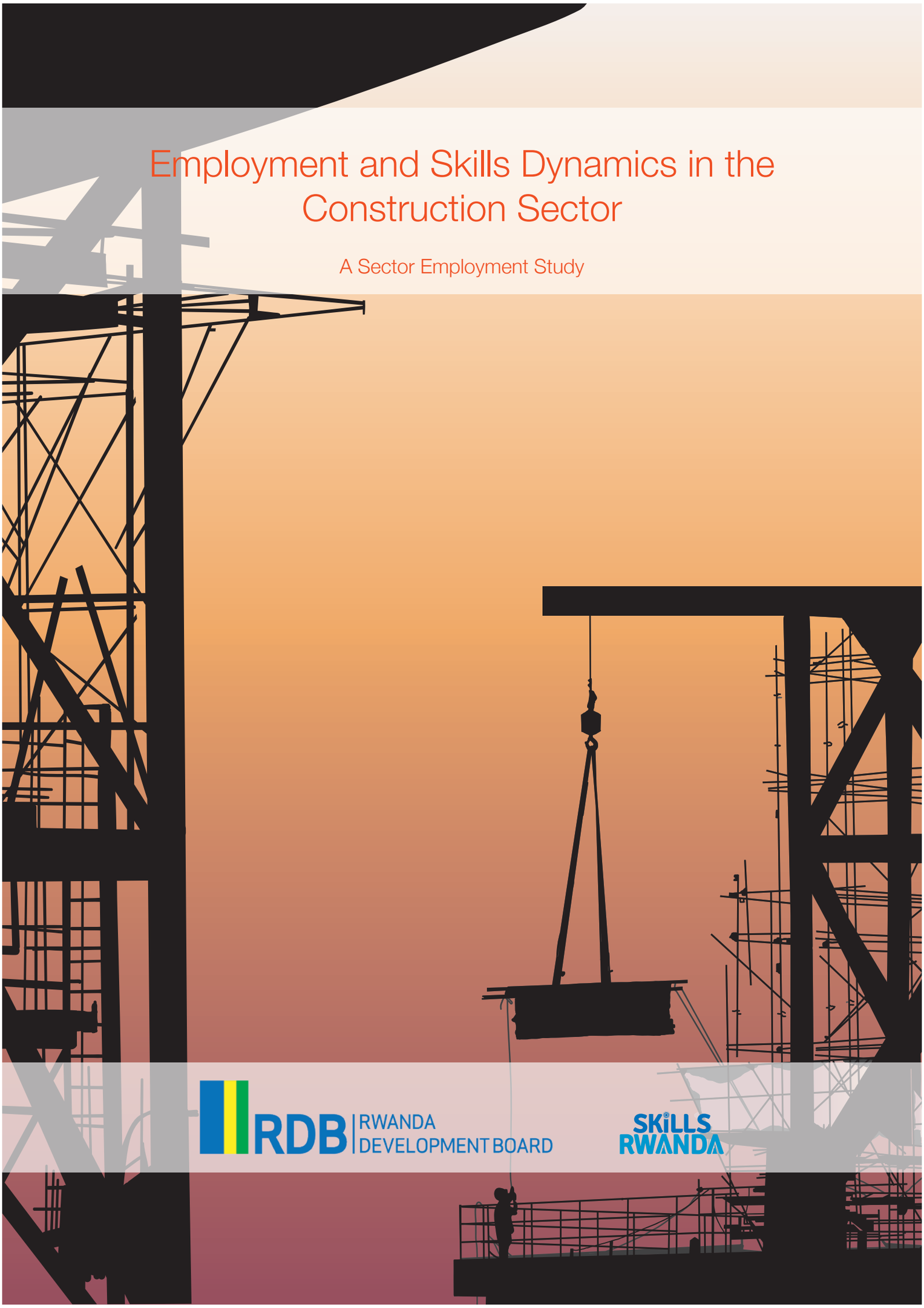
Employment and Skills Dynamics in the Construction Sector

A Sector Employment Study



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As at:
Kigali 2021

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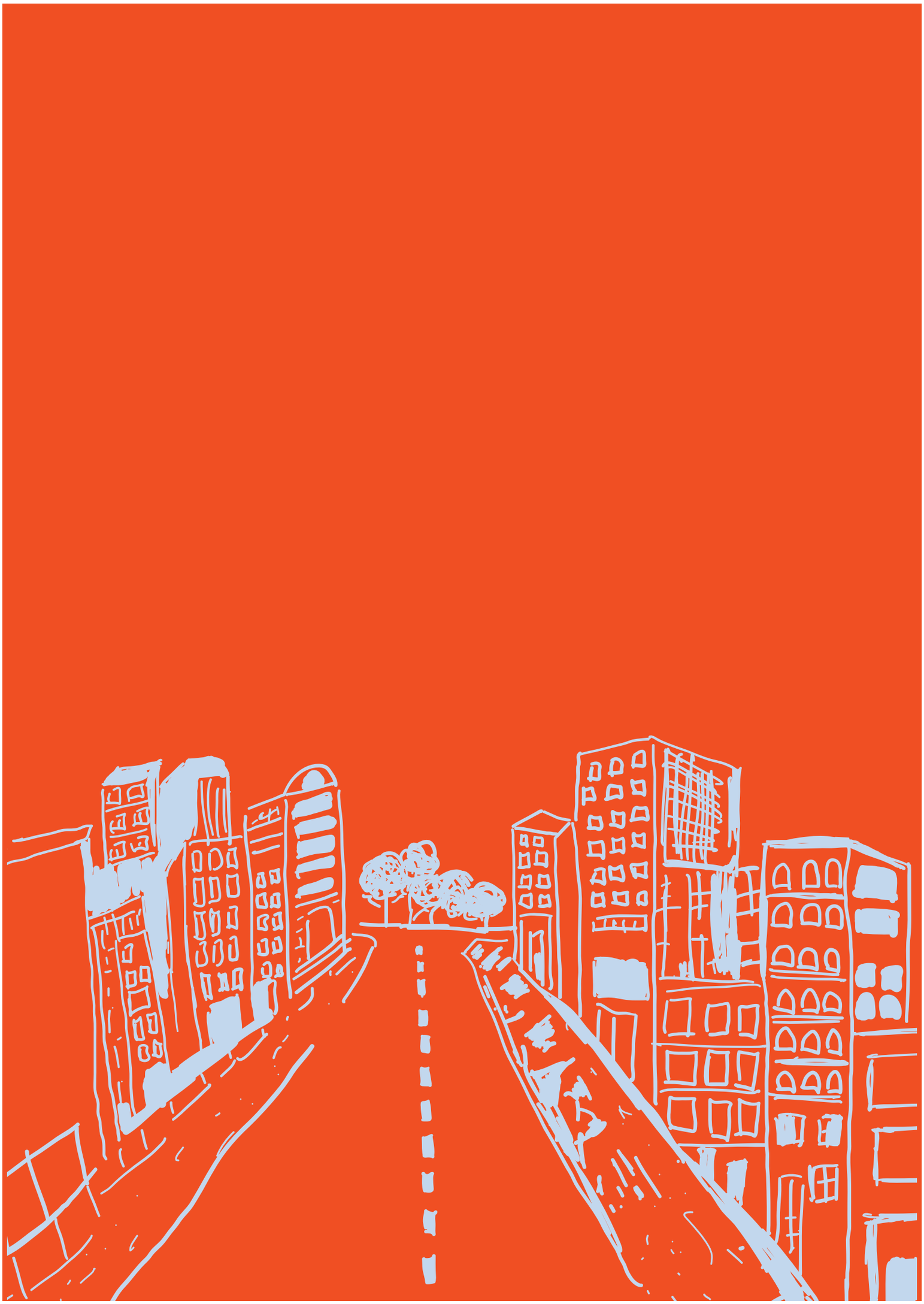
Acronyms

BDF	Business Development Fund
BNR	National Bank of Rwanda
CBHI	Community-Based Health Insurance
CSO	Chief Skills Office
DGIE	Directorate General of Immigration and Emigration
EDPRS	Economic Development and Poverty Reduction Strategy
EICV	Integrated Household Living Conditions Survey
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ILO	International Labour Organisation
IPRC	Integrated Polytechnic Regional Centres
ISCO	International Standards Classification of Occupations
LFS	Labour Force Survey
LMT	Labour Market Testing
MICE	Meetings, Incentives, Conferences and Events
MIFOTRA	Ministry of Public Service and Labour
MINECOFIN	Ministry of Finance & Economic Planning
MINEDUC	Ministry of Education
MININFRA	Ministry of Infrastructure
NISR	National Institute of Statistics of Rwanda
NST1	National Strategy for Transformation
ODL	Occupations on Demand List
OHS	Occupation, Health and Safety
PSF	Private Sector Federation
RDB	Rwanda Development Board
RHA	Rwanda Housing Authority
RP	Rwanda Polytechnic
RPPA	Rwanda Public Procurement Authority
RTDA	Rwanda Transport Development Authority
STECOMA	Trade Union of Construction Workers
TRU	Time-Related Underemployment
TSS	Technical Secondary School
TVET	Technical Vocational Education Training
VTC	Vocational Training Centre
WDA	Workforce Development Authority



Executive Summary

The National Strategy for Transformation NST1 targets the creation of 1.5 million productive jobs by 2024. Main economic driving sectors identified in the economy include Agro-processing, Horticulture, Manufacturing, Value-addition of Minerals, Construction, Touring & Transport, Knowledge-based Services and Creative Art.

The National Skills Development and Employment Promotion Strategy (NSDEPS) defined a vision on how to optimise skills and employment ecosystem to foster long-term economic transformation. Under such aspirational conditions, there is no gap between the supply of skills and demand. In this vision, the talent that businesses need to grow and innovate is available in the economy. This talent base grows in quantity and quality over time, enabling Rwanda's transition over the longer term. A fully equipped talent base, in turn, is also a net job creator through entrepreneurship. SMEs are fully equipped to grow and therefore to maximise job creation in lockstep with the overall growth of Rwanda's economy. Finally, there is a well-functioning system connecting job seekers, employers, and the education pipeline. Employers and workers can find each other, and educators can adapt rapidly as workforce needs change. The NSDEPS supports this vision to become a reality.

The importance of employment for poverty reduction lies in the fact that labour is the abundant resource of poor people, which they can use to earn a livelihood. However, employment on its own is not sufficient for poverty reduction as the return to it (the remuneration rate) is critical. For sustained poverty reduction, three factors are essential, namely, the growth factor, which relates to the rate at which an economy grows; the elasticity factor, which indicates the extent to which growth is associated with employment (both quantity and quality); and the 'integrability' factor, which refers to the extent to which poor people are able to integrate into economic processes in such a way that, as growth and employment expand, they too can take advantage of the opportunities that arise. The employment response is higher where growth is concentrated in the more labour-intensive sectors of the economy and where poor people can access the growth sectors. In this regard, public investment in the capacity of poor people to participate in and benefit from economic growth becomes imperative.

Hence, in this context, the Construction Employment Sector Study was carried out with the specific information needs of Rwandan policy-makers concerning the past and future developments of sectoral labour markets in mind. In order to acquire a comprehensive picture of the situation, different data sources and research methods were used. Particular emphasis was placed on presenting the openings for policy initiatives and the specific challenges associated with them. Furthermore, the policy recommendations for job creation and skills development are presented in the study.

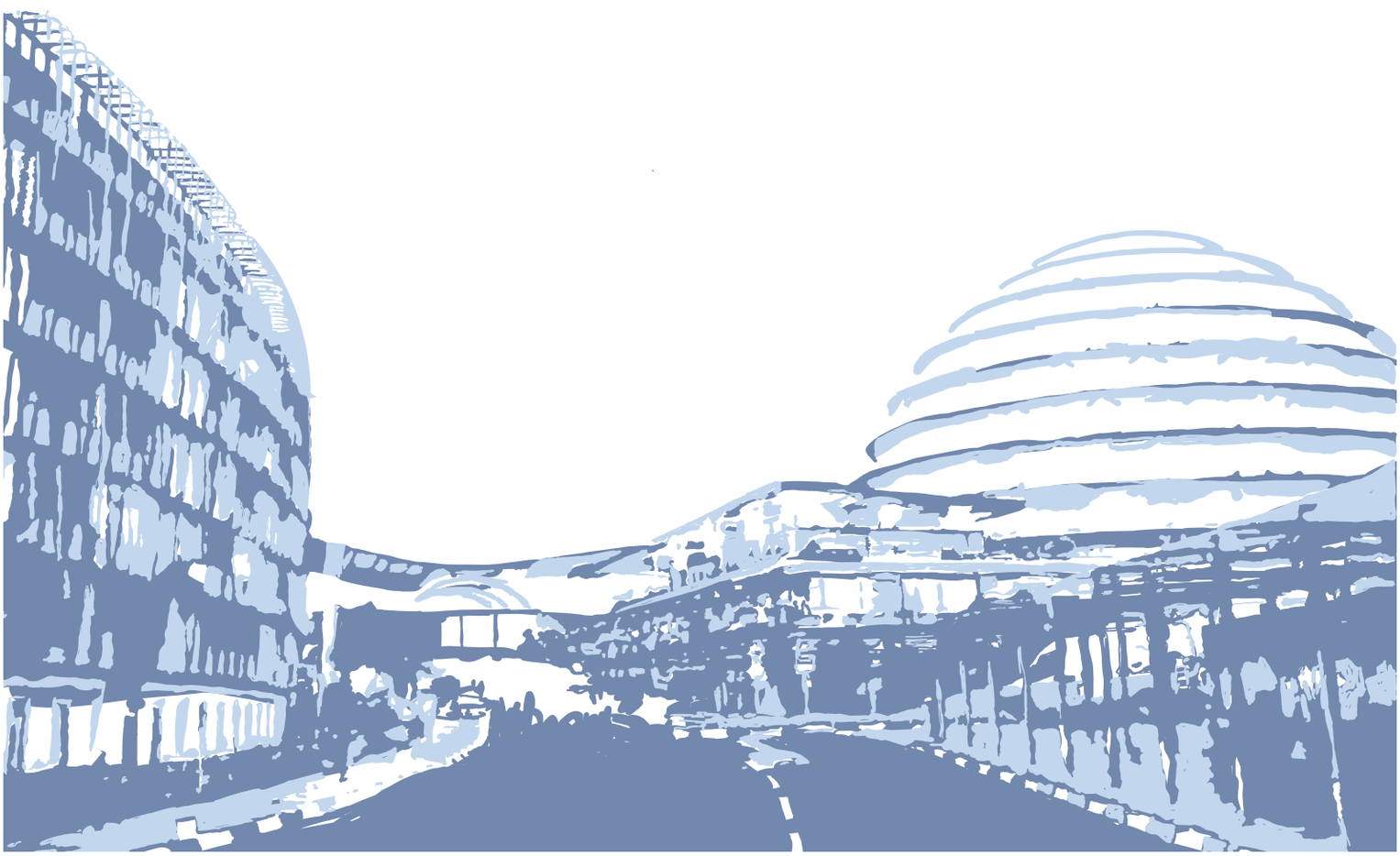
The construction sector is highly informal; this is influenced by a rapid population shift from rural to urban locations with booming construction businesses. It forms the largest part of Rwanda's industrial economy and is outpacing the country's already exceptional economic growth. However, an in-depth examination indicates a sector that depends almost exclusively on an informal workforce (98.5% are informal workers), many of whom have insufficient skills, and education levels (85% have completed primary education or less). On the surface, poor wages and irregular payments, worker occupational safety and health risks, improper contracts and limited training opportunities are the common challenges faced by the vast majority of workers.

