Skills development for sustainable livelihoods
An overview of four case studies
Shafika Isaacs
The Commonwealth of Learning (COL) is an intergovernmental organisation created by Commonwealth Heads of Government to promote the development and sharing of open learning and distance education knowledge, resources and technologies.

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### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>AI</td>
<td>Artificial Intelligence</td>
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<tr>
<td>BPO</td>
<td>Business Process Outsourcing</td>
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<td>COL</td>
<td>Commonwealth of Learning</td>
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<tr>
<td>DREAMS</td>
<td>Determined Resilient Empowered AIDS-free Mentored Safe</td>
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<tr>
<td>EMIS</td>
<td>Education Management Information System</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GOR</td>
<td>Government of Rwanda</td>
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<tr>
<td>HCI</td>
<td>Human Capital Index</td>
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<td>HDI</td>
<td>Human Development Index</td>
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<tr>
<td>ICT</td>
<td>Information and Communications Technologies</td>
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<tr>
<td>ILO</td>
<td>International Labour Organisation</td>
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<tr>
<td>KKV</td>
<td>Kazi Kwa Vijana (KKV)</td>
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<tr>
<td>LDC</td>
<td>Least Developed Country</td>
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<tr>
<td>MOYAS</td>
<td>Ministry of Youth Affairs and Sports (MoYAS)</td>
</tr>
<tr>
<td>PWD</td>
<td>Persons with Disability</td>
</tr>
<tr>
<td>TIVET</td>
<td>technical, industrial and vocational education and training (TIVET)</td>
</tr>
<tr>
<td>TVET</td>
<td>Technical and Vocational Education and Training</td>
</tr>
<tr>
<td>VET</td>
<td>Vocational Education and Training</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNECA</td>
<td>United Nations Economic Commission for Africa</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Education Scientific and Cultural Organisation</td>
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<tr>
<td>WDA</td>
<td>Workforce Development Authority</td>
</tr>
<tr>
<td>WEDGE</td>
<td>Women’s Entrepreneurship Development and Gender Equality</td>
</tr>
<tr>
<td>WEF</td>
<td>World Economic Forum</td>
</tr>
<tr>
<td>YEDF</td>
<td>Youth Enterprise Development Funds</td>
</tr>
<tr>
<td>YP</td>
<td>Youth Polytechnics</td>
</tr>
</tbody>
</table>
1. Introduction and background

This report consolidates the findings from an overview of the skills demand, supply and gaps in four case study countries: Bangladesh, Ghana, Kenya and Rwanda. This overview is informed by the attention given to skills development in the United Nations Sustainable Development Goals (SDGs) and the approach to skills development adopted by the Commonwealth of Learning (COL) and its partners.

While all 17 SDGs are systemically inter-related, two goals that highlight the need for skills and skills development are SDG4 and SDG8. SDG4 serves to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, while SDG8 serves to promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. The most recent UN SDG Report 2019 Report\(^1\) stressed that, despite progress on some of the SDGs over the past four years, progress has been slow and in some cases, have even reversed. It also states that the most vulnerable people and countries continue to suffer the most; that the global response has not been ambitious enough and that at the current pace, the world is still not on track to end poverty by 2030.

Concerning SDG8, the report states that informal employment remains a significant challenge to the goal of decent work for all, especially in ‘developing’ countries and that 70% of the 54 countries included in their report, had a higher proportion of women in informal employment in non-agricultural sectors than men. It further emphasised that informal employment is generally associated with inadequate social protection, occupational safety, health and working conditions and harms earnings. Moreover, it highlighted that even though global unemployment has been dropping, it remains high in some regions particularly among youth and that the talents and energy of 20% of the world’s youth classified as ‘not in education, employment or training (NEETs)’, are not being effectively harnessed. The proportion of youth that are ‘NEETs’ in Sub-Saharan Africa is 20% (16% men and 25% women), a region that includes Ghana, Kenya and Rwanda; and 17% in South-Eastern Asia (12% men and 22% women), a region that includes Bangladesh.

In the context of these complex sustainable development challenges, and in its quest to develop skills for sustainable livelihoods, the Commonwealth of Learning’s (COL) technical

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vocational and skills development (TVSD) initiative has identified strategic areas of intervention. These include growing skills that are in demand by exploring and prototyping innovative models that can be scaled. Thus, the objective of this four-country skills landscape review is to explore the prospects for designing scalable skills development models for sustainable livelihoods of marginalised and excluded communities.

2. Country Contexts

As case studies, the four countries that have been chosen for review, each represent a case of

- A low-income or lower-middle-income country that aspires towards middle-income status, as articulated in each of their country governments’ vision statements;
- A country that has experienced rapid economic growth over the past decade, accompanied by reductions in poverty levels. However, in each of the four cases, continuing poverty and inequality have also stubbornly persisted;
- An economy with a high and rising youth population;
- An economy that has a significant proportion of its labour force working in informal employment and where the size of the informal economy is significantly larger than the formal economy;
- An economy characterised by alternative modes of learning such as informal apprenticeships, learning on-the-job and traditional knowledge systems that have provided learning and training opportunities for millions of working-age people, mainly from excluded communities, with little formal, curriculum-based qualifications;
- A national labour market characterised by low-level skills, poor skills development systems and skills mismatch between a changing demand for skills and an inadequate supply of skills;
- An economy that has embarked on both technological and climate-resilient pathways in varying degrees; and
- A country with some interventions that try to address its particular skills development challenges.

