitoring of graduating students of 18 PVET schools of the project (first phase), Second Vocational Education and Skills Development Project, ADB, 2015

fisheries, while in Talas, Naryn and Chui oblasts a significant share of vocational schools' and college graduates are in these sectors. In service sectors, in contrast, the share of graduates is large and there is a significant imbalance in Jalal-Abad oblast. In general, the analysis shows the following³⁶.

There are regional differences in the population structure, labour market, and TVET system services.

There are imbalances in the sectoral structure of graduates, due to a lack of training of specialists in some areas (agriculture, construction) and an excess of training in others (services).

There is a quantitative and structural mismatch between the needs of the regional economy and the labour market. The profiles of graduates mostly do not correspond to regional workforce structures, and annual graduation of specialists from vocational schools and colleges amounts to 2% of the total number of employed people.

There is a drain of youth abroad immediately after school graduation with no vocational education or qualifications. As noted in the report³⁷, 17% of migrants aged 17 or below work in low-skilled jobs, and migrants' qualifications are not in demand in the labour markets of the receiving countries (mainly the Russian Federation and Kazakhstan).

At different policy levels there are tools for introducing green initiatives, and work is in hand on defining and forecasting needs in terms of labour resources and requirements (skills and assessment of competences).

In addition, at national level there is no human resources development policy, which would include all stages from defining needs and requirements in respect of skills and distribution of resources between regions and sectors, along with corresponding financing in terms of labour

resources, their professional growth and, finally, growth of labour productivity and improvement of social and economic indicators.

Development of green skills is not included among the afore-mentioned tools as a separate factor, and therefore is not reflected in subsequent policies and measures.

Taking into account the situation described above, it is important to improve the existing forecasting tools in respect of labour resource needs and the required skills through consideration of the necessity of integrating green skills in the training of specialists.

It is extremely important to review existing information sources in order to define the availability of and need for green skills and for policy development in this direction, including procedures for stakeholder interaction in the process of needs definition.

4.2 Education and training, including TVET provisions for new green occupations (courses and programmes), and for greening established jobs / occupations

Training of qualified workers is achieved through the system of primary vocational education and training (PVET), while training of specialists to the level of technical experts is achieved through the system of secondary vocational education and training (SVET). The PVET system includes 101 education institutions, 94 of them vocational schools, while six schools are within the system of correctional facilities, one is an industrial teaching college in Tokmok city, while training of workers takes place in six priority sectors of NSSD (agriculture, energy, industry, tourism, transport and mining, five of which are green economy sectors).

The number of students in State-funded programmes in SVET was 29,800 as of 1 January 2016. In the 2014/2015 academic year 11,300 persons were trained on short-term courses.

36 Report "Rationalization of TVET system in the Kyrgyz Republic: Strategy and Implementation Plan"; Second Vocational Education and Skills Development Project, ADB 2017

37 Report "Rationalization of TVET system in the Kyrgyz Republic: Strategy and Implementation Plan"; Second Vocational Education and Skills Development Project, ADB 2017

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The SVET system includes 139 colleges, of which 53 are private, 38 belong to universities, and 48 are State-owned. Of the last-mentioned, 27 were founded by the Ministry of Education and Science of the KR, and 21 by sectoral ministries, namely the Ministry of Health (11), Ministry of Culture and Tourism (8), and other ministries (2). In the 2011/2012 academic year the system included 126 SVET colleges (95 State-owned and 31 private). SVET provides education on around 100 specialities.

Kyrgyzstan adopted the process of integrating green economy issues in the education system including TVET, this being reflected in strategic documents.

In this regard the National Strategy of Sustainable Development of the Kyrgyz Republic 2013-2017 addresses the objective of generating competitiveness and economic prosperity in the country, based on the value and quality of human capital.

This objective, which is also defined in the 2013-2017 Sustainable Development Programme (SDP), includes provision for quality of training and for filling the gap between staff training and labour market needs, based on the country's priorities and regional economic strategies and on the development of personal professional competences, thereby providing the country and communities with the workers necessary for the country's sustainable development. The strategy addresses the measures required, drafting methodology recommendations on development of green jobs with a focus on youth and women.

Within the objective of training of unemployed citizens in line with labour market needs, it is planned to develop and implement introductory short-term courses for the unemployed by sustainable development occupation (agriculture, small-scale enterprises, ecotourism).

Under the objective of provision of qualified competitive workers in line with the needs of internal regional labour markets, it is planned to undertake the following: regularly assess the needs of internal, regional labour markets

in terms of adjusting vocational education; develop and introduce mechanisms for adjusting vocational education programmes and modules to the heavy demands of employers; develop and introduce new curricula for occupations required for sustainable development (agricultural production, new forms of energy; processing of ecologically clean products, ecotourism, etc.); and develop and distribute methodological and training guides for working with new education standards.

According to legal documentation, government education bodies are required to promote ecological knowledge; in response to this the following measures are being taken:

- updating the content of curricula, include additional modules on green economy (for example heat-insulation work, energy-effective construction, etc.).
- creation of resource centres for electric and gas welding, dry construction, organic agriculture, metal processing, etc.).

In 2002 the Ministry of Education and Science of the KR created an interagency expert council, members of which were experts on ecology, and which prepared norms on introduction of training courses on the following: ecology; ecology and rational environmental management; bio-ecology; environment protection; complex usage and protection of water resources; agroecology; geo-ecology; and technical measures of environmental safety.

In many higher education institutions (HEIs) there are ecology departments and courses on basic ecology. Modules on sustainable development and saving of biodiversity have been introduced in three HEIs of the KR.

The Ecology and Management Faculty of the Bishkek Humanities University (BHU) is actively promoting green economy knowledge and providing education on "Ecology and use of natural resources" and "Ecological Management". Three "Basics of Ecology" training guides have been developed, and academic research work is being conducted on ecological and economic aspects of sustainable development.

A special course on environmental protection and rational use of natural resources has been introduced in the PVET and SVET systems.