Youth, particularly those migrating from rural areas and/or with low levels of education, find the sector attractive due to its abundance of low-skilled positions that require limited skill, financial backing, or formal education. However, these attractive low-skilled jobs are the most vulnerable ones, with low payments ranging from 1,000 to 2,000 RWF daily. According to the study findings, informal construction projects are likely to pay better than formal construction projects.

1. Introduction

In 2000, Rwanda's development agenda Vision 2020 sought to transform the country from an agrarian to a middle-income knowledge-based society and recognised the pressing need to create at least 1.6 million off-farm jobs by 2020 (Republic of Rwanda/MINECOFIN 2000: 12ff.). An important component of this strategy was developing technical and vocational skills that matched labour market needs (MINECOFIN 2012: 5). Also, the Economic Development and Poverty Reduction Strategy I (EDPRS1) (2008-2012) and II (EDPRS2) (2013-2018) stressed the importance of establishing off-farm jobs for reducing the share of population living in poverty (Republic of Rwanda 2007: 34, Republic of Rwanda 2013). The current National Strategy for Transformation (NST1) (2018-2024) set the target of creating 1.5 million decent and productive jobs until 2024, which amounts to approximately 214,000 jobs per annum (Republic of Rwanda 2017:12).

While the development goals prioritise creating high numbers of additional jobs, the Government of Rwanda simultaneously aims at demand-oriented skills development. Furthermore, it is committed to establishing productive high-quality jobs that would help to reduce the poverty levels of the population. To this end, it is recognised that employment needs to be regarded as a priority policy issue, which can only be addressed through re-orientation and consolidation of different policy interventions, such as support for the business environment, active labour market programmes or investment strategies (Republic of Rwanda 2017:17f.). Against this background, it is essential to understand the sectoral potential for employment creation as well as the associated challenges.



1.1. Political and Economic Context

In the past years, the Government of Rwanda has taken on an important role in steering the economic development processes. To this end, priority sectors with high potential for economic growth and employment have been identified under NST1, such as Agro-processing, Construction, Light manufacturing, Meat and dairy, Leather, Textiles and garments, Horticulture, Tourism, Knowledge-based services, Value- addition and processing of mining products, Creative arts, Aviation, Logistics and transportation (Republic of Rwanda 2017: 20). The variety displayed by the priority sectors demonstrates that Rwanda tries to go beyond extractivism in its economic development strategy, i.e. the dependence on extracting natural resources for export. Instead, it seeks to enhance its international competitiveness by increasing the knowledge base of economic activities and diversifying the range of products as well as their destinations.

1.2. The Rationale of the Sector Employment Studies

The Rwanda Development Board's (RDB) mandate is to promote private sector development. In order to attract investments, it is important to ensure that the country has the right amount and kind of skills. As the emerging and growing industries are the primary sources of jobs, thus helping to alleviate poverty, both the quantity and quality of the created jobs are crucial. The Chief Skills Office at RDB strengthens the private sector by supporting job creation and developing mechanisms to ensure that adequate skills are available for those employment opportunities. It addresses challenges related to human capital through sustainable interventions at institutional, company and individual level.

Establishing and running such strategic interventions to fill skills gaps and employment promotion in the private sector requires evidence-based quantitative and qualitative information. So far, sectoral research regarding labour market has concentrated on the issue of skills. Since 2012, RDB has been conducting skills audits in selected priority sectors with the aim to document the current state of skills in the labour market (analysis of available and required skills identifying skills gaps and shortages). Based on this, the required skills were projected, and action plans for addressing skills gaps set up. So far, skills audits were conducted in the following sectors:

- Tourism with a particular focus on Meetings, Incentives, Conferences and Events (MICE) (RDB 2014);
- Urbanisation;
- Transport and Logistics;
- Horticulture;
- Mining;
- Energy;
- Manufacturing with a specific focus on Made in Rwanda.

The Labour Market Analysis team at RDB is committed to supporting the Government's strategic interventions in sectors to fill potential gaps in the analyses. While skills audits have placed the main emphasis on identifying skills gaps and developing action plans for addressing them, RDB's Sector Employment Studies for Tourism & Hospitality, and Construction focuses on capturing the different aspects of employment in these sectors, such as skills acquisition and availability of skills, working conditions, gender and differences in urban/rural settings.

The construction sector was selected on the basis that it was the second-largest employer in the country after Wholesale and Retail Trade: 14.8% of the employed persons were working in different construction activities as the main job (LFS 2018) (see Sub-Section 3.2. for the structure of the construction sector). As this sector is highly labour-intensive, it stimulates the creation of a large number of employment opportunities for low- and semi-skilled workers. The construction sector is also one of the leading facilitators of rural-urban migration. However, most of the created jobs in the sector are temporary, and compliance with labour regulations is low. As the Government of Rwanda has assigned the development of the construction sector a priority, it is expected to grow in the coming years as a result of public and private investments (both domestic and foreign). Therefore, the challenges mentioned above need to be addressed to ensure that the created jobs are productive.

The Sector Employment Studies were carried out in 2019 with the specific information needs of Rwandan policy-makers concerning the past and future developments of sectoral labour markets in mind.[1] In order to acquire a comprehensive picture of the situation, different data sources and research methods were used (see Section 2). Particular emphasis was placed on presenting the openings for policy initiatives and the specific challenges associated with them. Furthermore, the policy recommendations for job creation and skills development are presented in the study (see Sections 5 and 6).

[1] The Sector Employment Studies were undertaken by the Rwanda Development Board (RDB) in collaboration with Goethe University Frankfurt in Germany and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Rwanda. They were validated by a group of experts from the Ministry of Public Service and Labour of Rwanda (MIFOTRA), the National Institute of Statistics of Rwanda (NISR) and RDB. The Sector Employment Studies were prepared by Gilbert Agaba and Abdou Musonera of RDB in collaboration with Dr Enikö Baga, Lena Fischer, Monika Pentenrieder and Sigrid Rand of Goethe University Frankfurt, Germany. Furthermore, the reports profited from the invaluable feedback and advice by Francois Ngoboka of RDB, Emmanuel Uwizeyimana and Emmanuel Ndagijimana of MIFOTRA as well as Marc Mukundabantu and Gaga Rukorera Didier of NISR at various stages of the project. All possible errors or inconsistencies remain the responsibility of the authors of the studies.

2. Research Design

of the sector employment studies

The Sector Employment Studies drew on the scientific method of triangulation. Following the classification of Norman K. Denzin (1970), the following types of triangulation were applied[2]:

- Data triangulation
- Methodological triangulation
- Investigator triangulation

Data triangulation: using multiple data sources when examining a situation in order to overcome the weaknesses of data and increase the validity and reliability of results. The data sources that were identified as relevant for gaining an overview of the employment in the analysed sectors were administrative data (e.g. RDB, MINECOFIN, BNR, RTDA data) and survey data (e.g. LFS, EICV). In addition, qualitative interview data were used as a primary data source with the aim to contextualise the analysis of secondary data.

Methodological triangulation: employing different research methods to clarify or augment the results with the aim to overcome possible biases inherent to single methods. For the Sector Employment Studies, document analysis of policy papers and sector regulations, analysis of quantitative data from multiple sources and semi-structured qualitative expert interviews were applied. This helped to capture and explain the dynamics in the sector.

Investigator triangulation: involving different researchers when conducting the study. Originally, the investigator triangulation is interpreted as parallel activities of researchers in collecting and analysing data, often following different hypotheses and applying different theories in the analysis. In this case, investigator triangulation achieved the goal of involving different perspectives on the phenomenon through involving researchers from various disciplines (Economics, Political Science, Geography) applying different research methods (quantitative and qualitative). Furthermore, the credibility of the findings was enhanced by involving researchers from Rwanda and Germany.

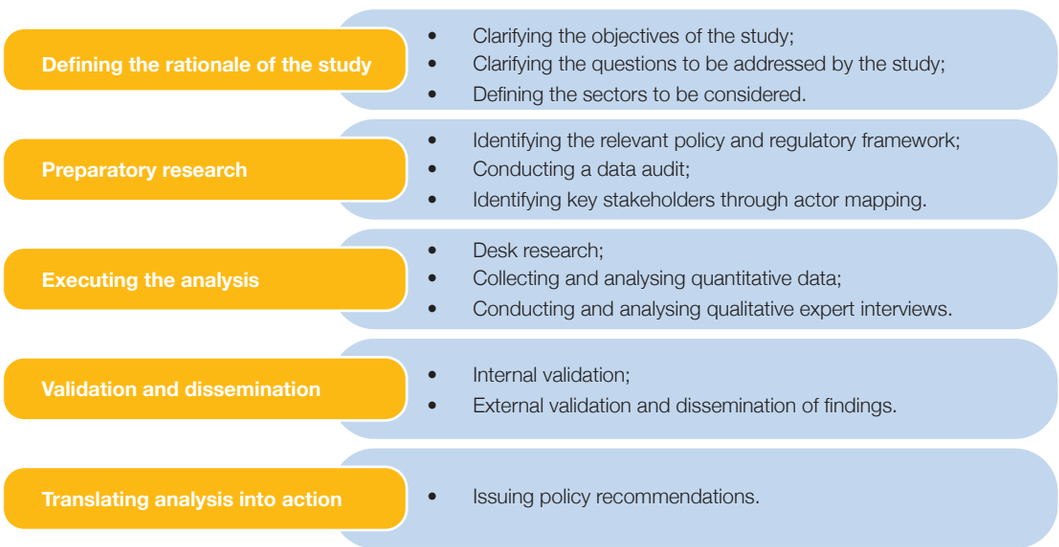
Consequently, the research design of the Sector Employment Studies was based on activities that enabled the application of data, methodological and investigator triangulation (Figure 1).

2.1. Data Sources

The research design guiding the Sector Employment Studies combined quantitative and qualitative data sources in order to capture the developments in the most diverse and dynamic sectors in Rwanda. The relevant sources of secondary data were identified through the data audit (Wilson et al. 2016), covering, for example, administrative data, surveys and tracer studies and assessing the quality, availability and sustainability of data along the following dimensions:

- General/target-group or sector-specific;
- Owner of the data;
- Collecting of data;
- Availability of data;
- Used nomenclature(s);
- Variables;
- Available years;
- Regional dimension;
- Gender dimension;
- Form of presentation;
- Changes in the methods/forms of data collection and/or presentation;
- Relevance for describing the labour market.

Figure 1: Research design of the Sector Employment Studies



Source: RDB based on Wilson et al. (2016).

[2] The classification of Norman K. Denzin (1970) includes also theory triangulation, denoting the use of various theoretical perspectives for interpreting the results of the research. In the Sector Employment Studies, theoretical approaches were used to develop the framework of analysis. However, as the main audience of the studies are policy-makers and practitioners, the principles of theory triangulation were not applied as rigorously.

Furthermore, through the actor mapping, different providers and main users of these data sources were identified. In the following, the main data sources relevant to the Sector Employment Study in the construction sector are briefly described.

2.1.1. Administrative Data

Business investments are registered at the Investment Promotion and Facilitation Department at RDB. The database contains information on the invested amount, planned jobs and current status of the enterprise (committed, implementation or operational).

The TVET database of Rwanda Polytechnic provided the administrative data on the enrolment of diploma level students at the Integrated Polytechnic Regional Centres (IPRCs). The database offers a short description of the school and programmes, as well as information on demographic characteristics of the students, years of study and sponsorship. Unfortunately, the data available are mainly for Government TVET schools, and therefore, data on Private TVET schools are still missing out.

Further information on university graduates from universities in the country and abroad was acquired from the National Skills Database hosted by the Chief Skills Office at RDB. The database contains all Rwandan University Graduates from Universities within the country and abroad for the past five years. As per the construction sector, only graduates from Engineering and Architectural Courses were analysed.

2.1.2. Survey Data

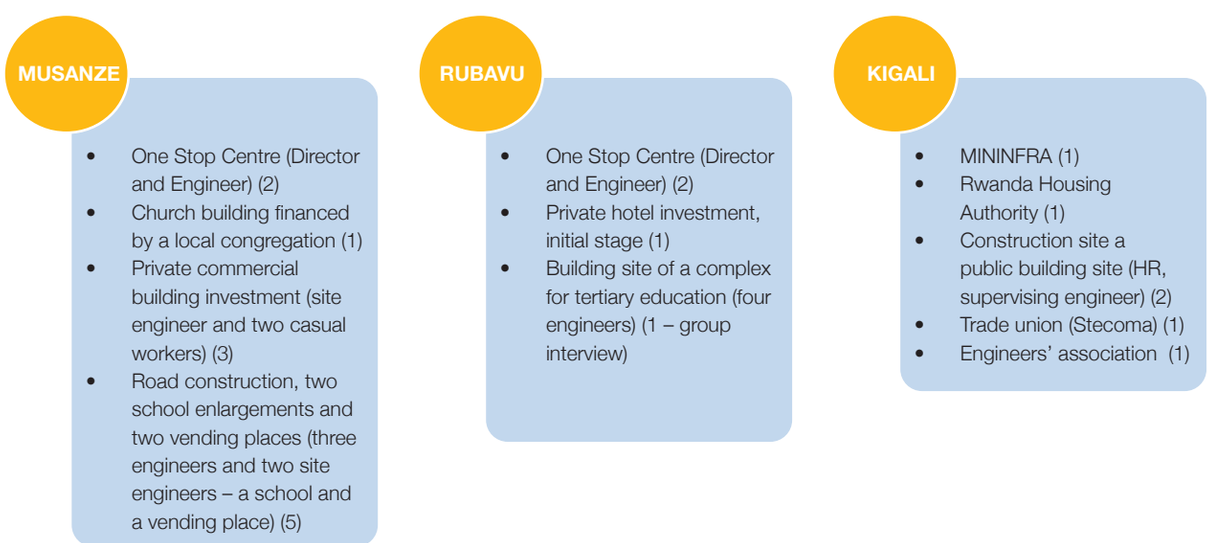
Also, the Labour Force Survey (overview in Annex, Table 3) contains rich information on participation in TVET, employment structure and working conditions. For the construction sector, the analysis focussed mainly on economic activities (ISIC Rev. 4, 4-digit categories)[3], of which the following were determined as relevant:

- Architectural and engineering activities;
- Civil engineering;
- Construction of buildings;
- Services to buildings and landscape activities;
- Specialised construction activities.