Table 1 provides a brief comparison of key human development and labour market indicators for each of the four countries.
Table 1: Human development and labour market indicators

<table>
<thead>
<tr>
<th></th>
<th>Bangladesh</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Rwanda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2019)</td>
<td>163.8 million; median age: 26.1</td>
<td>30.6 million, median age: 20.9</td>
<td>53.1 million; median age: 19</td>
<td>12.8 million; median age: 19.6</td>
</tr>
<tr>
<td>Human Development Index rank out of 189 countries (UNDP, 2018)</td>
<td>135th</td>
<td>142nd</td>
<td>147th</td>
<td>158th</td>
</tr>
<tr>
<td>Human Capital Index (World Bank, 2018)</td>
<td>48%</td>
<td>44%</td>
<td>52%</td>
<td>37%</td>
</tr>
<tr>
<td>Human Capital Index (WEF, 2017)</td>
<td>51.75</td>
<td>61.01</td>
<td>59.48</td>
<td>61.06</td>
</tr>
<tr>
<td>Quality of Vocational Training (1-7) (WEF, 2019)</td>
<td>3.4</td>
<td>4.0</td>
<td>4.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Skills Level (WEF, 2019) rank out of 141 countries</td>
<td>117th</td>
<td>102nd</td>
<td>97th</td>
<td>128th</td>
</tr>
</tbody>
</table>

Table 1 shows that each of the four countries vary significantly in terms of population size but have similar human development and skills levels.

3. COL Skill’s Development Approach & Methodology

The Commonwealth of Learning (COL), like UNESCO and the ILO, share a transformative approach to skills development focused on sustaining human development and building human capabilities. This approach focuses attention on communities that live in contexts of disadvantage, marginalisation and social and economic exclusion. It also focuses on skills development strategies that can secure livelihoods that are inclusive, equitable and
sustainable. Such an approach holds a long view based on a time horizon that extends over decades and integrates the sustainability of human livelihoods with the sustainability of the natural and physical environment. This approach is thus not centred narrowly on the development of skills primarily for economic growth and economic and labour market competitiveness.

A sustainable livelihoods approach to skills development relies on accurate and reliable data on the skills landscape in any country. However, each of the country case studies had relatively weak data systems. Accurate, timely data is either limited or non-existent on:

- the structure of employment and skills in both the formal and informal economies;
- the number of existing full-time, casual, flexible, part-time ‘jobs’;
- the number of newly-created ‘jobs’;
- levels of employment, under-employment and unemployment;
- unfilled vacancies in specified sectors;
- specified skill demand and supply systems; and
- programmes that develop specified skills.

The absence or lack of such data and the relative accuracy of existing data undermine attempts at systematically assessing and developing the skills base in each of the respective countries.

The research for this report applied a case study methodology\(^2\) which considers a particular phenomenon, in this case, skills demand, supply and development, within its real-world context. Much of the information for this report is based on secondary quantitative and qualitative data gleaned from opinion surveys and reviews of documents based on web searches. Where skills surveys were available, their reports would often be spearheaded by a national government agency with the support of the donor community; or they would be spearheaded by an inter-governmental organisation, development agency or entities representing the business community. While each of these reports were reviewed, their data was not always verifiable. Thus, each of the country case studies tried to find the most up-to-date and available data and where possible, data were triangulated through the use of a range of different sources.

The study experienced a few limitations. Conceptually the notion of skills demand and supply presupposes that their estimates of skills levels are based on exact science. However, many estimates are based on surveys that rely on the subjective opinions of employers and often they are biased towards the formal economy. Studies on the informal


[https://doi.org/10.1097/FCH.0b013e31822dda9e](https://doi.org/10.1097/FCH.0b013e31822dda9e)
economy have been growing but remain limited. Moreover, there are often unpredictable factors that influence skills demand which also challenge accurate predictions of future skills and skills mismatches. Similarly, identifying skills shortages and mismatches has been difficult to define clearly or predict accurately. Here the study has relied on predictions that were available and served mainly to report on them or highlight their most salient aspects.

Estimates of skills demand included analyses that were based on specified sectors, often in the formal economy. They included information on the nature and status of the economy, the size and structure of the labour force, the existing skills demand and anticipated future demand for skills. This document also briefly considered the structure of skills supply and the challenges that each of the respective counties faced with skills development. The drivers of change in each respective labour market were also considered, and a few critical interventions were highlighted related to skills development for marginalised and excluded communities. In each country case study report, a few ideas were raised, for COL’s consideration.

4. **Findings: Skills Demand and Supply Challenges**

When consolidating all four country case studies, it becomes apparent that there are many similarities in the structure of their respective labour markets and the drivers of change and pressures that each face.

4.1. **Skills Demand**

There are similarities across all four countries, in skill demand patterns, based on a range of surveys and sources. Skills demand in these examples is reflected as skills shortages.

Table 2 provides a brief snapshot.

<table>
<thead>
<tr>
<th>Country</th>
<th>Skill demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Based on a 2013 World Bank Enterprise Survey[^3], a sample of employers reported a severe lack of skilled applicants in higher-skilled occupations, such as in the managers, technicians, associate professionals and professional categories. Soft skills such as communication and</td>
</tr>
</tbody>
</table>

teamwork skills and problem-solving skills were considered to be essential labour market skills⁴.

<table>
<thead>
<tr>
<th>Country</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>The Ghana Industrial Skills Development Center (GISDC) found three main areas of skills and knowledge shortages⁵:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Industrial skills</strong> related to the installation, commissioning, maintenance, and repair of modern automated electro-mechanical plants;</td>
</tr>
<tr>
<td></td>
<td>• <strong>Fundamental common engineering skills</strong> and the associated underpinning knowledge, including bench and pipe fitting and metal machining, welding and material joining, and the fundamentals of mechanical, electrical, and electronic technology</td>
</tr>
<tr>
<td></td>
<td>• <strong>Soft skills</strong>, including in problem-solving; team working; effective communication, health, safety, and environmental awareness, and information and communication technologies (ICTs) skills.</td>
</tr>
<tr>
<td>Kenya</td>
<td>A report published by Brookings Institute based on interviews with education stakeholders in Kenya in 2017 revealed that the skills cited as critical in school, life, and the workplace include but are not limited to life skills, literacy, numeracy, communication, problem-solving, creativity, critical thinking, citizenship, science, entrepreneurialism, and ICT. These skills are believed to be essential to adapt to a changing world⁶.</td>
</tr>
<tr>
<td>Rwanda</td>
<td>In 2012, a survey on 8 key priority sectors revealed an average skills gap at 40%, with an 89% skills gap for artisans and technicians. In 2011, about 28.5% of modern firms identified an inadequately-skilled workforce as a significant constraint, compared to an average of 14.7% in the East Africa Community (EAC)⁷.</td>
</tr>
</tbody>
</table>

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⁵ World Bank (2014) Demand and supply of Skills in Ghana., World Bank., Washington


The table shows that across the four countries, the demand is for high for artisans and technicians, for managerial skills and for skills that require creativity, critical thinking and ‘soft’ skills.