Schools have introduced an additional course on ecology. Local trainers have been trained. Training programmes, materials, and practical guides on local ecological upbringing have been developed; to introduce this concept, activities on training and retraining have been undertaken on, for example, technology for environmental protection (recycling and usage of wastes, pasture management, drinking water protection, planting, and nature protection).

The main part of the work is conducted within projects by public organizations and foundations, with external financial and technical assistance, in the following areas: adaptation to climate change through environmental management, disaster management, raising communities' resistance to climate change effects, participation of local communities in management of mountain eco-systems, biodiversity protection, forest reproduction, strengthening of stakeholder interaction, and energy saving.

Activities include elements of propaganda and awareness-raising through workshops, competitions, out-of-class work, seminars and conferences, special events, campaigns on raising populations' awareness, provision of information through websites, video courses, brochures, development of guidelines and handbooks, and so forth.

According to the report³⁸ on social survey in the area of green skills and green economy within the systems of primary vocational education and training, there is only an insignificant number of training centres promoting introduction of these subjects.

4.3 Active labour market policies and retraining measures

The legal, economic and organizational bases of public policy on employment promotion are defined by Law No 214 of the Kyrgyz Republic "On Promotion of Employment of Population" (of 3 August 2015).

To implement the afore-mentioned law, Resolution No 208 of the Government of the Kyrgyz Republic (12 April 2016) approves provisions on vocational training, retraining and upgrading training for unemployed citizens; on organization of paid public works; and on the provision of micro-credits for unemployed citizens. However the above-mentioned legislation does not specify any regulations on green policies.

The youth employment bureau conducts monthly "Vacancies Fair", "Career Days", and so forth; organizes seasonal employment for youth, students and adolescents; conducts career guidance and psychological consultations for adolescents, students and youth; and builds partnerships with employers, organizations and enterprises, which provide vacancies for adolescents, students, youth, and so forth.

Alongside government services on employment, there are commercial organizations in the labour market area which act as mediators between employers and the unemployed.

Local State administrations, along with enterprises, institutions and organizations of all ownership types, together with authorized government bodies, organize paid relief work to provide temporary employment for the population.

The main areas of public works are in:

- social area;
- tourism;
- infrastructure;
- agriculture, etc.

Based on data from the Ministry of Labour and Social Development of the KR, in 2015

³⁸ Transition to Green Economy in the Kyrgyz Republic and Small Businesses: Role of Education for Sustainable Development. Analytical Review, 2015.

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employment service agencies employed 50,700 persons, which is 19.2% more than in 2011, while the share of the employed in the number of applied job seekers fell from 58.8% to 57.9%. Of the total number of unemployed, 2.1% were employed in newly-created jobs under the micro-credit programme.

Most employed citizens found their jobs in the areas of utilities, social and personal services (20.3%); agriculture (13.6%); trade, repair of cars, household facilities and home appliances (12.8%); and construction (12.5%).

The number of vacancies claimed by enterprises in 2015 was 6,200, 23.6% less than in 2011. Among all applications from organizations, 94.5% were from the non-government sector (cf. 82.7% in 2011). Of the total number of applicants for jobs, those who had TVET education numbered 8,300, of whom 75% had not had occupational training and 25% had undergone retraining and upgrading training. Around 77% of applicants who had been retrained were employed.

4.4 The role of the private sector in skills training (sectoral approaches, apprenticeship training / workplace learning by enterprises for current workforce, existing support measures and incentives)

It is very important that the private sector is interested in employing specialists with the necessary skills, and in retraining and upgrading training of their workers, including on-the-job training. They have a major role of defining the required skills for individual economic sectors, providing possibilities for familiarisation with new technologies and equipment, and for upgrading the qualifications of trainers.

Under the conditions of the modern world economy, a required element is on-the-job training. This is no less important for Kyrgyzstan, mainly due to the large share of workers without

vocational training, to the limited supply of qualified workers for the sector, and to the lack of standard requirements for qualified workers, leading to a decrease in the qualified workforce in the sector.

Hence research in 2009 showed that a majority of workers (51%) had been trained on the job. In most enterprises in the textile-garment sector, over 30% of workers and over 30% of specialists lack occupational training.

Agricultural enterprises have no ongoing system for upgrading training for their workers and mainly prefer to hire experienced staff³⁹. Based on the results of the research of 2016, around 10% of respondents in the construction sector train their workers independently⁴⁰.

Under these conditions enterprises develop the practice of independent training and re-training of workers on the job, using specialists in enterprises as tutors and trainers, few of them covering the costs of training of workers and highly professional staff beyond their enterprises. Training of enterprise staff is also provided by sectoral training centres. There are few cases in which the private sector provides training and knowledge on green skills for its staff in its enterprises. This knowledge is obtained through the various available sources.

4.5 The role of institutional set up (e.g. sector / industry skills councils and other sectoral bodies, inter-ministerial coordination, HRD councils / committees. PPPs etc.)

In the 2013-2017 Sustainable Development Programme of the Government of the KR

³⁹ Study of Agriculture of the Kyrgyz Republic: analysis of sectoral skills, 2013

⁴⁰ Sectoral studies and skills needs analysis in the Kyrgyz Republic: construction, mining, metal processing, sales, repair and maintenance of household appliance, sales, repair and maintenance of computer facilities and mobile network means, 2016

there is, among other things, one objective on improvement of quality of government services through improvement of the institutional mechanism of intersectoral cooperation. Within the framework of this objective, a number of government bodies (MLSD, ME, MES, local self-government bodies) have the task of jointly developing a mechanism consisting of a single reliable online databank on employment of graduates of higher educational institutions and vocational schools, developed and introduced together with employers' programmes for lifelong on-the-job training for upgrading workers.

In its development programmes the Government of the Kyrgyz Republic sets objectives for interaction of key ministries and sectoral professional employers' associations. For example, there is the task of preparing a legal act on development of professional standards for guides on rafting, tracking and tourism, which should be performed together with MCIT, MLSD, MES and tourism associations, and also involving international organizations.