2.1.3. Qualitative Data

While LFS data give an overview of the training and employment structures as well as working conditions in the construction sector, qualitative research methods are particularly well-suited for exploring the interconnections between these different dimensions. To this end, 21 semi-structured qualitative (expert) interviews were conducted between April and July at six construction sites (see Figure 2).

Figure 2: Overview of qualitative expert interviews (April-July 2019)



Source: RDB.

[3] The International Standard of Industrial Classifications of all economic activities (ISIC Rev. 4) was adopted by the International Labour Office (ILO) in 2008 and customised by NISR in 2012. The first level (or 1-digit) categorisation broadly defines 21 economic activities and then goes on providing more details on sub-activities at 2-, 3- and 4-digit level of categories.

The interviewees were selected based on the following criteria:

- Covering a range of construction projects in order to delineate between different types of investment (public/private, foreign/domestic and large/small investment);

- Including various types of construction sites (commercial/sacral/public buildings and road construction) and construction companies following different business models (e.g. large multinational corporations vs domestic companies);

- Enabling to delineate different business models depending on the size of business and level of service (e.g. domestic and foreign companies with different access to financing, skills and machinery);

- Offering a spread across different Provinces (Kigali City and Western Province) so that the influence of government policies for supporting the development of secondary cities could be taken into account;

- Allowing to capture different perspectives (e.g. interviews with representatives of the Ministry of Infrastructure (MININFRA), which serves as the policy regulator of the construction sector, main implementing bodies such as Rwanda Housing Authority (RHA) responsible for the supervision of construction activities concerning public and private buildings as well One Stop Centres in the Districts in charge of issuing building permits and monitoring the progress of their realisation; interviews with interest representations of different occupational groups).

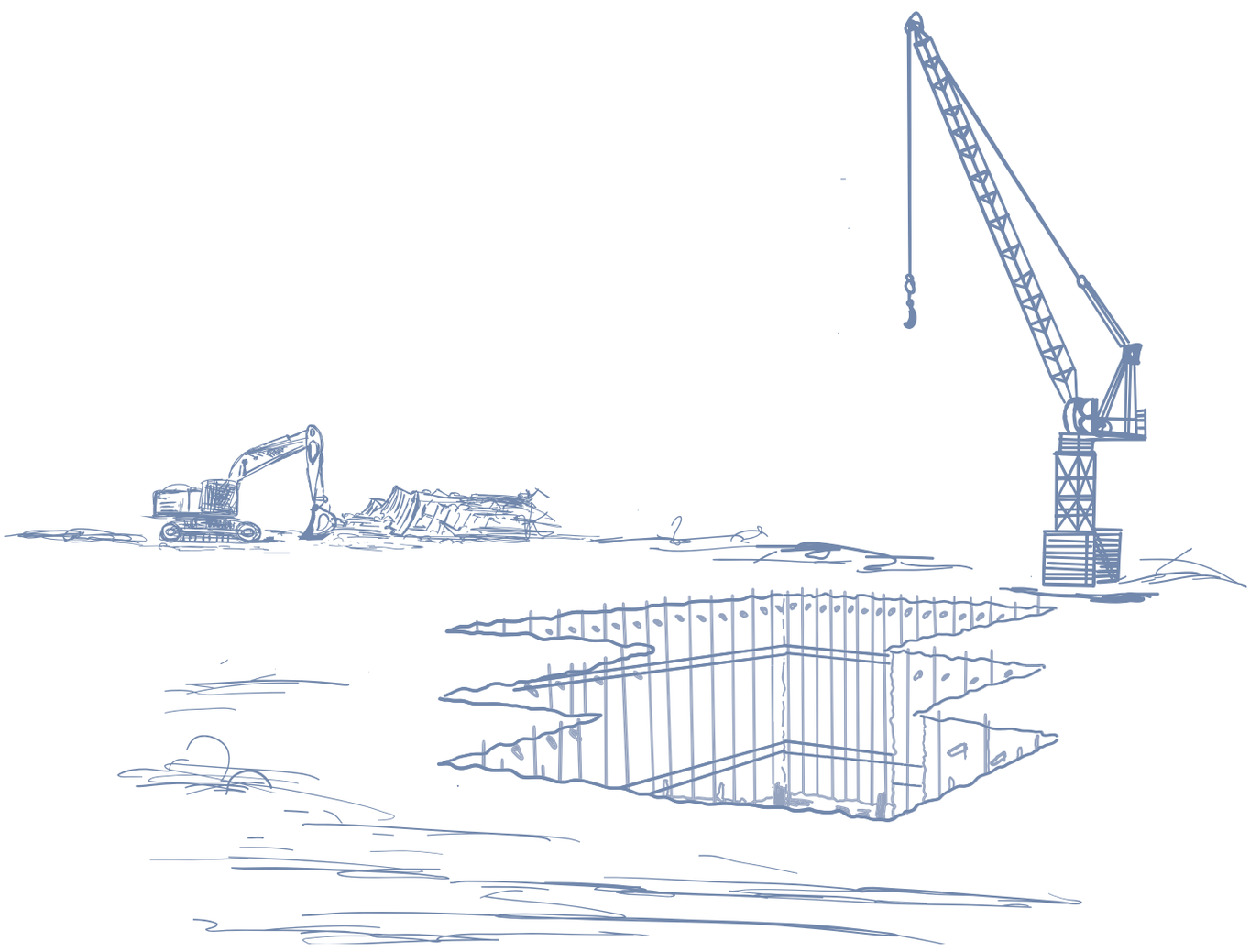
Despite the widespread of interview partners, the qualitative interviews cannot claim completeness, as the point of saturation of interview material was not reached for the different sub-groups among the interviewees. However, as the analysis from qualitative interviews was used to illustrate the insights resulting from the quantitative analysis data or add depth to them, the conducted interviews were sufficient to refine the picture of the developments in the construction sector. Whenever interview material was used in the text, reference to the position of the interviewee (e.g. engineer), type of organisation (e.g. line ministry, construction company) or region is made (e.g. Musanze) to differentiate clearly between the various sources used in the analysis. In cases where the perspectives of our interview partners were largely congruent, qualitative interviews are mentioned as a general source of information.

In the next step, qualitative data were collected through a validation workshop on 7-9 November 2019 where internal (RDB) and external (so far the Ministry of Public Service and Labour of Rwanda (MIFOTRA) and the National Institute of Statistics of Rwanda (NISR)) provided feedback to the analysis of employment and skills dynamics in the construction sector, identified the main challenges that different stakeholders in the sector face, and developed policy recommendations for addressing these challenges. The enhanced analysis was put to the discussion at a validation workshop that took place on 15 November 2019 and included a wider range of stakeholders.

3. Overview

of the construction sector in Rwanda

The construction sector constitutes one of the priority sectors in Rwanda since it creates a foundation for implementing the Government's development plans for the country in terms of modernisation, rapid and extensive urbanisation. Thus, public investments seek to increase the availability of infrastructure both for the domestic population in an urban environment and in support of other sectors attracting foreign visitors, in particular in the Tourism & Hospitality sector requiring buildings that can host luxury tourists and visitors to high-level events, such as the Commonwealth conferences. Also, to facilitate domestic and foreign investments where most of the private investments are in the field of real estate, hotels & accommodation, recreation facilities and commercial buildings. However, decentralisation, sustainability, inclusiveness and accountability are simultaneously on the Government's agenda. To that effect, government investments and activities need to be coordinated into a coherent fabric of strategic planning and policy-making.



3.1. Policy and Strategy Framework for the construction sector

Already with the **Vision 2020**, the Government of Rwanda proactively supported urbanisation and set an ambitious objective of reaching the 35%-share of urban population by 2020, while emphasising the importance of establishing efficiently laid out and serviced rural settlements.

Taking effect 2013-2018, the **Second Economic Development and Poverty Reduction Strategy (EDPSR2)** sought to "transform the economic geography of Rwanda by facilitating urbanization and promoting secondary cities" as centres of non-agricultural economic activities. In the same time period, the Urbanization and Rural Settlement Sector Strategic Plan defined the objectives for spatial distribution of growth across different regions both in rural and urban settings. In addition, the **Seven-Year Government Programme** targeted the provision of infrastructure and utilities throughout the country and emphasised the importance of affordable and environmentally friendly housing in rural and urban areas.

These strategic plans were supported by the **National Housing Policy** adopted in March 2015, developing a vision of enabling everyone independent of income, base of subsistence and location access to adequate housing in sustainably planned and developed areas reserved for habitation. The **National Urbanization Policy** of December 2015 complemented these goals by setting the framework for public and private interaction in the country's urbanization process supporting sustainable development. The strategic endeavours are further supported by the National Investment Strategy, which recognises the need to enable private sector investments in the field of commercial and industrial activities, touristic and recreational activities as well as Economic Development Zones. To that effect, urban Master Plans for planned human settlements have been established and investments in basic infrastructure have taken place.

Finally, the **National Strategy for Transformation (NST1)** aims at developing modern infrastructure and livelihoods. Moving towards a Modern Rwandan Household is enabled through ensuring universal access to affordable and adequate infrastructure and services.

Source: RDB.

The implementation of the strategic framework is further supported by Master Plans at different levels: The National Land Use and Development Master Plan (2011), the Kigali City Master Plan (2013) and Local Urban Development Plans in all 30 Districts. Moreover, the cross-sectoral coordination and integration of different types of plans take place through Orders of the Law that govern urban planning and building in Rwanda, ensuring that clear procedures are supporting sustainable, integral and inclusive development, decentralisation and local economic development as well as citizen participation and accountability mechanisms.

3.2. Structure of the construction sector

The construction sector includes civil buildings activities as well as the construction of bridges and roads. Construction is an important activity that drives emerging economies like Rwanda, which are yet to develop an extensive network of infrastructure and estate assets. The construction sector is the second largest job creation economic activity after Wholesale and Retail Trades that employs about 330,000 people. The construction sector has been growing at over 10% per annum for the last 20 years apart from a few years when construction did not do well due to the global recession. Enormous infrastructure investment by the government to facilitate development plans and a rapid rise in housing demand stimulated massive private sector investment in commercial buildings. Foreign Direct Investment (FDI) inflow into the sector has been increasing tremendously since 2010.

3.2.1. Construction of Buildings

Construction of buildings contributes to an estimated 60% of the construction sector. The main segments involve:

- Households' building their own homes informally and incrementally, relying on locally sourced and manufactured building materials/components. More complex constructions are often outsourced to micro-contractors or sub-contractors;
- Small-scale developers targeting middle-upper income groups and combining locally produced and imported materials;
- Larger locally-based developers carrying out more extensive (often government-supported) housing projects for the upper-income segment. They use internationally acquired materials and professional services;
- Giant international construction corporations that implement major public works and large housing developments targeting the Rwandan upper class as well as the expats. They rely mainly on imported materials, skills and labour

Rwanda Housing Authority (RHA) is a public institution established by the Law N°40/2010 of 25/10/2010, overseen by the Ministry of Infrastructure. Its main objectives are to improve the quality of life of Rwandans through planning, organising and spearheading rural settlement, urban settlement, public building construction, affordable housing. Furthermore, it manages public office space and Government Assets and regulation of the construction industry.

Source: RDB.

3.2.2. Road Construction

Road construction activities vary considerably depending mainly on the terrain and soil conditions, road standards, machine and labour costs as well as on the skill of operators and labourers involved. Labour and machine-related activities in road construction include surveying, staking the alignment and clearing right of way, the formation of roads, rock blasting, drainage facilities (ditching, culverts), crushing gravel, gravelling, grading and compacting; construction and environment protection works (bridges, retaining structures and soil stabilisation works); miscellaneous work (such as transport, delivery and minor earthworks), project servicing costs.

Rwanda Transport Development Agency (RTDA) is a government institution affiliated with the Ministry of Infrastructure. RTDA is governed by the law N°02/2010 of 20/01/2010, which determines its mission, structure and functioning. The main tasks of RTDA include among other things the managing and controlling national road network with a view to achieving road safety and maintenance, managing and controlling the waterways transport infrastructure with a view of ensuring their value added as well as developing the railway infrastructure in Rwanda.

In accordance with the Public Transport Policy and Strategy for Rwanda approved by the Cabinet in October 2012, RTDA is responsible for promoting transport services for persons and goods in the country.

Source: RDB.

3.3. Structure of the construction sector

The construction sector is part of the industry branch of the economy. In Rwanda, it displays a strong correlation with the general rate of economic growth and specifically with the growth rate in the industry branch. For example, from 2004 to 2008, the construction sector in Rwanda experienced a double-digit growth due to sustained demand and significant investment expenditure in the sector: public programmes complemented the strong demand in private construction under the inaugural year of the EDPRS1 (Figure 3). However, between 2009 and 2010, construction activities contracted significantly, resulting in a negative growth rate of -2%. This was mainly influenced by the global economic recession that also impacted the Rwandan economy, significantly reducing foreign investments in the sector and thus also slowing down the growth rate in the sector and the economy.