4.2. Changes in the Structure of Skills Demand

In each of the four countries, there remains a high demand for skilled labour in the formal economy, particularly in the sectors that are growing more rapidly. In each of the four countries, the digital technologies and related industries appear to be among the fastest-growing. In some cases, government strategy is focused on stimulating the growth of the information and communication technologies (ICT) and digital sectors.

- In Bangladesh, a 2012 ILO-managed survey, with employers and employees in nine economic sectors in the formal economy, found that the three fastest-growing sectors where skills demand is growing are, information technology, ready-made garments and water transport/shipbuilding.

- In Ghana, the Council of TVET (COTVET)’s impending skills audit identified the following priority economic sectors: Agriculture, Manufacturing, Construction, Information Communication Technology (ICT), Tourism and Hospitality, Energy, Electronics, Automation and Electricals. ICT skills, soft skills and artisanal skills are in high demand in these sectors.

- In Kenya respondents to a survey reported that creative industries, food technologists, 3D designers, data centre workers and care, education and health workers are professions in the formal economy that are trending (based on data gathered via LinkedIn) and that in the longer term, there is strong job growth potential in hard and soft infrastructure, the ICT sector through new work formats and green jobs.

- In Rwanda, their economic development and poverty reduction strategy (EDPRS-2) identified the transport, energy, mining, hospitality, IT and trade logistics as priority sectors where technical and professional skills will need to be built to support Rwanda’s economic transformation to a middle-income country. It also identifies some sectors that will require the development of basic skills for massive job creation in construction, transport, agro-processing and light manufacturing.

The level and nature of these skills demand have mainly been articulated through surveys. Often, they provide a snapshot of the skills needed in the formal economic sectors of each of the four countries. However, all four country labour markets and concomitant skills development systems are in a state of flux and are confronted with significant changes. Many commentators and analysts suggest that the key drivers of change in the structure of labour markets and skills demand and supply include the disruptive influence of technological change, rising informality, climate change and transitions to low-carbon economies, and shifts in demographic patterns.

4.2.1. Technological Change

For each of the four country case studies, the effects of existing and continuing technological change is reflected in a growth in demand for digital skills. This growth in demand is reflected in the proportion of work activities in the formal economy, that are susceptible to automation and the growing integration of digital technologies in labour processes and organisation. They are also reflected in the growth of the ICT industry in each of the countries. These influences are also supported by the strategies of national governments to promote the production, consumption and integration digital technologies in their economies and society. These strategies articulate ambitious plans to promote the ICT sector, develop local digital solutions and local platform economies, grow digital skills and integrate digital technologies in the education and skills development systems.

The World Economic Forum (WEF) estimated that 52% of all formal work activities in Kenya, were susceptible to automation in 2017. Automation of work activities is also compared with the ICT intensity of jobs and that a small albeit growing proportion of jobs are gaining in ICT intensity. They also estimated that 18.4% of all employment in Kenya occurs in occupations with high ICT intensity and in Ghana, 6.7% of all formal sector employment occurs in occupations with high ICT intensity.

The WEF suggests that the most significant long-term benefits of ICT intensive jobs in the region are not likely to be in the lower-skilled delivery of digital products or services but digital design, creation and engineering. To address anticipated and future skills demand, they recommend that curricula need to be designed that encourage critical thinking, creativity and emotional intelligence, digital and science, technology, engineering and mathematics (STEM) skills be developed.

The World Bank suggests that digital technologies are a significant change driver in the Bangladesh economy and are catalysing changes in the labour market and new skills demand. The textile and garment industries in Bangladesh, are reportedly already demonstrating the effects of these changes. For example, dedicated trade shows such as GARMENTECH Bangladesh have been showcasing the latest production technologies for garment manufacturing for Bangladeshi apparel manufacturers. The introduction of new
production technologies is expected to influence these industries to reach their US$50 billion export target by 2021. Kenya and Rwanda are also positioning as an African hub for the global digital business process outsourcing (BPO) sector. An estimated 7,000 Kenyans currently work in BPO, mostly in voice-based services and transactional back-office services. The WEF suggests therefore, that there is long term benefit to be gained in investing in skills focused on growing local digital solutions and not only low-end digital skills. The Digital Bangladesh initiative launched in 2009 has also led to a wide range of programmes and initiatives in support of integration of digital technologies in service provision.

Moreover, the WEF proposes that the platform economy has the potential to create jobs for many; it can strengthen the linkages between the formal and informal economies and create pathways from informal to formal economies. For example, it estimates that by 2025, this could result in 536,000 additional full-time equivalent jobs and a US$3bn increase in GDP in Kenya. The International Finance Corporation adds to this view by estimating that there will be 230 million “digital jobs” in Sub-Saharan Africa by 2030.

Thus, much of the trend monitoring on digital technologies and labour market change emanates from the World Economic Forum, the World Bank and Brookings Institute. Their reports suggest that the demand for digital skills at various levels will invariably increase in the formal economy. Digital skills will need to be developed among business owners and workers in areas related to the management of distributed virtual labour and integrating freelance workers in particular. However, much of the digital disruption that are emerging are focused on the formal economies and formal businesses. Digital disruption in the informal economy is less visible and less significant but may also be affected in the future.