Moreover, at national level a National Council for Job Skills Development (NCJSD) chaired by the Vice-Prime Ministry of the KR has been created as a platform for dialogue on issues of staff training for the Kyrgyz economy.

Seven councils on priority sectors of the economy have been created, headed by the sector representatives, and bringing together representatives of employers, trade unions and educational institutions for solving issues relating to matching of training quality to labour market needs.

Within the created Sectoral Councils employers are actively involved in the processes of development of new generation professional standards, assessment of the content of training programmes, evaluation and recognition of graduates' qualifications, and raising of the capacity of the staff of institutions of primary vocational education and training.

In all TVET institutions, boards of trustees have been founded with participation of public and non-governmental organizations headed by parents.

Education institutions work with the business sector on the basis of agreements with enterprises.

For example, based on the interagency memorandum on intended mutual collaboration between MLSD, MAFIM, MES, PSVETA, KNAU and UN WFP, with the overall goal of increasing the social and economic sustainability of communities, 64 modules on all agricultural crops were prepared, and vocational colleges trained 40 agronomists with the aim of transferring technologies to the local population.

5. Analysis of case studies



PICTURE 4. Construction of straw brick houses in Kyrgyzstan. Source: construction portal USTA (www.usta.kg)

Q Case 1. Vocational school No43, Jany-Jer village, Chui oblast

Since 2002 in vocational college No 43 a process on skills development in organic agriculture has been started, which is based on the following principles:

Principle of Health – organic agriculture should support and improve the health of soil, animals, humans and the planet as a single and indivisible objective.

Principle of Ecology – organic agriculture should be based on the principles of the existence of natural ecological systems and cycles, working and co-existing with them and supporting them.

Principle of Justice – organic agriculture should be built on relationships which guarantee justice, taking into account the general environment and life opportunities.

Principle of Care – organic agriculture management should have a preventative and responsible character for protecting the health and prosperity of current and future generations and the environment.

A Green Education Programme is being developed in the school.

The Programme goal is training of students in green skills, including practical knowledge and skills for learning about and assessing the environment, taking the correct decisions on its improvement, and foreseeing the possible consequences of their actions.

The Programme consists of three main directions: 1. Usage of unused organic resources: the school implements an organic agriculture programme, in which synthetic fertilizers, pesticides, GMO, and supplement feeds are either not used or have only limited use. 2. Green economy: rational environment management

and environment protection; “Human is environment”. 3. Quality of environment and human health.

The school introduces various technologies for increasing yield capacity, providing elements of mineral nutrition for cultivated plants and for pest management – i.e. using biofertilizers, dung, compost, green manure, crop rotation, and various methods of soil treatment leading to elimination of weeds and insects.

Training programmes with new contents are being developed, new technologies are being introduced into education based on the prospective directions of economic development (in 2003 the first school in PVET built a greenhouse); farmers field schools are created, in which new planting and cattle breeding technologies are being tested.

In 2010, with the support of the Japanese International Cooperation Agency (JICA), the vocational school built a biogas facility. The biogas is used for heating the greenhouse and biofertilizers are used for planting of crops produced on 25 local farms. Among farmers, training for 38 persons has been conducted on the maintenance of the biogas facility and on the use of the liquid biofertilizers produced.

Since 2013, with the support of JICA, the school has been implementing a project on compost production. In this project students and pilot farms study compost production technologies; compost platforms have been created. All work has been undertaken by students and school staff. The Japanese support has provided technologies and materials.

Biohumus production has been organized. Californian worms have been bought, ditches are prepared and now the school produces biohumus.

Training workstations are being created (for producing of various types of compost and liquid fertilizer for demonstrating the results of using organic resources and drop drip irrigation).

In order to raise the level of awareness and competence of farmers, an analysis was conducted on their training needs. The necessary

skills were identified for farmers transferring to organic farming. Training programmes (training modules on the topics of compost, green manure, crop rotation, soil treatment) and training materials, brochures and booklets have been developed.

At present workshops and meetings with farmers are being conducted, training courses “Technologies of using unused organic products” for farmers are being organized, and two groups totalling 40 persons have been trained on the topic “Means of plant protection”.

A partnership network has been set up. Among the partners are KNAU, Bio Kg, JICA, Agrarian platform Public Association, SKS Public Foundation, Bioservice Public Foundation, Biomuras, and the University and Biocenter under the MAFIM.

Since 2015 collaboration has started with the organic movement foundation Bio KG on creation and development of organic aimaks (villages). The vocational school has become a resources centre on capacity-building in aimaks in respect of solving the issues of green economy and sustainable development (with components on traditional culture and mobilization of internal resources), provision of food safety, and adaptation to climate change.

As a best practice school, the school organizes workshops on ecology, training seminars for farmers (150 farmers have been trained), competitions on green economy, international and national conferences, and round tables.

Vocational school No 43 is a winner of national competitions, viz.:

- “Best ecology school”, winner of competition conducted by the State Agency of Ecology and Forestry – for 5 years (2012-2017).
- “Ecology and Economics”, conducted in 2014 among higher education institutions.



PICTURE 5. Farmers of Kyrgyzstan. Source: Information agency: sputnik/kg

Q Case 2. Construction sector. “the adobe house”

There is a case on construction of the Adobe Eco House, the case being based on an interview with the Director of the “Saman” company, Mrs. Altnay Soltonbek (Bishkek, 20 August 2017).

Mrs. Soltonbek’s initiative to create Adobe houses arose from her personal desire to live in an ecohouse. She was a journalist by profession, but decided to change the direction of her life, aiming at creating an environmentally-friendly home.

She gained her knowledge and experience online through open sources, studying the experience of building ecological housing in America and Europe and other countries. Currently her company has its own designer and architect who specializes in development of projects on ecological Adobe houses. She is also working on creation of ecological raw material for constructions such as Adobe panels. Overall she provides 30 job places (for trained and skilled constructors) at the company.