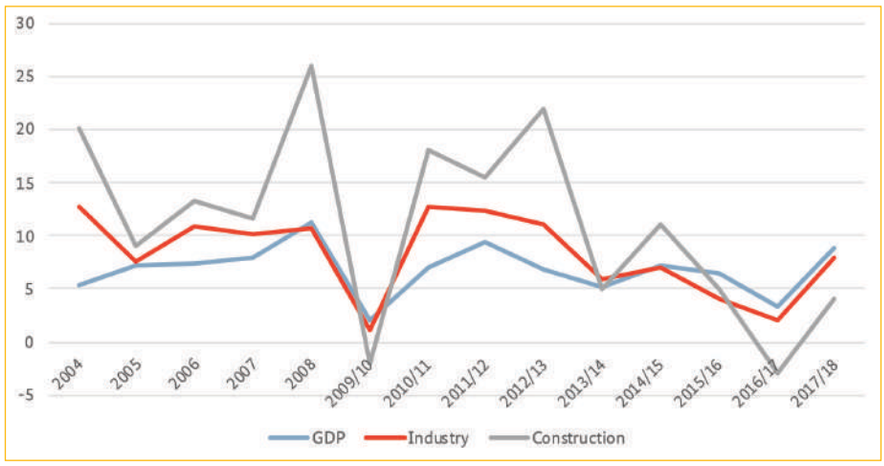
These developments indicate how the growth rate of the construction sector influences the general growth rate of the Industrial sector (of which it is a sub-sector) and GDP in particular. This is mainly due to backward and forward linkages of the sector to other sectors in the economy. The construction sector use inputs (raw materials) which are either from Industries or the Mining Sector (mainly quarrying). Therefore, as construction activities increases, it stimulates demand for construction materials which leads to high production in the Industrial and Mining Sectors, thus resulting in increased growth in the sectors (backward linkage). Also, construction results in adequate infrastructure, both social and economical, and these later attract different economic activities in the area which stimulates the growth of various sectors. For instance, these include, among others, Agriculture, as inputs and outputs easily get access to the market, Transport and Logistics, Wholesale and Retail Trade, Tourism and Hospitality (forward linkage). Thus, due to the positive growth relationship between construction and other sectors in the economy, an increase in investment in construction leads to an increase in the Industry Sector and the GDP in particular in the economy.

The growth rate of the construction sector relies on both global and domestic economic situation, reflected in the price of construction materials and available loans. Furthermore, changes in construction regulations, as well as public spending, have been observed to have a significant impact on the advancement of the sector. This shows how susceptible the construction sector is to domestic and global developments as well as their interplay.

Having recognised this, the Government of Rwanda has implemented several reforms in the past years to improve the business environment and attract more investors from all over the world. Major foreign investments into Rwanda's Construction, Manufacturing, Tourism and Energy Sectors originate from the U.S, Mauritius, Kenya and China. In 2018, Rwanda Development Board (RDB) attracted 173 investment commitments totalling USD 2 billion, expected to generate 31,548 jobs (RDB 2018).

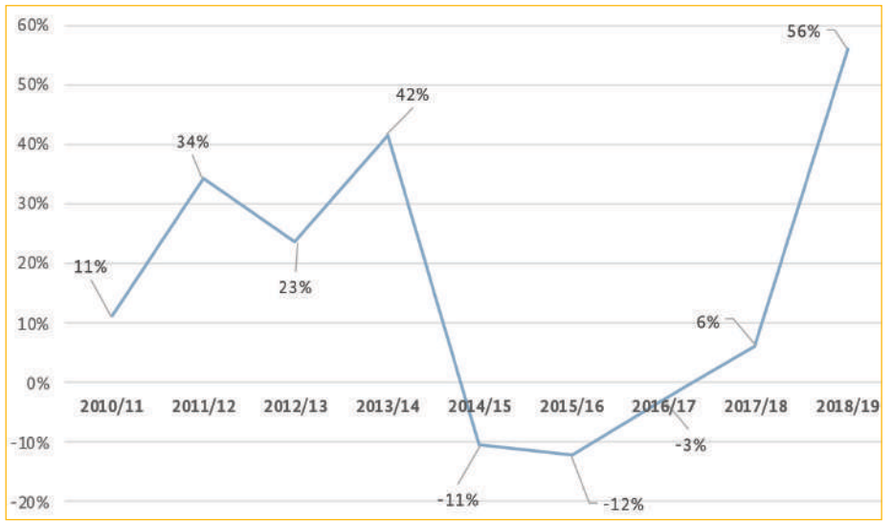
However, extensive investments by the Government of Rwanda into public buildings, public housing projects, infrastructure projects and other related construction works are mainly responsible for the growth of the construction sector. After the Genocide against the Tutsi, the government of National Unity embarked on rebuilding the country and gave infrastructure high priority. In 2004, the Government of Rwanda spent 7.2 billion RWF in the construction sector,

Figure 3: Graph showing the correlation between GDP, Industry and Construction growth rates in the economy (2004-2018)



Source: MINECOFIN & NISR, Annual Economic Report.

Figure 4: Change in the annual rate of government spending on infrastructure in Rwanda (2010/2011-2018/2019, in %)



Source: MINECOFIN annual expenditure data 2018/2019.

almost double the amount in 2005, 67.2 billion in 2008 and 148.5 billion in 2009/2010 (MINECOFIN). It reached 487.2 billion RWF in 2018 due to large infrastructure projects like tarmac roads and bridges connecting different Districts and Provinces, public buildings, public housing as well as rural water and electrification projects.

From the fiscal year of 2010/2011, government expenditure was increasing until 2014/2015 when it was reduced drastically due to the global economic recession (Figure 4). As a result, the Government of Rwanda had to cut spending to mitigate the likely effects of the global recession. In 2015/2016, the economy recovered, and the rate of government spending on infrastructure projects started increasing, reaching the highest point of the past ten years in 2018/2019.

Most activities related to road constructions arise from construction or upgrading as well as rehabilitation and maintenance of the road network. However, this high road density may be a consequence of the mountainous terrain, which requires long, meandering roads. Another factor is the dispersed human settlement pattern on the ridges.

Road construction works are entirely financed by the Government of Rwanda. From 2013 to 2018, it invested 1,729 million USD in road construction activities. In 2019-2024, it is planning to invest 2,322 million USD according to Rwanda Transport Sector Review and Action Plan to deliver NST1 targets.

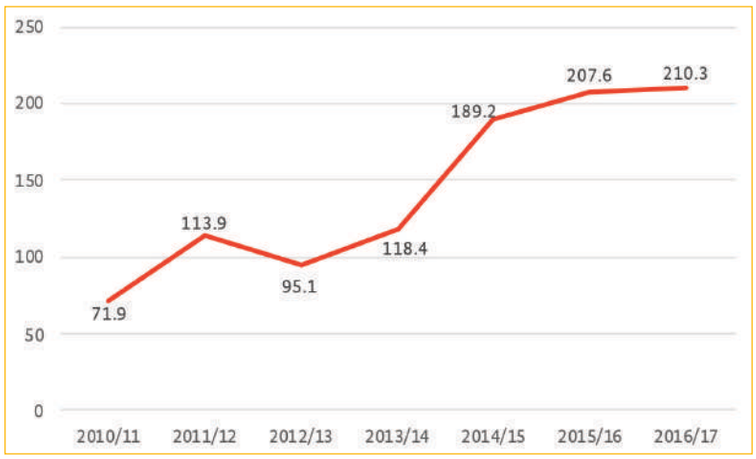
Source: RDB.

The spending of the private sector on construction ranges from investments of private households on housing as well as private investors on commercial buildings. Even though there are no reliable data concerning these investments, data on loans extended to private investments in the economic sector, public works & buildings, allows us to estimate their scope, which has been steadily rising since the fiscal year of 2010/2011 – with a slight decrease in 2012/2013 (Figure 5).

Most of the loans were granted by commercial banks, which consider the construction sector as the second most attractive investment opportunity after Commerce, Restaurants & Hotels: in the fiscal year of 2018/2019, the former received RWF 227.4 billion, while it was 286.9 for the latter (BNR Financial Annual Report 2018). As most of the private investments in the construction sector are mainly in commercial buildings, hotels and real estate, they serve as indicators for how well these sectors are doing.

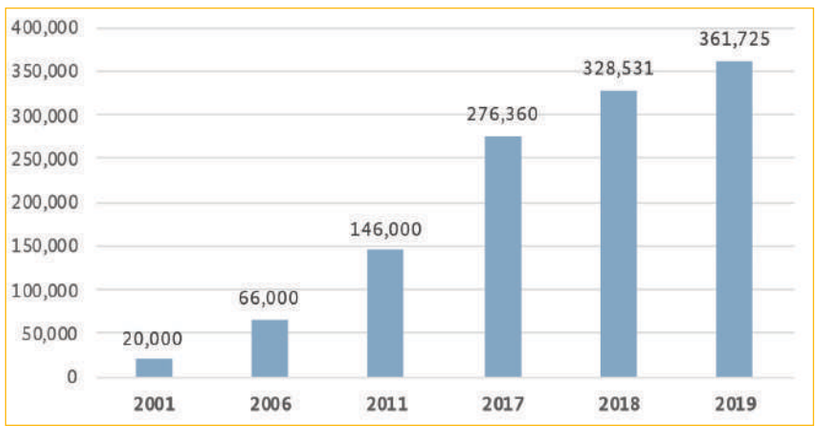
Figure 6 demonstrates how investments in the construction sector translate into job creation: the number of jobs increased from 20,000 in 2001 to 66,000 in 2006. After five years it increased to more than double to 146,000 jobs. From 2011 to 2018, jobs created increased by over 55% to 328,531 created jobs. The job creation follows the increase in both public and spending in the construction sector, which tripled in the last nine years.

Figure 5: Newly authorised loans by financial institutions to construction projects (2010/2011-2017/2018, in RWF billion)



Source: BNR Financial Annual Report (2018).

Figure 6: Jobs created in the construction sector (2001-2019)



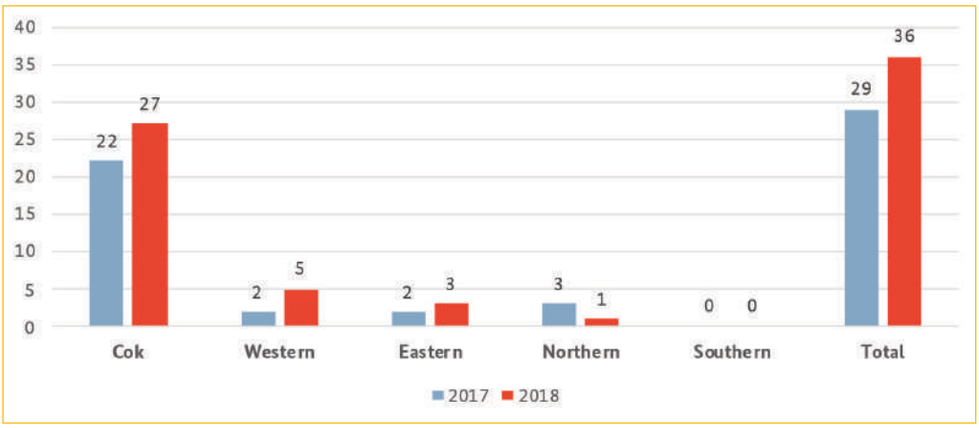
Source: EICV1, 2 and 3 (2001, 2006 and 2011); LFS 2017, 2018 and 2019.

Furthermore, government and private sector spending in the construction sector, as well as FDI, supports not only the development of infrastructure but also the expansion of the private sector in general as they are involved in government projects as contractors. The number of newly registered construction businesses increased from 29 in 2017 to 36 in 2018. It can be observed that the majority of businesses were registered in the City of Kigali, while the Southern Province did not attract any business registrations at all (Figure 7).

In 2017, 56% of the total jobs created by investments were located in the City of Kigali. The Eastern Province accounted for 37% of the jobs, which resulted mainly from two big and labour-intensive projects: The International Airport, and the Kagitumba-Rusumo Road under construction. In 2018, 83% of the total jobs were created in the City of Kigali alone, reflecting the direction and scope of rural-urban migration in Rwanda (Figure 8).

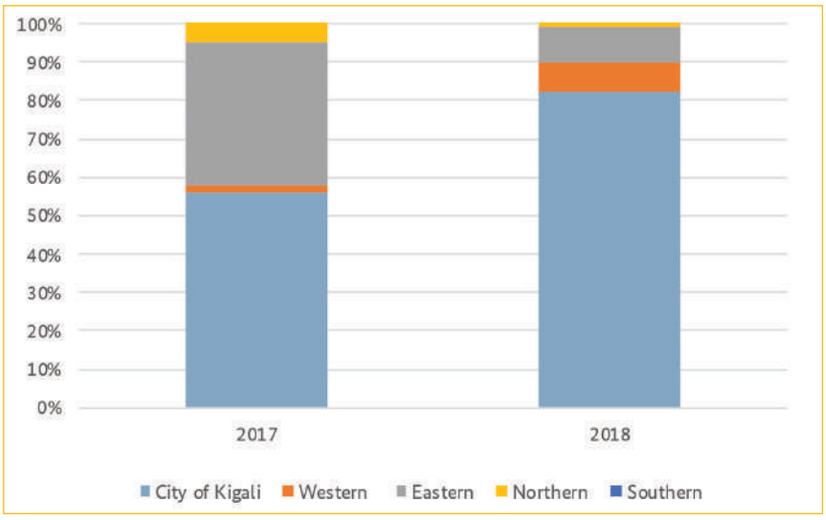
The skills requirements and training opportunities in the construction sector will be presented in Section 4, while the characteristics of the jobs in the construction sector will be analysed in Section 5.

Figure 7: Newly registered businesses in the construction sector by Province (2017-18)



Source: RDB Annual Report (2018).

Figure 8: Jobs created by registered businesses by Province (2017 and 2018)

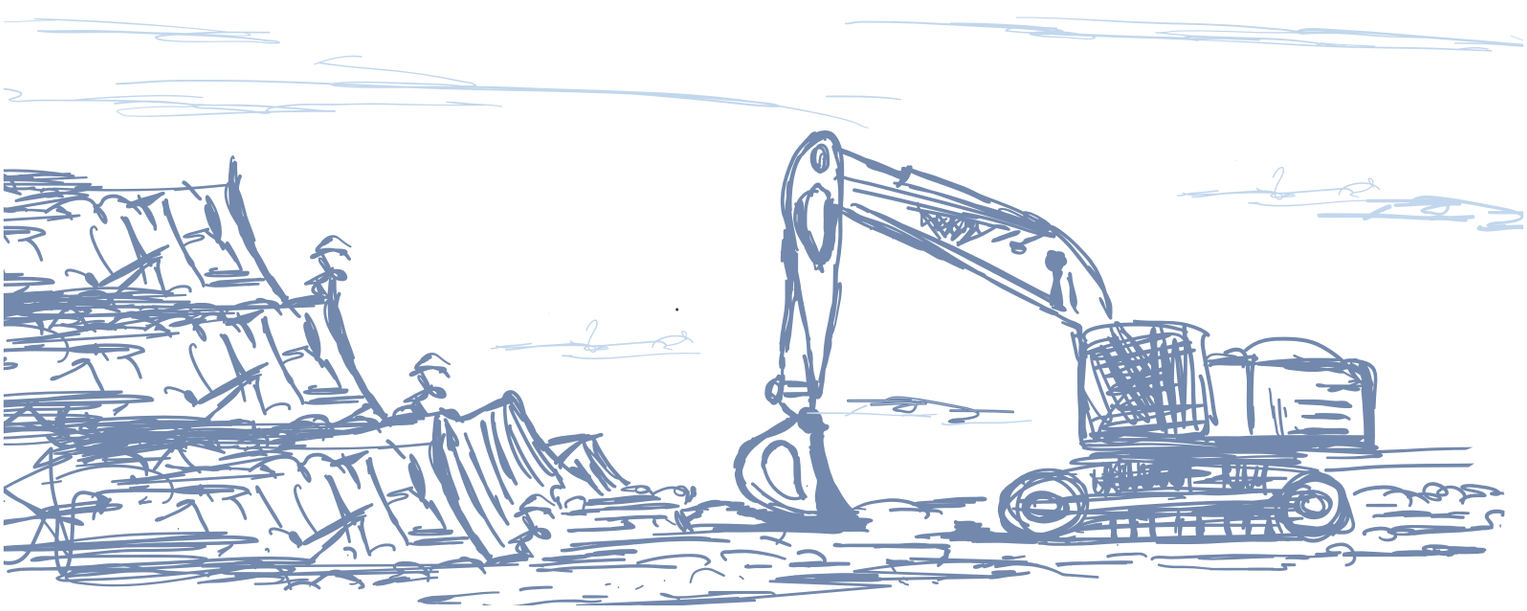


Source: RDB Annual Report (2018).