4.2.2. Transition to low-carbon economies

Each of the four country case studies reflects a growing recognition of the need to shift to low-carbon and climate-resilient economies. This trend is already accompanied by a demand for new skills and qualifications. These are often dubbed as a growing demand for ‘green economy skills’ based on the existing and anticipated growth of industries and jobs that respond to a global transition to low-carbon economies. According to the ILO, this trend not only involves the growth of new green industries but also the potential of job

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11 https://www.mercycorps.org/sites/default/files/Publication_IT_Skill_Gap_Report_April1_VF.pdf
displacement in high-emitting sectors. They also anticipate that this shift will alter existing occupations in terms of task compositions and skills requirements. The ILO anticipates that the greening of economies will create millions of jobs as sustainable practices and clean technologies are adopted, but that jobs in carbon and resource-intensive industries will disappear. They further estimate that the implementation of the Paris Climate Agenda will lead to global job losses of around 6 million but job gains of 24 million.

In their survey on the future of jobs and skills in Sub Saharan Africa by the World Economic Forum, climate change and natural resources ranked as the sixth highest change driver in the labour market. In Ghana, government leaders reflected an awareness of its economy’s dependence on high-emitting sectors. In Kenya, Rwanda and Bangladesh, there have been moves to innovate and initiate the emergence of new green economy innovations that have job creation effects. For example, the Government of Rwanda has adopted a Green Growth and Climate Resilience Strategy in response to the effects of climate change on drought and weather patterns. Across the four countries, job creation and job losses that accompany shifts to climate resilience have skills development implications, the needs of which appear to be underdeveloped in the four countries.

4.2.3. Demographic Factors

Another salient change driver in the labour markets of all four countries is their growing young population. With three of the four case study countries in Sub Saharan Africa, they too reflect the trend in the region where more than 60% of their national population is under the age of 25, thereby rendering it the world’s youngest region. This feature is often referred to as a demographic dividend for countries with young populations. The demographic dividend refers to a period in which the working-age population (15-64) would have a low proportion of dependent young and older adults, and be in a better position to enjoy the benefit of healthy economic and social development. The concept of the demographic dividend is derived from the experiences in Asian countries such as South Korea who invested in their youthful population. For instance, the World Bank anticipates that Bangladesh has less than 30 years to invest in its demographic dividend to reap the rewards of economic growth.

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However, whether the higher share of the youth population in the labour market will lead to a demographic dividend, has also been debatable. Some have suggested that the size of the demographic dividend depends on the rate of the demographic transition and that in countries like Kenya, and Ghana, the demographic transition is proceeding very slowly. In Kenya and Ghana, fertility has been declining steadily as life expectancy increases\textsuperscript{14}. Moreover, that the youth bulge will lead to a demographic dividend needs to be reconciled with the extent and nature of youth unemployment and unemployability\textsuperscript{15}. With youth forming the majority of the unemployed and under-employed populations in all four countries, the skills development implications are that a sharper focus on youth employability skills programmes and sustainable youth livelihoods are needed.

4.2.4. Rising Informality

Rising informality may not be a change driver, but it appears to be an outcome of structural changes taking place in the economies and labour markets of each of the four countries. It is the biggest employer in each of the four case study countries, providing employment and some form of income to vulnerable sections of the population, including women, youth and people with disabilities.

The ILO defines informality as “a way of doing things characterised by

- ease of entry,
- reliance on indigenous resources, 
- family ownership,  
- small-scale operations, 
- labour intensity 
- the use of adaptive technologies,  
- the prevalence of a skills base that was acquired outside of the formal sector 
- unregulated and competitive markets.

The informal economy employment in Rwanda accounts for 73.4\% of total employment outside the agriculture sector. Women constitute more than 80\% of those employed in the sector. The sector also contributes significantly to the country’s economy and economic growth. Women and young women have a disproportionate set of challenges within the sector and are almost exclusively found in the lowest-skilled jobs in the sector and experience income instability, a lack of social security and a lack of skills development. Moreover, 82\% of cross-border trade comes from the informal economy. There has also


\textsuperscript{15} Ortiz I and Cummins M (2012) When the global crisis and youth bulge collide. UNICEF. \url{https://www.unicef.org/socialpolicy/files/Global_Crisis_and_Youth_Bulge_-_FINAL.pdf}
been an increase in the number and proportion of young people who are employed in the informal economy as a means of livelihood and the youth bring with them an awareness and savviness with mobile platforms and mobile phones. Skills development in this sector remains under-invested, however.

In Kenya, an estimated 799,700 new jobs were created in 2013-2014, of which the informal economy created 700,000\textsuperscript{16}. When informal enterprise representatives were provided with a list of eight obstacles in running their business and asked to choose the most important one. These obstacles include access to finance, access to land, corruption, power supply or electricity, crime, water supply, access to technology, and inadequately educated workers.

In Ghana, there is a lack of investment in training among informal survivalist enterprises where skills development is not prioritised for several reasons. That they operate in low-income, low-quality-product markets are considered a contributory factor towards poor investment in training and skills development and the skills that are acquired through informal apprenticeships are focused on producing cheap products. In this way, informal enterprises are seen to be trapped in a low-skills, low productivity cycle\textsuperscript{15}

Bangladesh’s labour force was estimated at 67.98 million in 2013. Among them, 50.77 million were employed in the informal economy. Apprenticeship training predominates in the informal economy in Bangladesh, many of which have been ineffective.

The ILO categorises the informal economy workforce into three broad groups:

1. owner-employers of micro-enterprises;
2. own-account workers, and
3. dependent workers, paid or unpaid: wage workers in micro-enterprises, unpaid family workers, apprentices, contract labour, home workers and paid domestic workers, as proposed by the ILO/International Confederation of Free Trade Unions (ICFTU) international symposium of 1999.