She said she faced difficulties in finding architects, designers, builders skilled in the construction of Adobe houses. She noted that unfortunately the education institutions

in Kyrgyzstan do not provide studies on eco-building and eco-architectural construction. There are legal obstacles to the construction of housing on a commercial basis, since Kyrgyzstan has no technical standards for building Adobe houses. Therefore her customers are mainly private customers wishing to build eco-houses from their own funds. Because of these difficulties, the banking sector does not provide loans for the construction of Adobe houses, and also does not take Adobe houses as collateral.

The company has conducted master classes for clients, employees and constructors. The participants, who included 20 workers and 8 clients, attended the training events conducted in 2017. The programme of training courses and master classes was developed by Mrs Soltonbek, founder of the “Saman” company. The training package belongs to the company, but was not approved by the Ministry of Education owing to difficulties relating to approval of the standards for the construction of houses for commercial purposes, although Mrs Soltonbek is currently trying to address the bureaucratic procedures of the educational system of the KR. The master classes and training courses were held on the basis of a newly-built guest house “Saman”, where they provide consulting services.

The guest house is located in the Issyk-Kul

region, in the village of “Zhenish”. The owner of the house runs the business providing housing for tourists and guests.

Having conducted training courses Mrs Soltonbek realized that such training is of interest to the local population. She has developed a schedule of such training events for the next year. Training events are conducted on the basis of the houses they built. In September 2017 the company concluded a memorandum with the Deputy Dean of KSUSTA (architects’ university) Borombaev E.K. on joint cooperation.

The company maintains constant contact with the workers, providing knowledge on the advantages of building with straw and clay. The company developed a client base on those wishing to undergo training on eco-housing.

Information on the project “Adobe house”:

The construction company “Saman” in Bishkek has been operating since 2016.

Adobe houses are distinguished by the fact that they are fully ecological and beneficial to health. In August 2016 construction materials consisting of 88-97% of straw were certified. The certification was carried out in a specialized laboratory of the Miass Rocket Center.

The following data were obtained:

- Concrete lowers decreases human energy by 15-20%.
- Brick reduces human energy by 5-10%.
- Trees do not degrade man’s energy, they are neutral.
- Adobe increases human energy by more than 5% (in natural straw bioenergetics is even higher).

Certification was carried out by the Ural regional body for examination and certification of the bioenergy safety of products and services.

The price varies from 11,500 to 35,000 Soms per sq.m. This price includes work with the foundation material, walls and roofing. The price range reflects variations in the complexity of design.

Q Case 3 Energy-efficient construction

There are several NGO initiatives on developing green skills in energy-efficient construction. One good example is the Unison Group Public Foundation that has rich experience in organizing and promoting energy-efficient technologies in rural areas.

The topic of energy-efficiency of houses is becoming more popular among rural people. Compared to the earlier trend among the rural population which was in pursuit of “fancy” houses, at present outstanding topics are construction quality and heat-insulation repairs. This was influenced by the negative changes in the energy sector, that is the rise in prices for energy resources and the deficit of electrical energy. But the same factor may have positive implications by improving the living conditions of citizens. Moreover there is a growing demand for the services of workers with professional skills in heat insulation.

The work of the Unison Group is undertaken in collaboration with the main private sector partners, viz.:

- Public Foundation “AVEP”;
- AMETIS Association, promoting natural heat insulation materials and energy-efficient stoves;
- SEEVA Public Foundation, which has many years of experience in providing training on energy efficiency in rural areas;
- Construction material suppliers aiming for expanded sales of energy-efficient materials.

In 2015 the Public Foundation “AVEP” conducted jointly with Helvetas Swiss Intercooperation a number of studies on the labour market, construction and rural population in Chui oblast. Based on the study results a project was initiated linking green economy, energy-efficiency and skills development – the G-STAR Training green skills in rural area Project.

The project was aimed at improvement of green skills among youth (those previously unemployed or who had learned construction

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skills on the job without vocational training) and potential migrants, based on sustainable vocational training which would lead to employment and self-employment in the area of energy-efficient construction and income generation. At the same time, more buildings would be insulated or provided with energy-efficient stoves.

In framework of the project the following activities were planned:

- Development of training modules on usage of energy-efficient construction materials from natural and industrial materials;
- Conducting ToT (*Training of trainers*) on usage of natural energy-efficient materials;
- Conducting ToT on usage of industrial energy-efficient materials;
- Providing support for increasing the level of awareness during mobile training events on insulation of houses and energy-efficient stoves in rural areas;
- Support for training providers in conducting short-term mobile training events on insulation using natural and industrial materials and equipping rural areas with energy-efficient stoves.

Several oblasts have been covered by the work. Specifically, Unison Group covered 35 villages of Chui oblast and over 1,000 people have been trained. An important element of the training courses was theory accompanied by practical work which allowed the participants to become familiar with the requirements of quality construction work using certified materials. The acquired skills will help introduce the culture of energy and resource saving, effective budget and investment distribution, creation of comfort in houses, and increased living quality.

For the Unison Group, the project on green skills training is a continuation of a series of awareness-raising campaigns spanning five years. During this period over 500,000 people from over 1,000 communities have acquired knowledge on energy saving, mounting and construction.

Moreover the Unison Group under the

framework of the Kyrseff Programme works with mounters by providing training and consultations for them. Those who can provide services on energy-efficient methods in accordance with modern construction and energy-efficient requirements after being trained are included in the list of mounters. There have been 15 information meetings and practical training events, following which 15 crews have been assembled and equipped with tools. A database with workers and constructors who provide services in energy-efficient construction and mounting has been created, and is available at <http://energy.unison.kg/ru/baza-dannyh-masterov>. Later, around 40 information meetings were conducted and work on creating sustainable work for these crews is ongoing.

For further development of their opportunities and sustainability, it is necessary to provide comprehensive training on business management, the specifics of achieving energy efficiency, marketing, and so forth, since this is only an initial stage for them.