4. Requirements

towards skills level and training

Skills requirements in the sector vary greatly depending on the type and level of construction activity. In the construction of buildings (see Section 3.2.1.), two contrasting cases can be found. When individuals are undertaking single-unit residential developments, the resources available to them are limited and usually result in prolonged construction activities. Particularly in the lower-cost segment, the hired contractor is an informal self-employed person, who informally sources and subcontracts various tasks at different stages of the project, while the owner provides the construction (e.g. sand and bricks) and finishing materials (e.g. floor tiles and windows). The agreements in these settings (e.g. between the owner and contractor or sub-contractor and workers) are mostly verbal, and the contractors are paid upon the completion of different deliveries.



According to the interviewed officials in the One-Stop Centres in Rubavu and Musanze, less attention is paid to formally certified skills in these informal arrangements. Furthermore, it is challenging to monitor adherence to working conditions.

On the contrary, larger-scale residential and commercial property developments and civil works (e.g. construction of roads, see Section 3.2.2.) for more formalised end-customers, such as the Government of Rwanda, involve investment in large volumes and is required to follow formal commissioning processes as well as safety regulations applied to buildings. This requires financing through financial institutions as well as larger and more formal contractors, who are selected in a formal bidding process. In particular, large housing developments and infrastructure projects are carried out by foreign companies from countries such as India, China, Turkey using some imported construction materials and labour (Gardner et al. 2019: 14).

According to our interview partners at the MININFRA and construction sites of large publicly financed projects, foreign labour is recruited primarily for high skills levels, where Rwandan-trained professionals are perceived to lack specific skills or experience. In these projects, workers are more often formally employed with all the associated insurances required by the law. At the more progressed stage of construction works, the principal contractor outsources different tasks to sub-contractors (e.g. plumbing, electricity works, painting). At the construction site, various professional groups at different skills levels are involved: supervisors, engineers and architects, masons and casual workers.

Highly skilled professionals are trained at university-level, Integrated Polytechnic Regional Centres (IPRCs) and the mid-level skills are acquired in Vocational Training Centres (VTCs) as well as Technical Secondary Schools (TSSs) (RDB 2012: 77). While the interviewees reported that the supply of low-level workers was abundant, skilled professionals are very much sought after. To a large extent, this has to do with the fact that formal education and training offers related to the construction sector have only recently become available in Rwanda, as the first civil engineers graduated in 2005 and architects in 2014 (Embassy of Sweden et al. 2018: 10). Table 1 demonstrates how protracted the process of establishing degree programmes in a new discipline is: between 2013 and 2018, only 2,236 persons graduated at Bachelor level and above in courses related to the construction sector.

Classification of buildings and the associated formal requirements towards skills in planning and implementation of construction projects

Category	Types of buildings	Formal requirements for skills
1	Buildings not intended for worship, industry, storage of hazardous and perishable commodities or good	No formal skills requirements
2	Administrative, residential and commercial buildings (excluding industrial buildings, hazardous buildings, and health facilities)	Buildings need to be designed by architects and plans be applied by civil engineers
3	Residential, commercial buildings including warehouses (excluding industrial buildings, hazardous buildings, and health facilities)	Buildings need to be designed by architects and plans be applied by civil engineers
4	Towers and antennas, all types of buildings (excluding for industrial buildings and hazardous buildings)	Certified engineers with specific requirements concerning experience
5	• Sports and leisure facilities, social, cultural, assembly and religious buildings, health facilities, educational buildings or other buildings that accommodate more than 500 people; • Memorial sites for the Genocide against the Tutsi; • Industrial buildings and hazardous buildings; • All other structures not specified in any other category.	Certified engineers with specific requirements concerning experience
6	Buildings, which do not require a building permit: • Specific buildings for national security excluding social, residential and commercial buildings; • Temporary shelter for returnees, refugees and internally displaced people.	Construction works must be supervised by an architect or engineer

Source: Government of Rwanda (2019: 25ff.) for types of buildings and an interview with a representative of a One-Stop Centre.

Table 1: Graduates from Bachelor-level courses and above in the field of Civil Engineering (2013-2018)

Course	Number
Civil Engineering	1,250
Architectural Engineering	128
Construction Technology	858
Total	2,236

Source: National Skills Database (2018).

Table 2: Graduates with an advanced diploma in Civil Engineering (2019)

Specialisation	Gender		Total
	Female	Male	
Construction Technology	139	1,329	1,468
Highway Technology	8	112	120
Engineering Survey Technology	11	91	102
Total	158	1,532	1,690

Source: TVET database (2019).

The National Skills Database collects data of all graduates from high learning institutions in the country and Rwandan nationals graduating from universities abroad. This intended to inform policy-makers on the actual skills available for various sectors which in turn may help to review curriculum as per data available (evidence-based curriculum review).

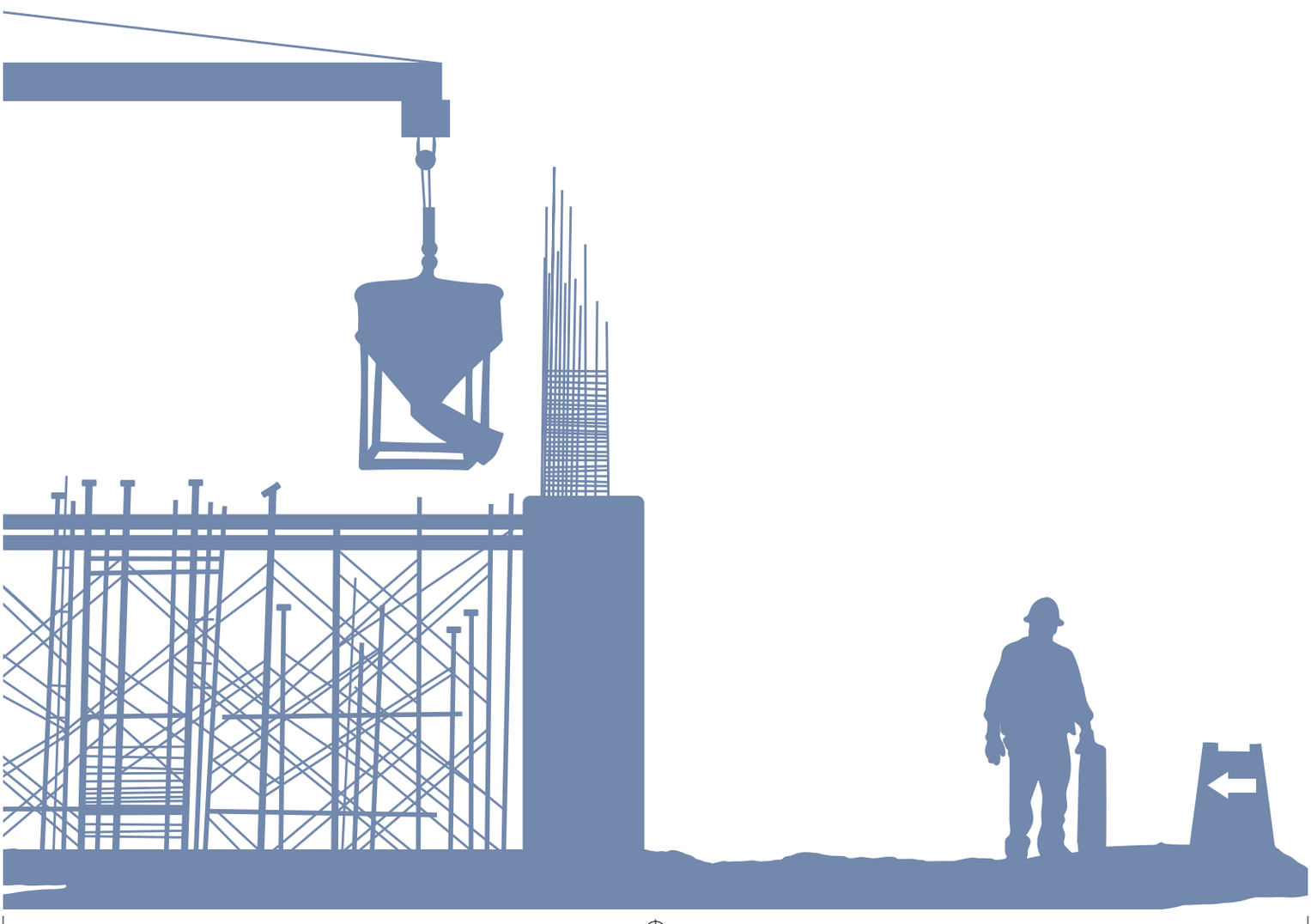
In contrast, courses in the TVET track at lower skills level yield higher numbers of graduates. In 2019, 1,690 persons graduated with an advanced diploma in Civil Engineering (Table 2).

The TVET database collects data from all Public TVET Schools in the country; therefore, there is still a gap as many graduates from Private TVET schools are not documented in the database. According to data from the field visits, majority of workers in the sector were male with few females engaged in less demanding activities on the site, and this is supported by the TVET database where out of total graduates only 9% are female

Classification of buildings and the associated formal requirements towards skills in planning and implementation of construction projects

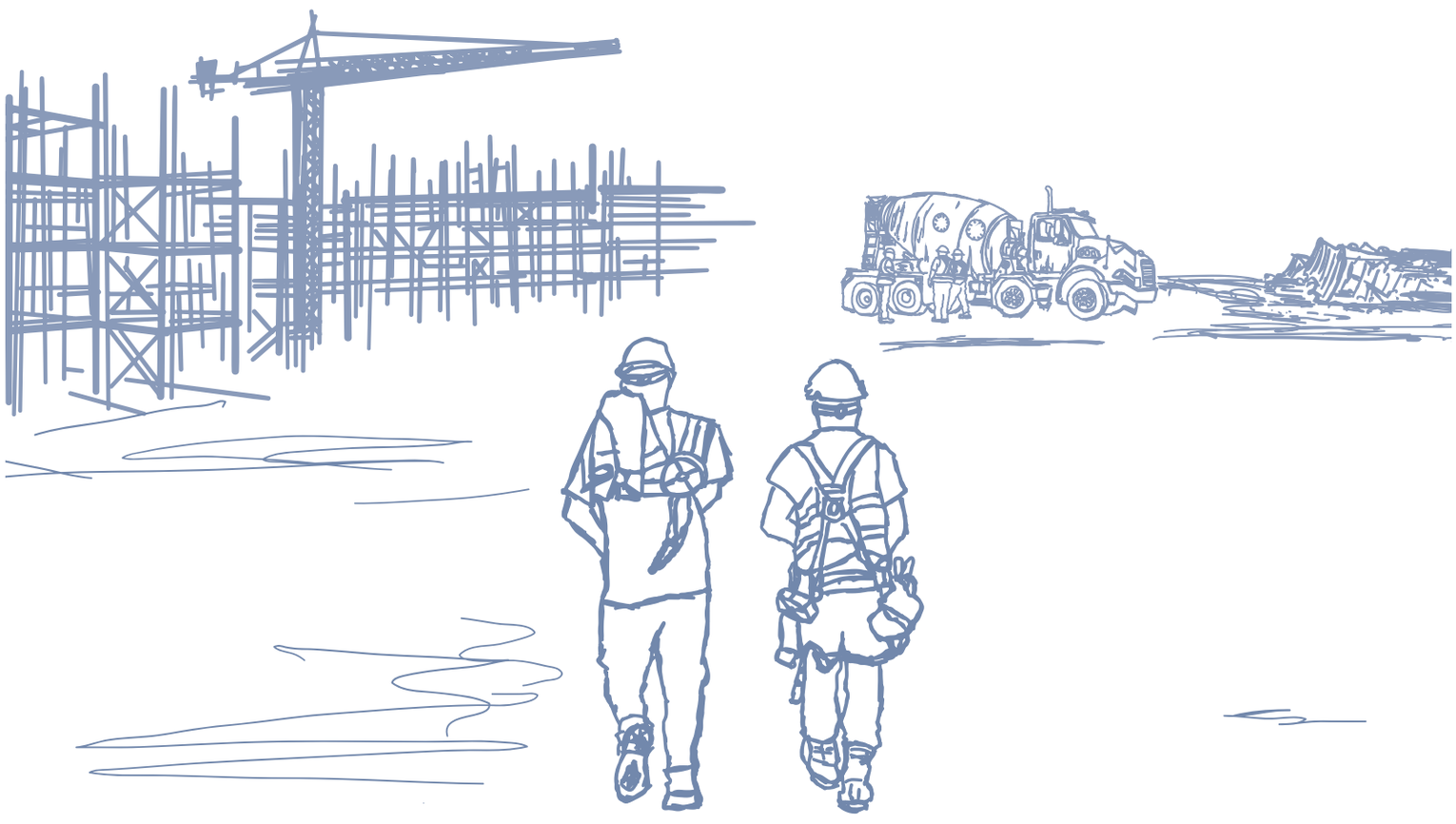
Skills level	Training	Responsibilities
High-level skills: civil, mechanical, electronic and electrical engineers; architects	Tertiary courses at the University of Rwanda and Rwanda Polytechnic	Office-based engineers are concerned with the design of the buildings; site engineers are responsible for the implementation of the design
Mid-level skills: technologists	Study in IPRCs and technical colleges	Lead the team, interpret drawings, manage the team
Mid-level skills: technicians (e.g. plumber, electrician)	Technical secondary TVET education	Specialised tasks for finishing the building
Low-level skills: craftsmen (e.g. mason, welder, painter, carpenter, fixer)	Often no formal qualifications, have been trained on the job	Basic construction tasks
Unskilled: casual labourers	No formal qualifications	Casual tasks

Source: Interview with a representative of a professional body for employees in the construction sector.