Given the size of the informal economy in each of the four countries, and their growth in the coming period, skills development strategies will need to address the segmentation within the informal economy as categorised by the ILO; they will need to engage with the apprenticeship programmes in the respective informal economies, and focus attention on building skills through these programmes while also encouraging decent working conditions.

\textsuperscript{16} World Bank (2016) Informal Enterprises in Kenya

4.2.5. Structural Labour Market Biases

The four-country case studies also reveal systemic biases against women workers, people with disabilities and youth. Table 3 provides an overview of the gendered nature of the labour market in each of the four countries.

Table 3: Gender bias in the labour market

<table>
<thead>
<tr>
<th>Country</th>
<th>Gender bias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>Bangladesh is the only one of the seven South Asian countries studied to feature in the top 100 of the Global Gender Gap Index. It ranked 50th out of 153 countries in 2020 in terms of its gender gap index with a score of 72.6%. It is the only country in the world where women have had a longer tenure than men at the helm of the state over the past 50 years. This contributes to the strong performance on the Political Empowerment sub-index where it scored 54.5%. However, 8% of women in the cabinet and only 20% in the parliament. In the economic sphere, as of 2018, 38% of adult women were part of the labour force, compared with 84% of men. Only one in 10 leadership roles is occupied by a woman and the estimated average annual income of women is 40% that of the men.</td>
</tr>
<tr>
<td>Ghana</td>
<td>Ghana ranked 107th out of 153 countries in 2020 in terms of its Global Gender Gap Index. Even though it reduced its Educational Attainment gap between 1.5 and 4.7 percentage points, its gender gap in income are as large as 68.9%. Ghana had 13.6% of women enrolled in tertiary institutions, 41.8% of women as senior officials, legislators and managers and 37% of women in professional, technical positions. Ghana also had 13.1% of women in parliament and 25% of women in ministerial positions.</td>
</tr>
<tr>
<td>Kenya</td>
<td>Kenya ranked 109th out of 153 countries in 2020 in terms of its gender parity index with a score of 67.1%. Kenya had 9.7% of women enrolled in tertiary institutions, 24.8% of women as senior officials, legislators and managers. Kenya also had 21.8% of women in parliament and 25% of women in ministerial positions.</td>
</tr>
</tbody>
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Based on gender parity measures, Rwanda ranks ninth in the world for being the most gender-equal country in the world, closing 79.1% of its overall gender gap. It also has at least as many women as men in the labour market; it is one of the few countries that have closed 75% of its wage and income gap and is one of the few countries in the world that has closed its political power gap with a 50% share of women in parliament and more than 48% woman government ministers. However, Rwanda still has a significant gap in terms of Economic Participation and Opportunity (67.2%); women’s income is 23.7% lower than men’s income, and the wages of women remain 38.9% lower than men’s wages. 38.7% of women are employed in skilled professions in Rwanda, and a smaller percentage (14%) are senior officials.

Structural biases also persist against people with disabilities in all four countries. Not only is data on the location of people with disabilities in the labour market, but inclusive skills development strategies remain limited in all four countries.

4.3. Skills Supply

Because of the current and anticipated skills demand, each of the four countries ranks low on the skills levels, human capacity and skills development, by World Economic Forum estimates. They each also face structural skills supply challenges. Formal schooling and TVET institutions and enrolments have increased over the past two decades in each of the four countries as has the share of girls and women enrolment, albeit that their enrolment over time has been slow. Women and girls also continue to be underrepresented in male-dominated sectors in all four countries.

Moreover, limited progress has been made to accommodate learners with disabilities in formal TVET institutions as well as accommodating the skills development needs of workers and managers in the informal economy. While the limited progress has been acknowledged, each of the four countries experiences the institutional challenges related to inadequate learning, teaching and skills development; the lack of human, physical and financial resources; inflexible and static curricula; shortages of skilled teachers and lecturers; and poor management and administration systems that limit institutional efficiencies. These challenges have been widely documented and analysed in each of the four countries and as trends across Sub Saharan Africa and South-East Asia. Furthermore, the prevalence of skills shortages in the formal economies of the four countries, and as well
as the prevalence of skills mismatches are also attributable to the inadequate information flow between employers in the formal economy and the formal TVET institutions. As a result, each of the four countries experiences systemic, endemic and structural skills shortages and mismatches between skills demand and supply, in varying degrees. Table 4 provides a snapshot of the skills supply challenges in each of the four countries.

**Table 4: Skills supply challenges in each of the four countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Skill supply challenges</th>
</tr>
</thead>
</table>
| Bangladesh| • Lack of foundational skills with only around 46% of the population aged 15 years or above having attained secondary education  
  • Under-educated youth  
  • Inadequate capacity for flexible curriculum development and assessment  
  • Lack of appropriate skills development in the Informal economy  
  • Structural gender bias against women  
  • Skill challenges with low-skilled migrant workers  
  • Lack of updated job market information  
  • Weak industry collaboration and participation |
| Ghana     | • The number of technical institutions available is unable to meet the growing demand for skills development;  
  • TVET institutions have limited skills development resources  
  • The lack of coordination among multiple TVET delivery agencies  
  • The dominance of traditional apprenticeships as skills development for youth with inadequate quality training programmes.  
  • An informal TVET system that was neglected and detached from the formal sector  
  • Only a small share of the population has access to TVET  
  • Poor public perception of TVET |
| Kenya     | • There are a host of inter-related challenges concerning the coordination of information and resources among stakeholders in the TVET sector which leads to the misalignment of curriculum and industry needs.  
  • Resources, content and pedagogical deficits persist in prevailing education and training institutions that are producing learners that do not have the requisite labour market skills. |

Various sectors are facing shortages of relevant skills and professionals.

- The system is inadequately structured to address the youth unemployment problem in Kenya.
- The existing TVET system is not adapting to the needs of a changing labour market.
- The skills development system perpetuates biases against women and people with disabilities, who remain under-represented in the formal economy and male-dominated sectors like IT and the extractive sectors.
- The country also has a shortage of qualified trainers for entrepreneurship development while training providers may lack the capacity to train large numbers of participants\(^\text{19}\).