Q Case 4. Association of Forest Users and Land Users of Kyrgyzstan

The Kyrgyz Republic consists of sparsely forested territories, but over a million people live in the afforested areas or nearby, and their wellbeing depends directly on forest resources. One of the measures leading to creation of new green jobs or transformation into greener jobs, and to solving social, economic and environmental issues in forestry, is certification of all elements of the forestry sector.

It is generally recognized that forest resources and lands related to them should be administered to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. Besides, while people recognize the threat of degradation and devastation of forests, consumers wish to have guarantees that forest products they buy do not harm or destroy forests, and on the contrary support the maintenance of forest resources for the future. To meet these demands, programmes on certification and

self-certification programmers of forest products started appearing in the market.

Forest certification is based on independent evaluation of forest administration conducted by third parties in accordance with the commonly-recognized standards of forest administration. Certification confirms that forest administration is kept balanced, taking economic, social and ecological interests into equal account.

The FSC (Forest Stewardship Council) is an international organization which accredits certifying organizations, and warrants thereby that certification will meet requirements. In all cases certification should be voluntary and initiated by forest owners and forest users applying for the services of a certifying organization. FSC aims at supporting ecologically responsible, socially beneficial and economically viable administration of world forests by development of generally recognized, trustworthy standards of forest care. The FSC's first focus is on ecological issues – scattered cut, maintenance of biodiversity. The second focus concerns social issues, labour protection, protection of workers' rights, and trade union activities. The third focus is on working with communities; how local communities treat the work of woodgrowers is important, including the extent to which they are informed about protected plants, animals, and so forth.

Association of Forest Users and Land Users of Kyrgyzstan is an organization bringing together farmers, forest users and service providers for rural development. In 2014 the Association initiated activities for certification of forest administration systems and the forest products supply chain in Kyrgyzstan through FSC.

During 2016 and 2017 FSC consultants visited Kyrgyzstan and provided preparation courses for trainers and tenants of pilot plots for audit in August 2017 with the support of FSC and WWF, including the obtaining of certificates on forest administration and forest products supply chains.

Overall, so far 80 people in Kyrgyzstan have learned FSC international standards on forest administration systems. All activities are being conducted in collaboration with the State Agency on Environmental Protection and Forestry and its local offices and district forestry farms.

Introduction of a certification system of forest administration and products supply will allow organisation of a system of continuous, long-term, inexhaustible and responsible forest usage. The certification will serve as a mechanism for: 1 - maintaining biodiversity; 2 - responsible forest administration; 3 - decreasing corruption levels; and 4 - approaching foreign markets.

It should be noted that in 2017 Kyrgyzstan was included as a pilot country in line with six other countries on certification of eco-services in accordance with FSC international standards. The main activities will be focused on biodiversity, usage of water sources, and recreational activities (tourism). Nevertheless, further training on FSC standards and management is still a timely topic for association members.

6. Conclusions and recommendations

Today the Kyrgyz Republic is among the countries for which sustainable development provision based on a green economy is especially timely, since this direction is focused on increasing the prosperity of people and strengthening social justice, while at the same time significantly reducing environmental risks and the deficit of ecological resources. The issues of sustainable development are raised to a new level and are reflected in the public policy of the Kyrgyz Republic.

The Government of the KR undertakes measures on introducing principles of sustainable development and green skills through programme and strategic documents, and this is reflected in the main document on sustainable development “National Strategy on Sustainable Development 2013-2017”, where it is crucially noted that economic policy should be targeted on rational use of natural resources for provision of sustainable economic growth through an increase in the competitiveness of the country, intensification of development, and enhanced growth of labour productivity.

Policy on the economic activity of the KR is targeted on poverty reduction and social progress, rational usage of natural resources within the ecological sustainability of ecosystems, and effective planning and management of the process of transition to sustainable development through various elements of green development in the following sectors: mining, energy, tourism, agriculture, transport, the financial sector, and business based on green technologies.

There are prerequisites in the Kyrgyz Republic for green economy development and green occupations and skills, which are approved in laws and national strategic documents.

The work on integrating green economy into the TVET system has mostly not involved business, although the business sector is the major consumer and regulator of the labour market.

For more effective work on green jobs

development, it is necessary to develop by-laws for regulation of this area.

Analysis of the legal base and a review of the general situation shows that there is political will at national level and definite institutional and expert capacity for promotion of green economy in respect of TVET.

Kyrgyzstan is at the starting stage of introducing green economy into the education system; further specific measures are needed on staff training and retraining for greening the economy. An important role in this process is played by vocational education, which in cooperation with and active participation of stakeholders is the main platform for training a new generation of green workers in all sectors of the economy.

It is important to develop interrelated tools for anticipation and identification of skills needs based on the need for integration of green skills in training⁴¹.

Creation of new green jobs is a social component of transition to a green economy. It is timely to conduct in-depth analysis of legal provisions in the area of labour and employment, and development of draft laws on employment of the population, using the main principles of the green economy and corresponding by-laws.

At national level there is no policy on human resources development, which would include all stages from competence needs through identification of requirements, distribution of resources and between regions and sectors with related financing of training, up to reproduction of labour resources, their professional growth and, finally, growth of labour productivity and improvements in social and economic indicators,

⁴¹ For introduction of forecasting the labour resources skills in economic activities, the Ministry of Economy of the KR jointly with World Bank have developed a model of forecasting economic sectors' needs in the labour resources in the Kyrgyz Republic. A methodological base for forecasting economic sectors' needs in labour resources in the Kyrgyz Republic have been developed and approved (Order of the Ministry of Economy No 50 as of 29 February 2016)

taking into account the transition to a green economy.

Green skills development as a separate factor has not been integrated into policy implementation tools, and therefore is not reflected in further policies and measures.

There is a requirement for revision of the General Country Classifier of Occupations of workers, the positions of servants and wage categories, and the General Country Classifier of jobs, which are under the management of the MLSD and NSC.