5. Employment
in the construction sector in Rwanda

By economic activity, most of the workers in the construction sector are employed in the Construction of Buildings (81%), followed by Civil engineering, Services of building and landscape activities, Specialised construction activities and Architectural and engineering activities (LFS 2018). However, most of those employed in the construction sector display low levels of formal education: in 2017, 87% of them had only primary education and less (Figure 9).



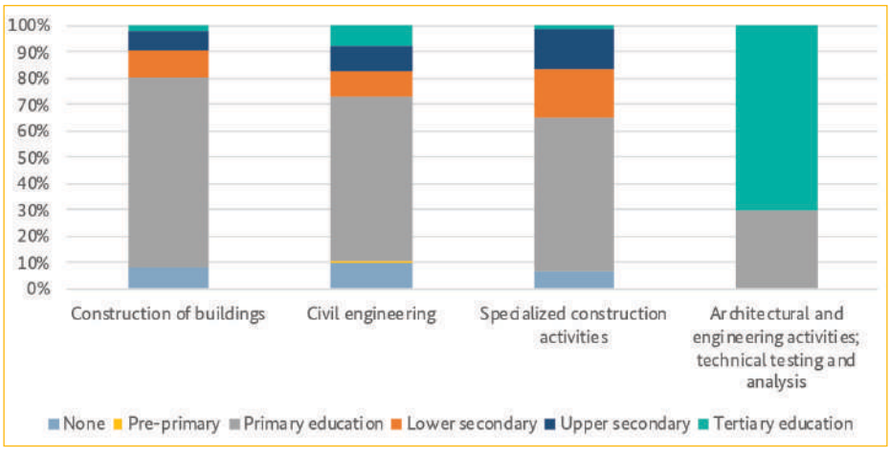
This is particularly conspicuous in the economic activity of construction of buildings. In comparison, specialised construction activities have a larger share of those who had completed lower secondary or upper secondary education. In architectural and engineering activities; technical testing and analysis, the share of those with tertiary education amount to 70%, indicating the highly specialised nature of these services.

According to the LFS, the number of workers employed in the construction sector increased from 276,360 in 2017 to 328,531 in 2018, indicating an increase of 52,171 new jobs created in the Sector. This is equivalent to 25.3% of the total new jobs (2016,190) created in all sectors of the economy, followed by Manufacturing at 20% (Figure 10).

Even though a large number of additional jobs were created in the construction sector in 2017, this was mainly the result of significant increases registered in the construction of buildings and Civil engineering. However, two economic activities experienced a decline: in the Architectural and engineering activities, the number of those employed declined by 28.3% and Specialised construction activities by 19.1%. This was caused by the completion of big projects that required highly skilled and specialised workers.

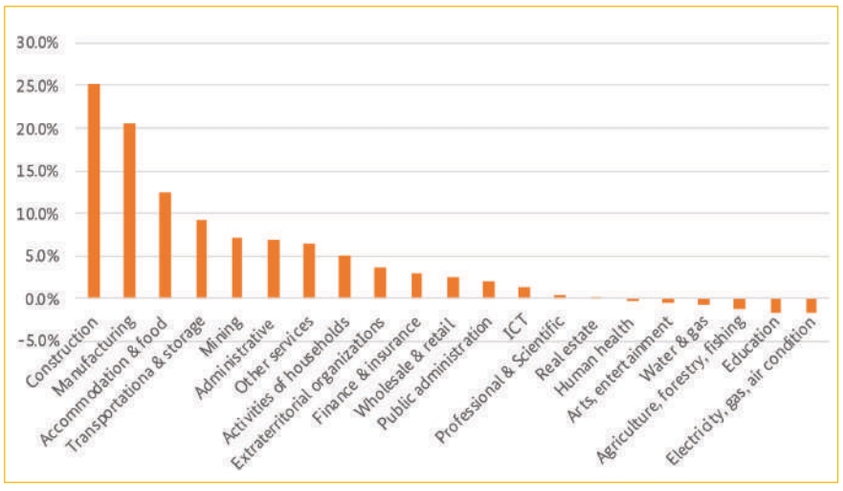
Considering the aspect of skills, in the City of Kigali, the newly created jobs are mainly filled by semi-skilled youth migrating from rural areas to urban construction sites. Most of the migrants originated from the Southern Province (EICV 5 2017/18), also because there were no investments in the

Figure 9: Employment in the construction sector by formal education & economic activity (2017)



Source: LFS (2017).

Figure 10: Share of new jobs by economic activity



Source: LFS (2017-2018.

Southern Province in 2017 and 2018. On the contrary, in 2018 the Gasabo district had the highest number of jobs created in the construction sector (LFS 2018) as a result of various construction works ranging from buildings to roads construction and the Special Economic Zone that attracted several big investors in the area. Generally, secondary cities have a large share of construction jobs among all jobs created, ranging from 4% to 7%, except in Nyagatare, Rubavu and Muhanga Districts with 2% per District (LFS 2018).

In the Districts neighbouring the City of Kigali, the share of jobs created in the construction sector of all newly created jobs is higher (6% in Rwamagana, 5% in Rulindo, 5% in Kamonyi 5% and 4% in Bugesera) (LFS 2018). The proximity to the City of Kigali affects both the strategies of construction companies and the workers; for the former, it is easy to offer the services on the construction market of the City of Kigali, and for the latter, it is possible to reside in the neighbouring Districts and work in the City of Kigali.

As the Masterplan of the City of Kigali makes it more difficult to acquire building permits, this is a feasible strategy for many workers in the sector. In rural Districts like Burera, Gatsibo, Nyaruguru and Nyamagabe, only a few jobs were created in the construction sector (1% of all jobs created per District). In the remaining rural Districts, 2% of the jobs created were in the construction sector, except in Ruhango and Rutsiro, where this figure was 3% (LFS 2018).

Our interviews showed that formal skills were relevant for higher-level positions, such as engineers and site supervisors. This arises from the building standards foreseeing specific qualification levels for certain kinds of buildings.

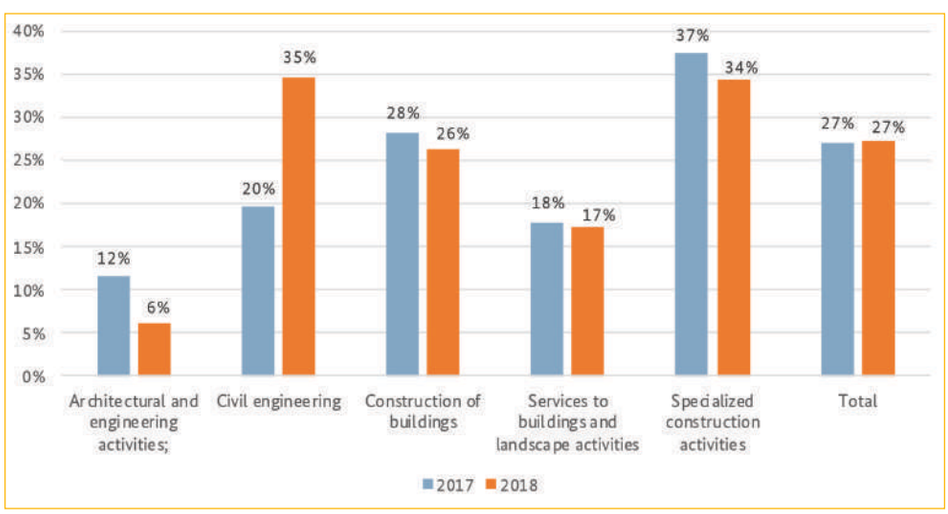
Time-related underemployment (TRU) denotes a situation where the working time of persons in employment is insufficient in relation to alternative employment situations, in which they are willing and available to engage. The measure of TRU takes into account all employed persons who wanted to work additional hours during the reference period of the survey, or were working in all jobs less than 35 hours during the reference week and were available to work additional hours, given an opportunity for more work. In 2018, 27% of the persons employed in the construction sector were underemployed. TRU was most prominent in the economic activity of construction of buildings with 40% of workers who would have wanted to work longer hours. Even though the situation improved slightly in 2018, TRU in that economic activity remained comparatively high at 35% (Figure 11).

A closer look at the data shows that the dominance of the economic activity construction of buildings in the construction sector is responsible for the generally high level of TRU in the Sector as it accounts for 70% of all construction-related employment activities. Since individuals building private houses contract many informal construction workers, it is challenging to estimate and guarantee the required workload of those employed.

Of the 52,171 workers newly employed in the construction sector, 29.7% were underemployed, working less than 35 hours a week.

Furthermore, the construction sector is characterised by informal employment, broadly denoting unincorporated enterprises owned by households. In such economic

Figure 11: Time-related underemployment in the construction sector by economic activity (2017 and 2018)



Source: LFS (2017-2018).

Legal regulation of employment contracts

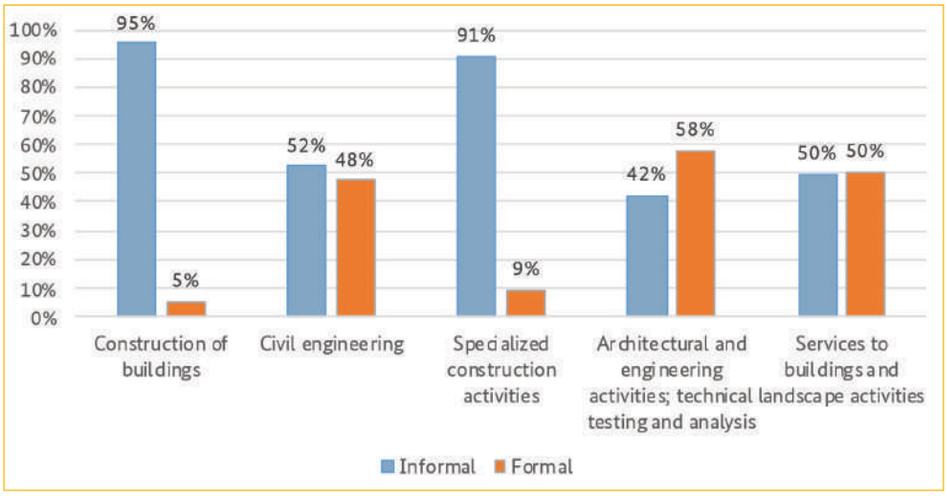
Rwandan Labour Law defines two forms of employment contracts: permanent and temporary contracts (Article 11 of Law No. 66/2018 of 30 August 2018). Employment contracts can be either written or oral, but then the duration of an unwritten contract cannot excel 90 consecutive days. The results of our interviews at the construction sites in Kigali, Musanze and Rubavu indicate that a large majority of workers in the Construction Sector are employed for even less than 60 days. To a large extent, the employers rely on casual labourers. This practice reinforces volatile employment relationships, making it difficult for the workers to plan their expenditure even in short-term and causing the Government of Rwanda to lose out in income tax.

Source: RDB.

units, the fixed capital and other assets of the enterprise do not belong to the production units as such, but their owners, and may be used both for production and personal purposes. Thus, production expenditure can hardly be separated from the household expenditure. In the LFS, employment in the informal sector was defined as all persons 16 years of age and over who were engaged in unregistered private business enterprises that did not keep written records of accounts. Consequently, they were not registered with the Rwanda Revenue Authority and/or were not paying PAYE/TPR. The 2018 LFS findings show that about 77.6% of all employed persons were engaged informally. For the construction sector, this was as high as 98.5% in 2018 (LFS). Cash-in-hand payments render them more vulnerable to being paid less than agreed. As the construction of buildings dominates the economic activities in the sector, high levels of informal employment there (95% in 2018) influence the whole sector (Figure 10). The employers have an incentive to employ the workers informally as taxes, health insurance and contributions to Rwanda Social Security Board add up to almost 30% of the labour cost, constituting a 42% increase to the cost per mason (Embassy of Sweden et al. 2018: 15).

The conducted interviews demonstrated that there was a strong link between formal employment and skills level required by construction projects. Formal employment is more prevalent in economic activities with a considerable share of high-level formal skills as they are enforced not only by construction regulations and standards related to the safety of buildings but also public procurement requirements defining the necessary skills levels of employees that construction companies need to display in order to be able to participate in the bidding procedure (interview with a government official). As a result, most of the formally contracted workers can typically be found on big projects. These highly skilled employees are mainly working for both contracting and supervising companies and often come from abroad. The interviewees reported that companies had little confidence in the skills of domestically educated engineers, and hence, were willing to pay more for internationally recruited workers (e.g. from China, Turkey or India).[4] Most low-skilled workers were Rwandan nationals with verbal contracts, who had been recruited at gathering sites for informal workers or had offered their labour directly at the building site.

Figure 12: Share of informal employment in the construction sector by economic activity (2018)



Source: LFS (2018).

[4] Foreign workers employed in private enterprises in the economy are issued work permits either through the fulfilment of Occupations on Demand List (ODL) employer sponsored through Labour Market Testing procedures or through incentives given to big investors under the new Investment Code.

Furthermore, the interviews showed that largely unregulated employment at lower skills levels had detrimental effects on the working conditions. The number of labour inspections at construction sites was reported to be limited due to the available resources of supervising bodies (engineer at the Musanze One-Stop Centre). While comprehensive monitoring and evaluation are required for large infrastructure projects and public buildings, they are less consistently carried out for smaller private investments due to restricted resources available for administrating and supervising bodies (interview with an engineer at a One-Stop Centre). However, the re-enforcement of employment and skills guidelines can be challenging even in big construction projects, which are financed by development partners and are subject to employment and skills guidelines (interviews at STECOMA and MININFRA).

This exposes site workers to exploitation: due to over-supply of low-skilled labour, they are willing to accept wages below the market wage, most notably at large construction sites. There, casual workers were paid between RWF 1,000 and 2,000. The worldwide study of Turner & Townsend (2018) shows the City of Kigali among the markets with the lowest construction wages together with Bangalore and Ho Chi Minh City with wages below USD 3 per hour. The workers reported delays in payments. Furthermore, in most cases, they received their wages as cash-in-hand instead of using provided bank accounts. In order to achieve decent work and improve working conditions, it is essential to re-establish a minimum wage in this sector in order to provide a basis for negotiations to both the employee and employer in the Sector.