<table>
<thead>
<tr>
<th>Rwanda</th>
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<tbody>
<tr>
<td>- Many youth enter the labour market with limited formal education</td>
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<tr>
<td>- Existing courses and programmes offered by TVET institutions do not enable the development of requisite skills required for the labour market.</td>
</tr>
<tr>
<td>- Many TVET teachers lack adequate qualifications or have little or no practical experience in the relevant fields;</td>
</tr>
<tr>
<td>- Training programs in some of the promising emerging industries, are still missing or slow to be scaled up;</td>
</tr>
<tr>
<td>- Links with potential employers are often missing or too weak,</td>
</tr>
<tr>
<td>- Infrastructure, mainly digital infrastructure, continue to be suboptimal in many TVET institutions.</td>
</tr>
</tbody>
</table>

Table 4 shows that there are similarities across all four countries in the structural challenges that their skills development systems experience.

### 5. Skills Development Strategies

Each of the four countries has embarked on a range of strategies to address their skills development challenges. These include targeted programmes for informal economy workers and enterprise owners and managers.

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5.1. Informal apprenticeships and programmes with informal enterprise networks

Because apprenticeships are so widely practised a form of skills development in a fast-growing and essential sector of each of the national economies, it makes sense to address ways to improve apprenticeship practice. In Bangladesh, one strategy is to integrate training based on the Competency-Based Training and Assessment (CBT&A) system through a structured, supervised and time-bound programmes that included practical on-the-job training and off-the-job-classroom training. This example points to the prospects for further expansion of a model of this nature to address the structural challenges faced in this sector. TVET institutions could be encouraged to offer such programmes.

In some cases, partnerships with networks that unite informal enterprise workers, managers and owners such WIEGO and StreetNet could serve to provide the necessary support, learning community and customised training programmes focused on sustaining livelihoods under severe and often-precarious conditions.

It appears that some organisations like the ILO are also working with its government partners in countries like Bangladesh to support the improvement in the effectiveness of existing apprenticeships among informal enterprises. The reason for this approach relates to the predominance of apprenticeship training in the informal sector, many of which have been ineffective. This however presented an opportunity to focus on improving the practice of apprenticeships. The strategy involved training based on the Competency-Based Training and Assessment (CBT&A) system through a structured, supervised and time-bound programmes that included practical on-the-job training and off-the-job-classroom training. Two-thirds of the training time devoted to practical training at the workplace and the remaining one-third in-classroom training. The national certification was also included based on the participation of the Bangladesh Technical Education Board (BTEB) and the National TVET Qualification Framework. This example points to the prospects for further expansion of a model of this nature to address the structural challenges faced in this sector.

In Ghana and Kenya, organised networks of street vendors, market vendors, hawkers have been established over many years to strengthen the organisation and agency. The networked organisations would establish dedicated programmes to raise awareness and grow the skills and capabilities of their members. For example, the StreetNet Ghana Alliance (SGA) was established in February 2003, following an international conference in South Africa organised by StreetNet International. Based on the recommendations made at this conference, Ghana decided to form a national alliance of street vendors, market vendors and hawkers. StreetNet Ghana Alliance is composed of membership-based organisations (MBOs) of vendors, traders and hawkers. They partner with local
organisations such as the local WIEGO office and the Institute for Local Government Studies to host capacity building and skills training workshops. WIEGO is a global network of informal economy workers, researchers and development practitioners.

In Kenya, a wave of ‘techpreneurs’ has emerged in recent years. They use technology platforms that can support small informal business enterprises with product enhancement, service delivery and in making relevant connections to suit their needs. One such example is the start-up known as Lynk Job, which was launched in 2016 based on a platform of online services that connects skilled workers from the informal economy with individuals or businesses.

In Rwanda, the informal economy and the extent to which it persists in supporting marginalised and excluded communities is anticipated to grow in the coming period and will continue to be a means towards income and livelihood for many. The International Labour Organisation (ILO) has completed the first phase of a four-year programme on improving the skills and working conditions of workers in the informal sector in Rwanda. The first cohort of the trainees comprised 150 workers in the paint and coating subsector who completed their training in Kigali yesterday. By upgrading skills and addressing the factors that undermine the safety and performance of workers in the informal sector in partnership with employers, serves to promote the coexistence of both informal and formal economies based on the principle of decent work for all, promoted by the ILO.

A range of strategies is being employed to address skills development in the informal economy, thereby recognising that it represents a significant labour market sector in each of the four countries.

5.2. Digital skills development programmes

All four countries have embarked on strategies to grow the digital skills base in their economies. In the formal economy, several dedicated training programmes have been designed, implemented and evaluated that are focused on growing digital skills and competencies among managers, professionals, among workers. Strategies for digital skills development include the establishment of digital centres, sometimes called telecentres or centres of excellence that are set up to allow public access to digital technologies but also to offer a range of digital skills training. Based on networks of centres and networks of partnerships with IT companies and related private companies, local start-ups, universities, TVET institutions, NGOs, the private sector and CBOs. Many of the programmes are conducted as face to face training sessions of varying duration and applying varying pedagogies, assessment, accreditation and progression systems. Often
these programmes are designed as professional development programmes as well and include the establishment of communities of practice as part of the instructional design. Moreover, digital skills training and development include a wide range of topics that align with rapid shifts in global and local technological paradigms. They would range from digital literacy courses to courses on emerging technologies such as blockchain and big data and courses on digital incubation and management.

Bangladesh established specialised labs in all of the country’s 130 universities in partnership with global IT companies to deliver training on emerging technologies\(^{20}\). They have also invested in the establishment of 5,275 Union Digital Centers by 2019, which support the creation of an alternative virtual market for the goods and services produced in marginalised or rural areas. Through the Digital Bangladesh initiative have also led to more than 100 simplified public services, e-procurement and smart health cards in support of the digital transformation of public service provision. These interventions have included skills training in management and digital integration.