There are issues related to development of indicators describing quality of jobs, the social aspects of decent work, and social partnership. It is useful to consider the issue of transition to ILO standards regarding use of decent work indicators (International Standard Sector Classifier of all types of economic activity).

Leading organizations in promotion of various aspects of green economy include the UN Environment Programme (UNEP), UNDP, GIZ, OECD, Asian Development Bank, European Development Bank, World Bank, FAO, ILO, and others.

Despite the key role of the education system in the transition to green economy, it is obvious that so far it is not ready to provide the community with green job specialists, but nevertheless in a number of strategic and conceptual national papers prerequisites are noted for creation by the State of the preconditions for involvement of higher education institutions and businesses in development of primary and secondary vocational education and training through the following:

- creation of primary vocational education centres through development of short-term training on flexible programmes for adults and youth;
- upgrading of training programmes and standards, taking into account introduction of competence approaches and modular training, based on a needs analysis of employers and graduates;
- introducing innovative forms and methods of training in skills development in practice;

- enhancement of the use of information and communication technologies;
- institutional and human resource development of education institutions for flexible response to changes in the labour market and in individuals' needs;
- creation of institutional mechanisms of involvement of social partners in policy-making and decision-making in the development of primary and secondary vocational education and training, and of staff training based on the needs of the labour market.

Despite the country's efforts to promote sustainable development education and training in green skills, there is a critical lack of training and methodological literature, both in Russia and Kyrgyzstan. There are cases where teaching of basic ecology is based on Russian textbooks and Soviet-era textbooks, which do not reflect regional ecological issues. There is a need in the country for upgrading of teachers in the areas of inclusive sustainable development and green economy.

In spite of existing successful practices, the vocational education and training system is in general not ready to provide green skills owing to the absence of demand in the labour market, which is explained by a lack of understanding and low awareness on the part of employers and the business community on issues of green economy and the potential profits from introduction of green technologies.

Insufficient preparedness of teachers and a lack of corresponding programmes are the main bottlenecks for integration of green economy issues in the system of vocational education. With further integration of green economy and green skills into the TVET system, there is a need for upgrading the competences of teaching staff in on-the-job training.

Trade unions and employers' associations represent an insignificant proportion of labour market participants. Most working men and women work in the non-formal sector, in enterprises that do not participate in the process of social dialogue.

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The capacity of employers' organizations and trade unions is insufficient for working on extension of their membership base and for introducing regular consultations on the most important social, economic and labour issues.

Up until now, a significant factor impeding effective social dialogue has been the absence of tripartite committee working that is capable of providing a regular working institutional mechanism for collaboration of social partners.

Decisions made in the absence of agreement with partners have been reflected in a decrease in the constructiveness of dialogue. It is important therefore that policy is developed based on tripartite consultations, and that decisions are consequently implemented by all participants in accordance with agreements and on time.

There is a need for strengthening of human capacity on issues of green economy and green jobs. It would be useful to organize corresponding training of social partners (government bodies, associations of employers and trade unions).

There is a need for development of definite measures which would allow involvement of representatives of civil society and the informal sector of the economy in implementing their activities using green principles.

Despite the availability of personnel, the market is not fully ready to use trained green specialists owing *inter alia* to financial difficulties and lack of advanced technologies.

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8. List of key participants

(interview respondents, participants of focus group discussions, experts, etc.)

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General Director, Kyrgyz Association of Forest
and Land Users.
-  Janybek Kulumbetov,
Development Manager, Unison Group

Annexes

Annex 1

Interview questions

General Environmental Strategy

What are the strategic development responses of the country to prevent environmental degradation contain and adapt to climate change and answer the global call for greening economies?

Do these strategies have skills implications and do they include a skills development component?

Green response to the current economic crisis

Does the country's response to the current economic crisis include greening economic practices and does it target greening investments and stimuli, such as greener infrastructure and renewable energies? Which skills implications does this convey? Does the crisis response strategy include a skills development component?

The skills development strategy in response to greening

What is the main driver for the national HRD strategy in the provision of skills for green jobs – market adaptation or greening policy agenda? That is, is the national HRD strategy market-driven or environmental policy-driven? What is the role of skills identification in the strategy development?

In the context of greening the economy, are skills development policies and strategies coordinated with and linked to industrial, trade, technology, macroeconomic and environmental policies? If so, how? What kind of coordinating mechanisms are in place?

What is the role of social dialogue in skills development for green economy?

What are the biggest institutional roadblocks that hamper skills development for a transition to green economy?

Which level and types of education and training are considered crucial in promoting green skills among the population: compulsory level education, secondary general type of education, technical and vocational education and training (TVET), continuing vocational training, higher education?

Does education system follow introduction of issues of sustainability and environmental protection into education system?

Which occupations/skills are disappearing while degrading of environment, climate change or environment policy driven?

Why is demand falling to these occupations? Are these shifts related to the country's policy or introduction of new technologies or innovations or in relation to the environmental pressure?

Which employment shifts may occur while transiting to green economy? In which sectors?

Identification of training needs

Outline current and future (re)training needs due to major employment shifts and green structural changes. How have these (re)training needs been identified? Which methods and approaches to skills anticipation and assessment were used?