Legal regulation of working conditions in the Construction Sector

To avoid employment-related malpractices, Rwandan Labour law (Law No. 66/2018 of 30 August 2018) regulates the following fields:

- **Working hours:** in maximum 45 hours of week are permissible (Article 45), but in specific cases extra hours can be worked when agreed with an employer (regulated by the Ministerial Order No. 04/19.19 of 17 September 2009);
- **Remuneration and minimum wage:** stipulates the conditions under which workers have right to their salary (Articles 2, 67, 70 and 71). According to Article 68, an Order to the Minister of Labour can determine the minimum wage, but this has not been the case since 1980 and salaries are subject to individual negotiations.
- **Discrimination at workplace:** an employer must give employees equal opportunities at workplace and it is prohibited to discriminate employees on the basis of ethnic origin, family or ancestry, clan, skin colour or race, sex, region, economic categories, religion or faith, opinion, fortune, cultural difference, language, physical or mental disability or any other form of discrimination (Article 9);
- **Occupational health and safety:** defines the responsibilities of employer in the case of occupational accidents or diseases both for workers who have been registered with the Social Security Body and for informal employees (Article 19). Furthermore, it stipulates employers' obligations to avoid any hazards for their workers' life and safety (Article 39)
- **Forced labour:** work performed by a person against his/her will by force or under threat (Article 1(25));
- **Right to leave:** every worker – even in the informal sector – has a right to leave (Article 2);
- **Child labour:** work that deprives children of their childhood, potential and dignity, including work that is harmful to the physical and mental development of a child (Article 3(20)). Furthermore, children under the age of 18 are prohibited from performing any kind of work that may potentially harm them (Article 6);
- **Social security and medical insurance:** subject to collective convention, rules of procedure or employment contract, employers have the duty to register their employees with the Rwanda Social Security Board (Article 39(2));
- **Freedom of association and collective bargaining:** workers and their representatives have the right to express their opinions regarding working conditions, execution of work and organisation (Article 19).

Source: RDB.

According to interviewed workers, supervisors treat enquiries about employment contract and increase of daily wages as incidents of indiscipline, which can lead to expulsion from the site. According to STECOMA, the trade union for construction workers, the lack of regulation and inspection enforcement has led to cases where the site supervisor employs workers based on personal relationships or requires workers to pay him a share of their wages.

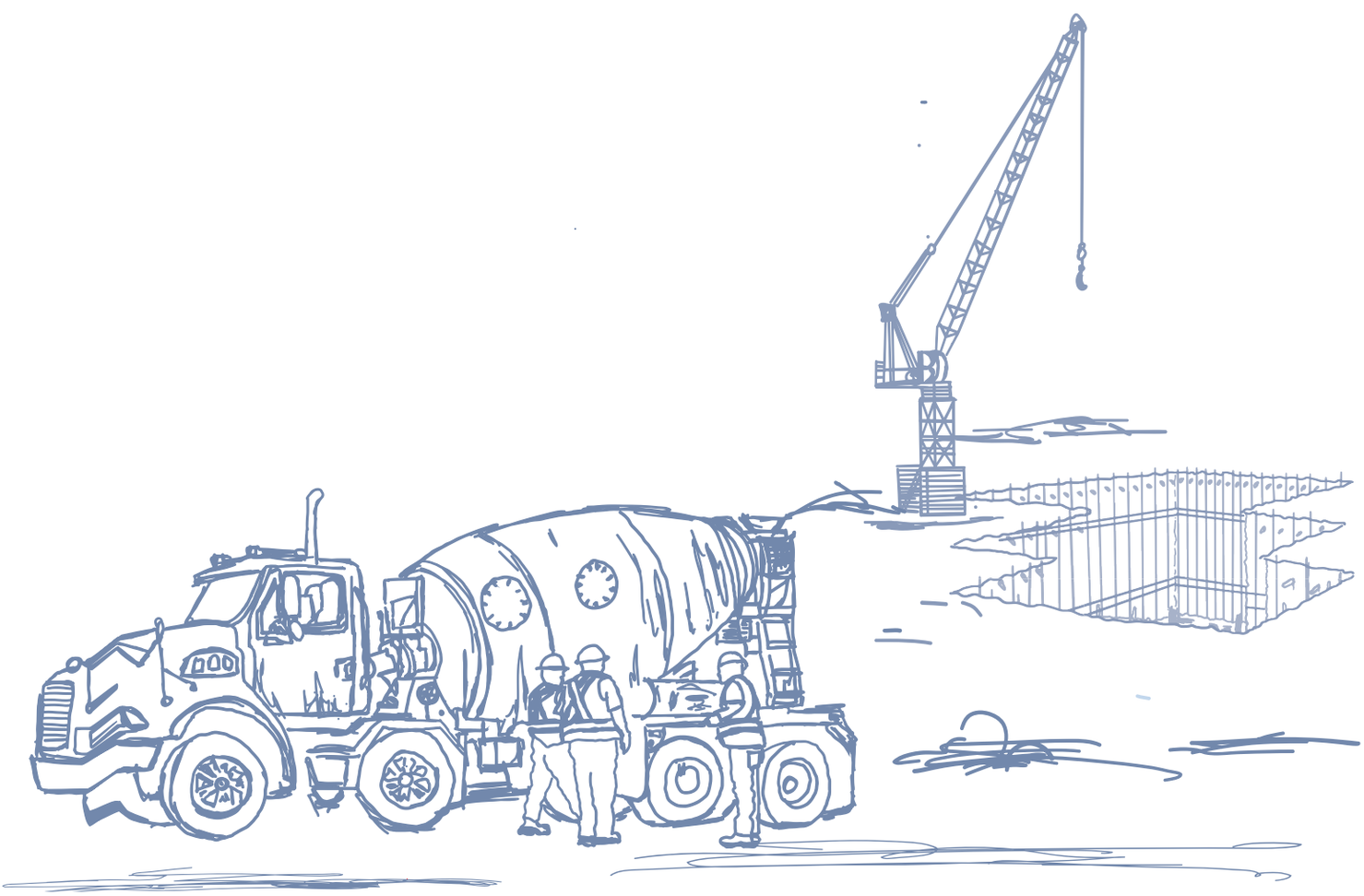
Although the analysis of the Labour Law and further regulations[5] demonstrates that there are adequate provisions for health and safety issues for the construction sector in place, most of the interviews with workers and contractors (or their representatives) indicated that in the sector there is still a lot to do in order to increase compliance in the fields of:

- OHS: to a stronger extent, employers need to provide their workers with protective gear, first-aid facilities, training on OHS and ascertain that these are used regardless of whether the workers are employed formally or informally. Furthermore, the presence of a safety officer at construction sites would be necessary for the insurance of workers, recording of accidents and compensation to injured workers, amongst others.
- Social security: as many employers avoid statutory contributions to RSSB, this leaves employees with no form of health insurance or social security. In case they fall sick, become jobless or retire, they have to rely on their families. During the study, employers indicated that they insure their workers in community-based health insurance (CBHI) “Mituweri” and some of the construction sites had group insurance for a minimum number of workers. However, this practice is not in line with the requirements of the Labour Law.
- Freedom of association and collective bargaining: the sector is not well organised to advocate and protect informal sector workers. Furthermore, workers risk dismissal or termination from jobs for their involvement in trade union activities. The opportunity for the workers to express their issues and complaints through established structures like workers delegates at the workplace is severely limited. Workers’ delegates in firms hardly have opportunities for collective bargaining with their employers.

[5] E.g. the conventions related to occupational health and safety (Safety Provisions (buildings) Convention, 1937 (No. 62); Occupational Safety and Health Convention, 1981 (No. 155); Promotional Framework of Occupational Safety and Health Convention, 2006 (No. 187) in year 2018; Equality of Treatment (Accident Compensation) Convention, 1925 (No. 19); Workmen’s Compensation (Occupational Diseases) Convention, 1925 (No. 18); workmen’s Compensation (Occupational Diseases) Convention (Revised), 1934 (No. 42); Equality of Treatment (Accident Compensation) Convention, 1925 (No. 19).

6. Openings
for Labour Market Policy-Making

Strong population growth and efforts of the Government of Rwanda to facilitate industrialisation and urbanisation in the country have resulted in large numbers of persons who are looking for employment outside agriculture. As the investments in the construction sector are growing, they are providing for a considerable number of job openings every year.



However, the business model in the construction sector relies heavily on cheap low-skilled labour seeking to achieve short-term cost-efficiency in order to gain competitive advantage through price. Consequently, the productivity of labour as well as the quality of work remain low and are expected to decline further following the reduction of 3% from 2001 to 2016 (World Bank Group and the Government of Rwanda 2019: 7). This results in very few incentives for skills development for employers and workers alike and reinforces the existing low skills levels.

As the site visits and interviews in Rubavu and Musanze showed, this situation is further aggravated by the low level of mechanisation and use of technology in the Sector, especially in areas outside the capital city. These findings were confirmed by the study of the Embassy of Sweden et al. (2018). Against this background, issues related to OHS, inclusion in social security, and representation in collective bargaining pose significant challenges to policy-makers.

Consequently, the interviews showed that workforce management is limited to mastering specific project segments (e.g. site preparation or finishing of a building) and, in most cases, there are no strategies in place for up-skilling or retaining the labour force. This logic arises from short-term project activities and high volatility or labour, which results in a vicious circle of skills shortages and precarious working conditions.

For lower-skilled jobs, skills of potential workers are not tested beforehand in the recruitment process; instead, they are expected to demonstrate during the work process that they possess the skills that are necessary for carrying out required tasks. This strategy fits the prevalent model of informal and short-term, i.e. casual employment relationships in the sector. Higher-skilled jobs, on the contrary, are often filled with workers from abroad, since the trust in skills imparted in the Rwandan education system is low. Especially in the case of foreign companies, they display a strong tendency to employ engineers for management and supervision positions from abroad, thus indicating a sectoral skills gap, which calls for attention by education providers.

Nevertheless, there is a strong awareness of the skilling issues in the construction workforce. Prime examples are engineering graduates who are required to complete an internship at a company. The internships are mediated by RHA, Road Transport Development Authority and professional body of engineers, and all companies in the sample were hosting interns.

All interviewees contended that there was a wide gap between theoretical knowledge imparted in formal education and being able to implement it in the work process. Usually, training interns are perceived as something that companies are expected to engage. And there were exceptions of companies that had taken a long-term view to skills development and saw it as a way to identify promising future employees, who were trained according to specific workplace needs and displayed high levels of loyalty beyond that.

Workplace learning as a retention strategy

After receiving their professional degree, most graduates of construction-related courses usually struggle with finding employment, since competencies that have been trained in education programmes are often perceived to not match the skills required at the construction site.

A construction company with 200 employees, however, purposefully hires fresh graduates for covering its skills needs. Within their first months, the job entrants learn from assistants, project managers and specialists, changing between teams and tasks. A young employee, who has just recently switched from the casting to the chartering team, observed in an interview: *"When I came I was good at it [casting], but not like now. I feel it. I'm good, more experienced."*

The integration into the company structure and work processes gives young graduates security in terms of mastering their tasks, but also the prospects concerning their professional careers: *"When I first met my boss, he told me: 'You are my child, I'm going to teach you. You will be greater than you are now."* Experiencing this inclusion, the employees develop a strong sense of loyalty and commitment towards their boss and the company.

Source: RDB based on an interview with young engineers working for a mid-sized construction company with headquarters in Kigali.

The construction sector displays strong ties with other sectors, such as Tourism & Hospitality, providing better infrastructure and prestige buildings, and landmarks attracting visitors for MICE. However, Tourism & Hospitality, one of the priority sectors, poses challenges to constructing companies in terms of construction standards and quality of work as it demands high-quality standards to meet its customers' needs compared to the existing capacity and technology used by local construction companies.

Furthermore, the study by the Embassy of Sweden et al. (2018: 36) expects the low-skilled basis to change with the growing prevalence of multi-story-housing for an emerging middle class and concomitant "demand for more professionalised and specialised skills". Additionally, the sector will need to respond to the sustainability goals of the Government of Rwanda, which will increasingly involve the use of green technologies and construction materials in the construction sector, therefore, also resulting in changing skills requirements for those involved in the sector.

This poses challenges for the Sector in terms of training the workers for more complex tasks. Hence, further exploration is required to examine how far the education system can impart skills that are relevant to these expected changes and which training models are suited for covering specific skills needs.

Furthermore, the study demonstrated significant effects of skills levels on working conditions as well as professional, social and geographical mobility. It was easier for employees with higher levels of skills (engineers, technologists as well as technicians) to move between regions and jobs, since they had formal skills and could rely on their professional networks. In some cases, also masons and carpenters, who possessed specific skills and had shown that they were reliable, were engaged for assignments in different parts of the country. However, more often, low-skilled and casual workers were employed locally around the core team.

Creating informal opportunities for further training

Young engineers face great difficulties to set foot in the Rwandan construction sector. An engineer from Musanze struggled to gain customers for his recently opened business: ***"No-one was able to hire me since they did not know about me. Once I even locked my office and just went home, since no-one was going to come anyway."*** After his first work experiences, he evaluated his business, the Rwandan construction market and his competences and decided to enrol in a two-year-Master's programme in India. He expected that his degree, experience and knowledge from abroad would give him a competitive advantage. Upon his return to Rwanda, he was proficient in new design and calculation programmes, which enabled him to work more efficiently: tasks that took him two weeks before can be finished in three days instead. This attracted attention from potential clients and made him stand out from his competitors, whose engineering training in Rwanda had been much more limited.

Having experienced the challenges of the skills gap himself, he now tries to forge this missing link informally within his company as it is still not easy to get the knowledge on designing software: ***"Here, the link between classes and the market is missing."*** However, endowed with rare competences, he takes on the role of a mentor as he spreads his knowledge among his employees and interns: over the course of one year, he would train his colleagues for one hour every morning in the relevant programmes. As a result, his employers can support him better in his work and they are able to deliver faster.

Source: RDB based on an interview with the owner of a small local architecture and engineering office in Musanze.

Given the susceptibility of the sector to seasonality, fluctuations in investments and discontinuities in financing, it is difficult for lower-skilled workers to see a perspective in the sector. These issues need to be addressed in the medium run to ensure that the available skills match the needs of the Sector. The National Employment Program through the Recognition of Prior Learning Intervention, Development Partners, and STECOMA are certifying informally acquired skills of low-skilled and unskilled construction workers, which is a step in that direction.