In Ghana, dedicated centres have been established to support the growth of digital skills and capabilities. Their Centre of Excellence was established in 2003 and has been host to Ghana’s first Advanced IT Institute. It was set up to stimulate and support the growth of the ICT sector in West Africa by offering a range of ICT-related skills training programmes and courses for decision-makers and various social groups. The Centre offers some courses on networking, programming, web development and software training, some of which can be taken online.

The Rwandan government have adopted a range of strategies to grow the country’s digital economy as a tech hub in Africa. Much of these involved growing global and local partnerships and networks and creating conditions for digital investment and skills development. One such initiative involves the establishment of an ICT Center for Excellence in partnership with the Carnegie Mellon University. They have also developed partnerships to deliver on a wide range of advocacy and digital skills training course development and delivery initiatives have been established. These include the offering of free online learning opportunities for unemployed persons, in partnership with the Commonwealth of Learning.

The Kenyan government launched its Digital Economy Blueprint\(^{21}\) in 2019 which serves to champion the growth of a universally-accessible digital economy with Kenya serving as a tech hub for the rest of the African continent. Digital Skills and Values is one of five pillars on which the blueprint is based. The others include Digital Government, Digital Business,

\(^{20}\) https://www.oii.ox.ac.uk/blog/where-are-online-workers-located-the-international-division-of-digital-gig-work/

Infrastructure, and Innovation-Driven Entrepreneurship. Digital Skills and Values pillar is focused on the development of a digitally skilled workforce that is grounded on sound ethical practices and socio-cultural values. It sets clear targets to produce highly skilled ICTs graduates with relevant advanced digital skills. The strategy includes working with successful initiatives such as the Tunapanda Institute\textsuperscript{22} which offers three-month training courses for youth in slum areas such as Kibera in Nairobi, that grows skills in technological, design, and entrepreneurialism. It also connects graduates with local employers. The institute hosts e-learning and school management platforms through its own unique data centre.

National government policy and strategy provide an enabling environment for the development of digital skills. The offering of courses and programmes include both formal and non-formal education programmes. However, not many focus on growing digital skills among informal economy enterprises and organisations.

A case has also been made for creating and stimulating demand for digital skills in the informal economy. The ILO, for example, demonstrated how mobile phones could support informal economy workers and enterprise owners by enabling market access and opportunities for price negotiations with suppliers. They have also demonstrated how mobile money applications can be supportive to workers, including women, by enabling access to financial services and secure payment and saving opportunities\textsuperscript{23}.

5.3. Green Skills Development

Alongside the focus on growing digital skills, attention on growing skills for a greener, more environmentally sustainable economy is emerging. Green skills refer to technical skills, knowledge, attitudes, values and behaviours that enable environmental sustainability. They are also skills that support the management of climate vulnerability risks. Green skills development strategies have included the development of skills in new burgeoning green industries such as in the renewable energies sector. They also include skills that disrupt production and consumption goods, services and practices that perpetuate climate vulnerability. The United Nations Environmental Programme (UNEP) has defined a green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. They define green jobs as jobs that help to protect ecosystems and biodiversity; reduce energy, material and water

\textsuperscript{22} Website: \url{http://www.tunapanda.org/}

consumption through high-efficiency strategies; de-carbonise the economy and minimise or altogether avoid the generation of all forms of waste and pollution.

The Bangladesh government and established a Community Climate Change Project (CCCP), local NGOs were supported to work with communities to innovate simple solutions to cope up with changing climate and earn a better living benefiting for at least 40,000 people in the most vulnerable districts. The skills development implications of these interventions suggest that dedicated programmes continue to be needed to support various communities to shift their current practices and to work towards disaster prevention and relief.

In Kenya, Strathmore University’s Energy Research Centre and Best Bridge College, for example, have developed partnerships with specialist centres and offer short courses such as energy auditing, technical solar skills and renewable energy training on solar installations. The Energy Research Centre’s approach rests on three pillars: enterprise development, skills development, and matching graduates with potential employers.

The Rwandan government has developed a Green Growth and Climate Resilience strategy to encourage small-scale farmers to change their farming practices. A limited number of programmes have been underway to date, but not at sufficient scale.

Thus, the development and implementation of strategies towards green skills development appear to be in its infancy in each of the four case study countries.

5.4. Skills development opportunities for people with disabilities

The approach to skills development and job placement of people with disabilities have included the establishment of dedicated centres or projects to advocate, raise awareness and support their skills development and employment. Training programmes held at established centres or within dedicated projects would include entrepreneurial skills and job training to enable workplace placement. The integration and inclusion of programmes for people with disabilities in mainstream institutions and skills development programmes

26 https://www.strathmore.edu/serc/
28 http://www.energyfordevelopment.net/
appear to be limited. The government of Bangladesh formulated a National Skills Development Policy (NSDP) in 2011 with ILO support which puts disability inclusion at centre stage in the skills reform process. These have provided a basis for advocacy for the inclusion of a 5% workforce quota of people with disabilities. The ILO and its partners in Bangladesh have also engaged with key business leaders and sectors about disability inclusion. They have assisted in the establishment of a Bangladesh Business and Disability Network which aims to highlight positive practices of employers who have already engaged persons with disabilities. In Rwanda, however, a few initiatives have focused on strategies for inclusion for people with disabilities. For example, EmployABLE One is a multi-country programme being implemented in Ethiopia, Rwanda and Kenya that promotes the inclusion of youth with disabilities in the labour market through technical and business skills development. The programme supports ‘model’ TVET institutions and employers to implement an inclusive approach to their courses and organisation of work respectively.