Explain both quantitative and qualitative approaches and levels of identification, i.e. national, sectoral, regional, company, training provider etc. Specify methodology, explain modelling, provide tools – e.g. questionnaires etc. Specify whether the methodology sought to identify the immediate skill needs or the mid-

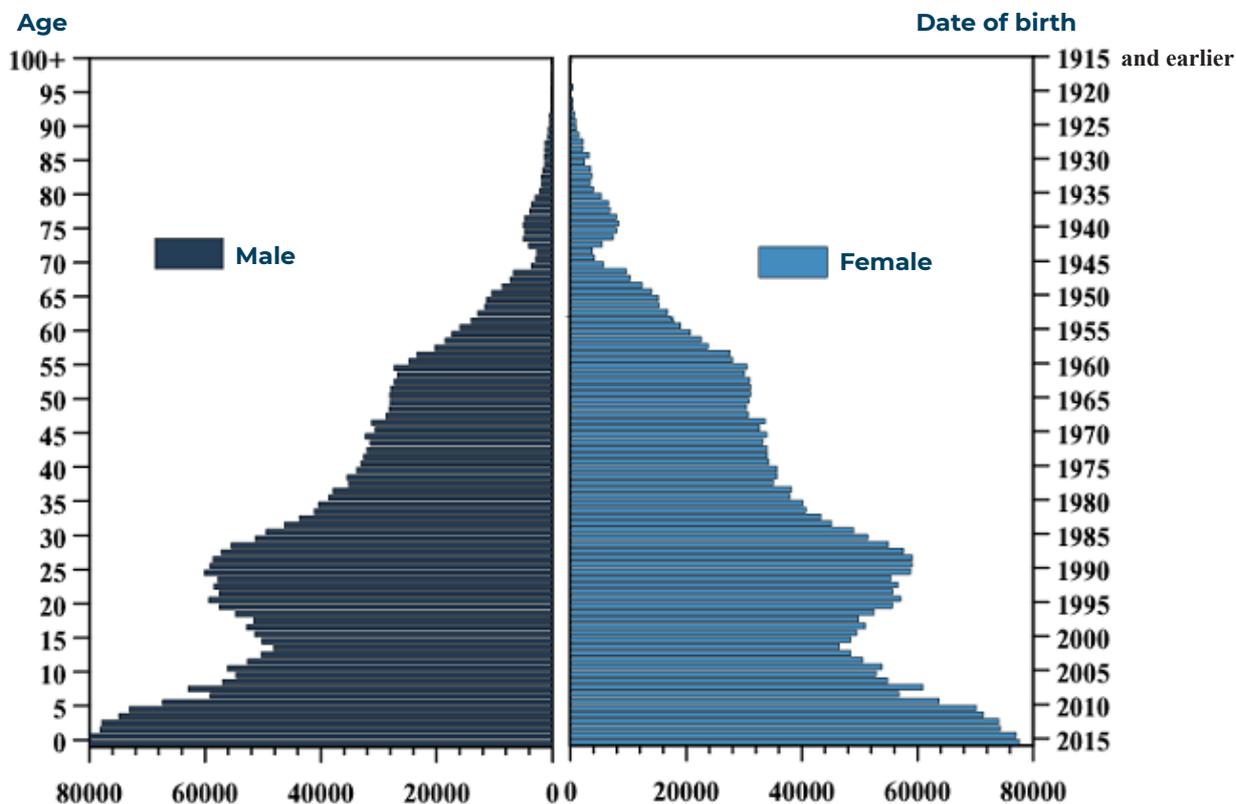
or long-term needs. Does it address particular target groups (youth, women, rural population etc.)?

Explain which institutions/systems were in charge of skill needs identification (e.g. MLSD, specific research and/or data collection institutions, departments of ministries, regional or sectoral bodies, etc.).

Are there special skills development programmes to cushion the effects (displaced workers, need for skills upgrading etc.)? What are their delivery/provision channels? How are these programmes funded? Since when and for how long are these programmes in place? How many people have been trained and in which fields? How many have found a job or could be kept in their old job?

Annex 2

Number of men and women by age groups as of beginning of 2016 (persons)



Annex 3

Economic activity of able-bodied population and PwDs at working age in 2015 (as % age of total)

	TOTAL WORKING AGED POPULATION	OF THE PWDS	MEN AT WORKING AGE	OF THEM PWDS	WOMEN AT WORKING AGE	OF THEM PWDS
Total population	100	100	100	100	100	100
Economically active	69	31	81	36	56	25
Employed	64	29	76	33	51	23
Unemployed	5	2	5	3	5	2
Economically inactive	31	69	19	64	44	75
Having experience	11	36	6	34	16	38
Having no experience	20	33	13	30	28	37

Annex 4

Employed people by types of economic activities and gender in 2015

	IN TOTAL EMPLOYED POPULATION, IN % AGE		
	Total thousand people	men	women
Total	2352,1	59,6	40,4
Agriculture, forestry and fishery	689,3	56,0	44,0
Mining operations	9,3	80,6	19,4
Processing industry	173,9	54,4	45,6
Provision (supply) with power energy, gas, steam and conditioned air	28,8	88,4	11,6
Water supply, cleaning, waste management and recycling	14,2	55,3	44,7
Construction	265,5	95,6	4,4
Wholesale and retail sales, repair of vehicles and motorcycles	364,6	59,7	40,3
Freight activities and storage of cargos	162,1	94,8	5,2
Hotels and restaurants activities	99,8	40,6	59,4
Information and communication	30,9	71,8	28,2
Financial intermediation and insurance	26,3	60,7	39,3

Real estate operations	9,5	6,7	93,3
Professional, scientific and technical activities	15,2	64,0	36,0
Administrative and support activities	12,5	68,2	31,8
Public management	95,3	64,6	35,4
Education	193,1	21,3	78,7
Health and social services	81,8	15,9	84,1
Arts, entertainment and leisure	15,6	50,9	49,1
Other services activities	43,8	48,9	51,1
Private household work	20,2	66,3	33,7
Exterritorial organizations work	0,2	100,0	...