In Ghana, a Centre for the Employment of People with Disabilities, a non-profit organisation in operation since 2006, focuses on advocacy, awareness-raising among employers to employ people with disabilities. They also provide training services, coaching and for prospective employees with disabilities and provide research and consultancy services to employers. The training programmes include skills training; entrepreneurial skills development, job training which helps with preparing for the workplace. To date, they have designed, developed a range of training programmes in various sectors, including the creative arts and poultry farming. Similarly, advocacy work is conducted in Kenya in a project called Promoting Decent Work for Persons with Disabilities through a Disability Inclusion Support Service (INCLUDE) builds capacity at regional and national levels to support the full participation of women entrepreneurs with disabilities, in entrepreneurship development activities conducted under the ILO’s Women’s Entrepreneurship Development and Gender Equality (WEDGE) programme. INCLUDE also involves advocacy and awareness-raising activities to promote decent work for persons with disabilities²⁹.

5.5. Gender Equity and Women’s Empowerment

Attempts at challenging gender bias in skills development, employment, underemployment and unemployment, have included the development of national strategies that promote gender equity transversally and specified programmes that target the empowerment of women and girls. Strategies also include the adoption of institutional policies, programmes

and tools that target bias in the gender division of labour, access to TVET, gender-based violence and participation and leadership in TVET institutions. They also include setting leadership quotas for women’s participation, advocacy and awareness-raising to promote women to build skills in sectors that are traditionally and still-currently male-dominated.

Bangladesh has a strategy which was supported by the ILO that promotes gender equality in TVET. The main objective of this strategy is to expand access to formal TVET for women. Strategies include achieving 40% female enrolment in TVET by 2020; transforming mindsets and attitudes to eliminate negative perception for women in training and employment, especially towards “non-traditional skills”; establishing gender-responsive environment with appropriate support systems; creating and strengthening linkages between demand and supply of skills and accommodate skills training for informal workers; strengthening TVET institutional capacity on gender competence at all levels and establishing adequate data management system to capture sex-disaggregated data on TVET.

In Ghana, the Council for TVET adopted a gender strategy focused on promoting access to education and TVET for Ghanaian girls and women. The strategy also promotes women to participate in male-dominated sectors and jobs such as welding and fabrication, auto mechanics, carpentry, and engineering. In Kenya, various industries have developed dedicated programmes, tools and mechanisms to challenge gender bias. For example, the Kenyan tea industry role players have developed a training manual to address gender-based violence in the industry that serves to raise awareness among all relevant stakeholders in the industry. In Rwanda, policies and strategies that promote gender equity in skills development are a function of broader national government policies and national machinery. For example, Rwanda adopted a national policy on gender in 2010 which has been considered successful in promoting women’s leadership in governance.

The promotion of gender equity and women’s empowerment in skills development has gained international attention, particularly in the arena of science, technology, engineering and mathematics (STEM), where girls and women are under-represented. While a host of policies and strategies have been adopted, such as in each of the four case study countries, implementing them and achieving targeted outcomes, have been met with complexities and challenges. Confronting systemic and structural inequities, ingrained in gender-unequal cultural and social norms rank among the most challenging. This opens up the prospect for exploring innovative skills development approaches that engage deep-seated discriminatory practices and cultural norms that perpetuate gender inequity.
6. Conclusion and Recommendations

This brief report reveals the scope and scale of some of the challenges faced by the skills development system in the four case study countries and the opportunities that may prevail for COL to intervene and establish strategic partnerships. With COL’s focus on and long history and experience with skills development with marginalised and excluded communities, renewed opportunities for expanding and deepening COL’s work, appear to be emerging. Here gaps in skills development in the informal economy and its relationship with the formal economy appear to be foremost given the significant scope and scale of the informal economy in each of the case study countries. Here engagement with the widespread practice of informal apprenticeships and on-the-job training seem to require strategic support. The development of digital skills based on the embrace of appropriate and enabling digital technologies among workers, managers, business owners and entrepreneurs of informal enterprises is a further emergent space that warrants further innovative exploration. The integration and inclusion of skills development for people with disabilities and gender equity in general and in the informal economy, in particular, are further dimensions for further exploration. Moreover, soft skills and green skills appear to be new areas of skills development in the coming period.

Strategies that are emerging in the adoption of an ecosystems approach to skills development initiatives have included

- Working with existing community networks such as networks of telecentres and libraries and networks of informal enterprise workers and owners on relevant course design, development, implementation and assessment.
- Creating cross-sectoral and multi-sectoral partnerships that combine global and local expertise, experience and financial resources on skills development interventions that target specific communities with specific outcomes.
- Building and strengthening information flows between different stakeholders in ways that match skills development opportunities with those who are job and training seekers. The development of appropriate platforms serves as an opportunity in a quest to promote skills development and sustainable livelihoods among marginalised and excluded communities.

Given these emerging strategies, COL can consider the following recommendations:

1. Partnerships with global and local stakeholders in the appropriate instructional design, development and implementation of relevant courses and course components on soft skills, digital skills, managerial and entrepreneurial skills and green skills or a combination of these. UN agencies like the ILO, UNEP, UNESCO,
UNDP, community-based multi-national organisations such as StreetNet and WIEGO and global companies such as FaceBook, Microsoft, IBM appear to be critical players in this space.

2. Providing thought leadership through developing models in new emerging areas that draw on COL’s extensive experience in skills development with marginalised and excluded communities. There continues to be conceptual and design gaps in areas related to gender equity, inclusive skills development for people with disabilities, climate resilience and sustainability, which COL is well-placed to lead.

3. Building on COL’s experience with designing and implementing digital learning platforms by including strategies for communities that do not yet have regular and quality access to the Internet. OERs and MOOCs that are also available and accessible online and offline will serve to cater to communities that are challenged with regular, affordable Internet access.

4. Enable the reduction in skills mismatch by supporting relevant feedback loops between the public sector, academia and the private sector, including global and local vendors. Here supporting the development of digital solutions that facilitate information flows between stakeholders appear to be a significant gap that needs to be filled. Here support for local, relevant digital solutions appears to have long term benefit.