Annex 5

Employed population by job cluster 2015

	TOTAL POPULATION	URBAN	RURAL
Total , thousand people including job clusters, in%age:	2352,1	803,8	1548,3
Managers (representatives) of government authorities of all levels, including heads of institutions, organizations and enterprises	0,9	1,3	0,7
High-level qualification specialists	9,6	14,6	6,9
Medium-level qualification specialists	7,8	15,0	4,1
Servants, working on information preparation, office work, financial and informational support,	1,7	2,5	1,3
Workers of services sector, housing and utilities services, trade and relating types of activities	16,9	25,6	12,3
Qualified workers of agriculture, forestry, hunting and fishery	24,8	2,1	36,6
Qualified workers of large and small industrial enterprises, arts and crafts, construction, transport, communication, geology and exploration	19,0	21,5	17,6
Operators and craftsmen, equipment and machine mechanic, assembly fitter	10,6	11,1	10,3
Unskilled workers	8,7	6,4	10,0

Annex 6

Unemployed population by location and gender, 2015

	Total, thousand people	IN TOTAL NUMBER OF UNEMPLOYED POPULATION, IN%AGE		Total	UNEMPLOYMENT LEVEL, IN%AGE	
		men	women		men	women
Total	192,2	51,0	49,0	7,6	6,5	9,0
Urban	71,0	52,4	47,6	8,1	7,5	8,9
Rural	121,2	50,3	49,7	7,3	6,1	9,1

Annex 7

Monthly nominal wages of women and men by types of economic activities

(based on one-time survey of enterprises and organizations in November, 2015)

	AVERAGE MONTHLY WAGES, KGS		RATIO OF WOMEN'S WAGES TO MEN' WAGES, IN%AGE
	women	men	
Total	11 125	14 743	75,5
Agriculture, forestry and fishery	7 379	9 018	81,8
Mining	20 206	20 844	96,9
Processing production (processing industry)	11 023	13 740	80,2
Provision (supply) with power energy, gas, steam and conditioned air	22 865	23 518	97,2
Water supply, cleaning, waste management and recycling	9 336	11 772	79,3
Construction	8 992	11 689	76,9

Annex 8

Employed population at age of 15 and above by place of work

(as % age of total)

	2011	2012	2013	2014	2015
In enterprises, institutions, organizations	31,4	31,8	29,5	30,1	30,2
In household farm	21,5	21,3	25,9	24,1	20,7
Individual entrepreneurship	14,6	15,1	16,8	17,2	17,7
Hired by individuals	26	25,7	23,7	23,6	26
In private subsidiary farming	6,5	6	4	4,9	5,4

Annex 9

Number of new jobs by territory in 2015r. (units)

OBLASTS	NUMBER OF NEW JOBS
Batken oblasts	11289
Jalal-Abad oblast	28122
Issyk-Kul oblast	5101
Nary oblast	5009
Osh oblast	11163
Talas oblast	1786
Chui oblast	29117
Bishkek city	16987
Osh city	1102

Annex 10

Dynamics of changes of volumes of hidden and non-formal economy

	1995	2000	2005	2010	2011	2012	2013	2014
Value added received from hidden and informal production (not counting agriculture), billion Kyrgyz Soms	1,4	8,5	18,1	42	55,8	61,7	70,5	92,8
GDP %	8,4	13,1	17,9	19,1	19,5	19,9	19,8	23,2
Including hidden production		1,1	1,4	2,4	3	2,5	2,7	2,2

Annex 11

Nominal and real wages (in % age to previous year)

	2011	2012	2013	2014	2015
Nominal wages	129,4	102	102	102,1	102,1
Real wages	111	112,1	99	100,7	103,1

Annex 12

Population employment by gender and education, 2015

	HIGHER EDUCATION	INCOMPLETE HIGHER EDUCATION	SECONDARY VOCATIONAL	PRIMARY VOCATIONAL	SECONDARY (COMPLETE) GENERAL	BASIC SECONDARY	PRIMARY GENERAL, WITHOUT PRIMARY AND NO EDUCATION
Total	19,8	1,7	9,7	7,6	53,6	6,2	1,4
Men	16,1	1,8	7,1	9,5	56,4	7,6	1,4
Women	25,2	1,6	13,6	4,7	49,5	4,1	1,4

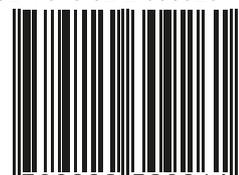
Annex 13

Basic economic indicators of the Kyrgyz Republic

INDICATOR	2010	2011	2012	2013	2014	2015	2016	SOURCE
Population (mil)	5,42	5,48	5,55	5,66	5,78	5,9	6,02	NSC
GDP (\$billion)	4,79	6,20	6,61	7,34	7,47	6,68	6,55	WB data
GNI billion	4,49	5,54	6,44	6,91	7,16	6,42		WB data
GNI, ppp (current international \$billion)	13,95	14,39	15,97	17,41	18,75	19,74		WB data
GNI (\$ per capita)	850	880	1040	1190	1250	1180	1100	WB data
Agriculture (value added), % of GDP	19,4	18,6	19,2	17,0	17,1	15,9		WB data
Industry (value added), % of GDP	29,3	30,9	25,6	28,9	27,8	28,4		WB data
Services (value added), % of GDP	51,3	50,5	55,2	54,1	55,1	55,6		WB data
Exports, % of GDP	51,6	54,5	44,4	42,3	37,4	37,3		WB data
Imports, % of GDP	81,7	81,6	95,3	91,8	87,7	73,5		WB data
Trade, % of GDP	133,2	136,2	139,7	134,0	125,1	110,8		WB data
HDI	0,632	0,638	0,647	0,656	0,662	0,664	n/a	HD Repor, 2016t
Poverty rate	33,7	36,8	38,0	37,0	30,6	32,1		NSC
CO2 emissions (metric tons/pc)	1,172	1,388	1,805	1,721	n/a	n/a	n/a	WB data
Electricity consumption per capita (MWh)	1,37	1,65	1,81	1,89	1,94	n/a	n/a	IEA
Total energy production (Mtoe)	1,27	1,62	1,75	1,76	1,91	n/a	n/a	IEA
Total freshwater withdrawal, % of internal resources)	n/a	n/a	n/a	n/a	16,4	n/a		WB data
Agriculture, % of total freshwater withdrawal	n/a	n/a	n/a	n/a	93,01	n/a		WB data

Source: developed by authors based on data of WB (2017), IEA (2016), NSC (2017), HDI report (2016)

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