Finally, construction activities possess a modernisation potential for the economy and society beyond construction activities. For example, infrastructure projects not only provide (temporary) jobs for the rural population in the Sector but also opens up opportunities for businesses during and after the construction works. For example, an interviewee reported that his family could venture into producing yoghurt after the newly built road regularly brought travellers into the region who would buy the produce at newly established vending points. Furthermore, the growing living standards in the region also increases the purchasing power of the locals so that they will become potential customers for the products.

Using construction projects' potential for community sensitisation

Civil construction projects funded by international donors often extend beyond the contracted engineering companies and their employees. The contracts of infrastructure projects are designed to impact on and integrate the wider local community. A road construction project in the Northern Province carried out by the Chinese contractor CHICO and supervised by the French Consultancy Egis engages in raising awareness of safety, environment and health matters among the community.

To that end, the company hosts sensitisation events that, by the end of the project duration, will have reached 100,000 people. The events involve local institutions, the company's employees, and members of the community. While the employees are provided information on site safety, stressing the importance of personal protective equipment, members of the community receive trainings on road safety that are conducted in collaboration with the Traffic police. Furthermore, schools are integrated in sensitisation for hygiene and environmental protection. Nurses from local health centres inform on HIV prevention, give out material and condoms and offer voluntary HIV testing to all community members.

This infrastructure project has reflected on their impact on local communities and tries enhance the sustainability of their activities through addressing economic as well as social and environmental development.

Source: RDB.

7. Challenges and Policy Recommendations

As indicated in the previous chapters, the main challenges for productive employment and skills development in the construction sector arise from the dominant business model, which relies on cheap labour. Therefore, addressing these issues requires taking a long-term view.

The main openings for short- and mid-term policy-making were seen to be at the level of large building or infrastructure projects in the following fields:

1. Structure of the sector concerning the business models and associated employment relationships as well as working conditions;
2. Education and skills issues in the sector regarding the structures of and access to initial education and training as well as further skills development;
3. Connections to other sectors related to the embeddedness of economic activities in the sector into various value chains ensuring better connectivity between sectors;
4. Institutional structure of representation in the sector concerning both the representation of employers in sectoral associations with the aim to network them and provide information on the developments in the sector, professionals in professional bodies supporting skills development as well as advocacy organisations for employees helping them to enforce their rights stated in the labour law;
5. Knowledge creation relating to topics that need to be explored further in order to ensure targeted policy-making.

In the following, the main challenges in these fields are presented, and the associated policy recommendations are put to discussion.

	Challenges	Policy Recommendations
Structure of the sector	The construction sector displays a high level of informal employment, volatile employment relationships and a low level of payment. The sector is heavily affected by seasonal employment. In many cases, Occupational Health and Safety (OHS) standards are not followed.	→ Introducing minimum wage; → Making employment issues part of the bidding process for government-financed infrastructure and building projects; → Setting up a programme to subsidise the salary of Young Professionals (recent graduates of engineering courses) to help them find a first stable job. → Skills diversification in areas that have ties with the construction sector, enabling alternative employment in the field of facility maintenance or landscaping. → Introduce saving associations among workers on big projects & offer them entrepreneurship courses in due course. → Increasing the effectiveness of OHS controls in the sector; → Enhanced monitoring compliance in large infrastructure and building projects financed by the government.

	Challenges	Policy Recommendations
Education & Skills	Activities in the construction sector are labour-intensive, and the companies achieve competitive advantage not through enhanced skills level of their workforce leading to a higher quality of construction, but through reducing labour costs. This results in low importance of skills development. The skills imparted in formal education do not meet the requirements of companies.	→ Increasing government financing of education relevant to the construction sector at different skills levels; → Ensuring the validation of skills acquired at the workplace (e.g. project management or software skills); → Setting up centrally coordinated up-skilling programmes in stable long-term public projects (a combination of theoretical and practical modules); → Offering work opportunities abroad for young engineers to gain experience. → Developing practical refresher courses for TVET teachers at construction companies; → Organising practitioner lectures at TVET schools.
Connections to other sectors	Especially large infrastructure projects have the potential to transform previously isolated rural areas and deliver impulses for job creation.	→ Setting up business support programmes targeting those employed in large infrastructure projects (Through savings associations) or identifying potentials for entrepreneurship in the area.
Representation	Professional associations cannot fully realise their potential for supporting up-skilling processes as their membership fees are high, and not everyone can participate in their activities.	→ Government support towards professional bodies to lower the threshold for participating in their activities.
Knowledge creation	Skills development at different qualification levels is central to encouraging innovations in the sector. However, skills shortages persist in particular at the level of highly skilled specialists. Acquiring a better understanding of those Young Professionals' career paths in the different sub-sectors of the construction sector enables to understand better the causes and ramifications of different skills gaps in the development of the sector. Knowledge of impulses for job creation and business development resulting from large infrastructure projects is limited.	→ Exploring the specific nature of the gap between the cognitive and transferable skills of graduates from courses related to the construction sector and the skills requirements of the companies in the different sub-sectors. → Evaluating job creation as a result of large infrastructure projects in different dimensions

8. Strategic Recommendations

The construction sector displays a high level of informal employment, volatile employment relationships and a low level of payment. Working conditions within the construction sector are generally classified in four categories; 1) the Engineers, Architectures & other professionals, 2) Specialised finishers, 3) the Masons and 4) the Casuals. Casual workers, in the fourth category, are subjected to the worst working conditions and with very limited protection against on-the-job risks. Through interviews, it became clear that casuals perceive jobs as a means to survive rather than an initial step on the construction ladder. The work is not only hard, but the pay is poor, no written employment contracts, and the workers are often not paid on time.

The field findings revealed that casual workers are paid poorly in big government projects (where they are paid ranging from 1000 to 2500 RWF) but almost all projects visited were paying between 1,000 to 1,500 RWF, which is an indication of exploitation. Also, casual workers are laid-off before three months in order to avoid giving them formal contracts and other related benefits as per the labour law.

Introduction of sector minimum wage for both Public and Private construction projects.
According to site visit findings, informal construction works are paying casual workers better in comparison to large public and private projects and yet they have stable funding for the project. Setting up a sector minimum wage for casual workers' category will help to reduce the exploitation of casual workers who form the majority on construction sites. This will pay off through poverty reduction among this category of workers, and their families and further boost their savings. This can be made possible with the mainstreaming of employment indicators in bidding projects.

The construction sector is a labour-intensive sector, and the companies achieve competitive advantage not through enhanced skills level of their workforce leading to a higher quality of construction, but through reducing labour costs. This results in low importance of skills development. Moreover, in the majority of the projects, the good-paying specialised works were occupied by foreigners due to the lack of experience of Rwandans who freshly graduated from engineering-related courses, and some construction project managers claim that skills imparted in formal education do not meet the requirements of companies.

Skills development at different qualification levels is central to encouraging innovations in the sector. However, skills shortages persist in particular at the level of highly skilled specialists. Acquiring a better understanding of those young professionals' career paths in the different sub-sectors of the construction sector enables to understand better the causes and ramifications of different skills gaps in the development of the Sector. **Introduction and strengthening young professionals programme in the sector is paramount through mainstreaming the programme cost in the overall cost of the project during planning processes, which will cover or subsidise the salary of young professionals** (fresh graduates of engineering-related courses in construction) to help them get a pathway to find a first stable job.

On-the-job training: companies or contractors do not invest in 'on-the-job' training in the ongoing projects for lower-skilled category workers due to the nature of contracts between the employee and the employer, therefore limiting skills development and pathways among workers in this category. Also, specialised sub-contractors hire almost all their workers informally, meaning, that any worker they invest in has no obligation to work for that contractor and can use those skills to market themselves to other subcontractors better. All project managers interviewed preferred sourcing already skilled workers on the labour market (who are scarce) than upskilling the existing workers. **This calls for specific intervention to upskill workers in the construction sector by the government** since private companies are reluctant to invest in upskilling of their workers due to lack of clear obligation and means to contract them for a longer-term, as once upskilled, workers become competitive and leave the company for better pay in other companies. Thus, investment into training and departure of trained workers become a significant challenge to the companies.

Develop skills and knowledge transfer mechanism in the construction sector; according to the Occupations on Demand List (ODL) and Labour Market Testing (LMT), all experts hired through this mechanism are subjected to mandatory skills transfer to Rwandan counterparts. Unfortunately, the skills and knowledge transferred is rarely evaluated before the expiry or renewal of the work permit. In construction projects almost all specialised works are done by foreign experts hired through ODL or LMT; unfortunately, there are no mechanisms in place to monitor skills and knowledge transfer to Rwandan junior engineers working on the same project. **This calls for responsible institutions to formulate clear skills and knowledge transfer guidelines, and monitoring and evaluation mechanisms in order to turn big construction sites into a learning and mentoring environment for fresh graduates and junior engineers** so as to maximise the expertise processed by foreign expatriates.

Increase private sector involvement in TVET and Higher Education offering construction-related courses. Promote initiatives to bring on board leading construction companies and engineers to offer motivational speeches or teach specific courses in TVET and higher institutions offering Construction courses, ensure key players in the sector are participating in curriculum design and review related to the construction sector, also introduce refresher courses for lecturers in TVET and high learning institutions in construction projects in order to keep up with technology developments in the sector. This will be key to offer courses to graduates addressing Labour Market needs, particularly in the construction sector.

Knowledge of impulses for job creation and business development resulting from large infrastructure projects is limited. Given the nature of construction projects, casual workers tend to experience frictional unemployment (the period between completion of one project and before the beginning of another construction project), which was most common in rural areas. This can be addressed by **deliberate efforts to create saving associations among casual workers on construction projects, and entrepreneurship and business development training during the project lifetime. Therefore, enabling them to start income-generating projects in the area once the construction project is completed.** However, this can only be possible when casual workers are not laid-off on

the project as currently, it is a harmful common practice on several construction projects.

Professional associations cannot fully realise their potential for supporting up-skilling processes as their membership fees are high, and not everyone can participate in their activities. The professional associations or bodies are vital to ensure high levels of compliance among the professionals in the same field of practice to guarantee high-quality standards of work. In most cases, majority of the graduates from engineering and architecture related courses are not members of their line associations due to onerous requirements to comply with being a member, which works as red tapes to restrict fresh graduates from enjoying similar rights and getting training in the field of practice. Due to these red tapes; attracting, maintaining, and upskilling of specialised professionals in this sector becomes challenging. This has been viewed to reduce competition and maintain a monopoly among practitioners.

In order to realise the above, we recommend the following:

Issues to be addressed	Proposed recommendation	Activities to be undertaken	Time frame	Responsible Institutions
Volatile employment relationships and a low level of payment, especially for casual workers in big projects	Mainstream employment issues in the bidding process for government-financed infrastructure.			MININFRA, MIFOTRA, RPPA, RTDA, RHA
	Introduction of sector minimum wage; this will overcome exploitation inform of little pay from both Public and Private construction projects.			MIFOTRA, MININFRA, RTDA, RHA, Trade Unions, PSF
Skills development at different qualification levels is central to encouraging innovations in the construction sector	Skills development at different qualification levels is central to encouraging innovations in the sector through the introduction of young professionals program in all public construction projects.			MININFRA, RTDA, RHA, RDB, PSF
	On-the-job training for lower skills category through a specific training package along the project implementation process.			RP, WDA, RDB-CSO, PSF, MININFRA, RTDA, RHA, MIFOTRA, Trade Unions
	Develop skills and knowledge transfer mechanism in the construction sector from foreign expatriates to Rwandan Junior engineers & young professionals.			RDB-CSO, MININFRA, DGIE, RTDA, RHA, PSF, Professional Body
	Increase private sector involvement in TVET and Higher Education offering construction-related courses through; involving leading construction practitioners to offer courses or motivation speeches to training Institutions, engaging key players in the construction sector during curricula design & review, offer refresher industrial attachment courses to lecturers offering construction courses in big construction projects.			MININFRA, MINEDUC, RP, WDA, PSF, RDB-CSO, big companies
Entrepreneurship & Business development training for lower-skilled workers category	Promote saving associations among certain groups of lower-skilled category.			MININFRA, RTDA, RHA, Trade Unions PSF, MYCULTURE, District
	Instill the lower-skilled workers' category on project planning & implementation mainly customised on area potentialities.			MININFRA, RTDA, RHA, BDF, District, RDB, PSF

Annex

Table 3: Overview of the Labour Force Survey

	Annual Labour Force Survey (2018)
General/target-group or sector-specific	General
Owner of the data	National Institute of Statistics of Rwanda (NISR)
Collecting of data	The goal is to 'collect data on employment and labour underutilisation characteristics of the population on a continuous basis, providing bi-annual estimates of the main labour force aggregates'. Survey shifting from bi-annual to quarterly LFS Surveyed entity: private household Sample Size: 18,592 (annual measuring)
Availability of data	Open access: http://www.statistics.gov.rw/publication/labour-force-survey-report-december-2018
Used nomenclature(s)	ISIC Rev 4: Branch of economic activity; ISCO – 08: Occupation
Variables	Size and characteristics of the labour force, employment, unemployment and other labour market characteristics of the population.
Available years	2016, 2017, 2018, Q1 + Q2 2019 Pilot survey: February 2016, first round in August 2016 2018 Report combines data of the 4th (February/ March 2018) and 5th (August/September 2018) round of data collection. Two rounds of 2018 LFS have been rounded to the sample size 18,592 households. (LFS: 69)
Regional dimension	Semi-annual national estimates of employment and labour underutilisation with specified precision. Annual estimates at the district level by pooling together bi-annual data.
Gender dimension	Gender in employment and occupations is surveyed as a specific category.
Relevance for describing the labour market	High relevance for describing the labour market due to the reliability of data, detailed numbers and focus on employment. Contains numbers of the overall labour force, underemployment, employment in sectors and branches, occupations, employment status, informal employment, working time, income, women and equality, youth and education, participation in training programmes, own-use producers, migrant workers, workers with disabilities.
Form of presentation	Excel table and report
Changes in the methods/forms of data collection and/or presentation	Change from bi-annual to quarterly sample design beginning in February 2019. August 2018 sample design was used as a transition.
Retrospective re-classification of data	
Limitations	Branches and sectors are not always easily distinguishable. No information on employing institutions (type and size of companies/public sector).
Further information on methodology	Rwanda Labour Force Survey, Annex B: Survey methodology and data quality (LFS 2018: 69-85ff.). Sample design (sample size, sample rotation, sampling frame and sample allocation among districts etc.), questionnaire design, field operations, data processing and quality: http://www.statistics.gov.rw/publication/labour-force-survey-report-december-2018

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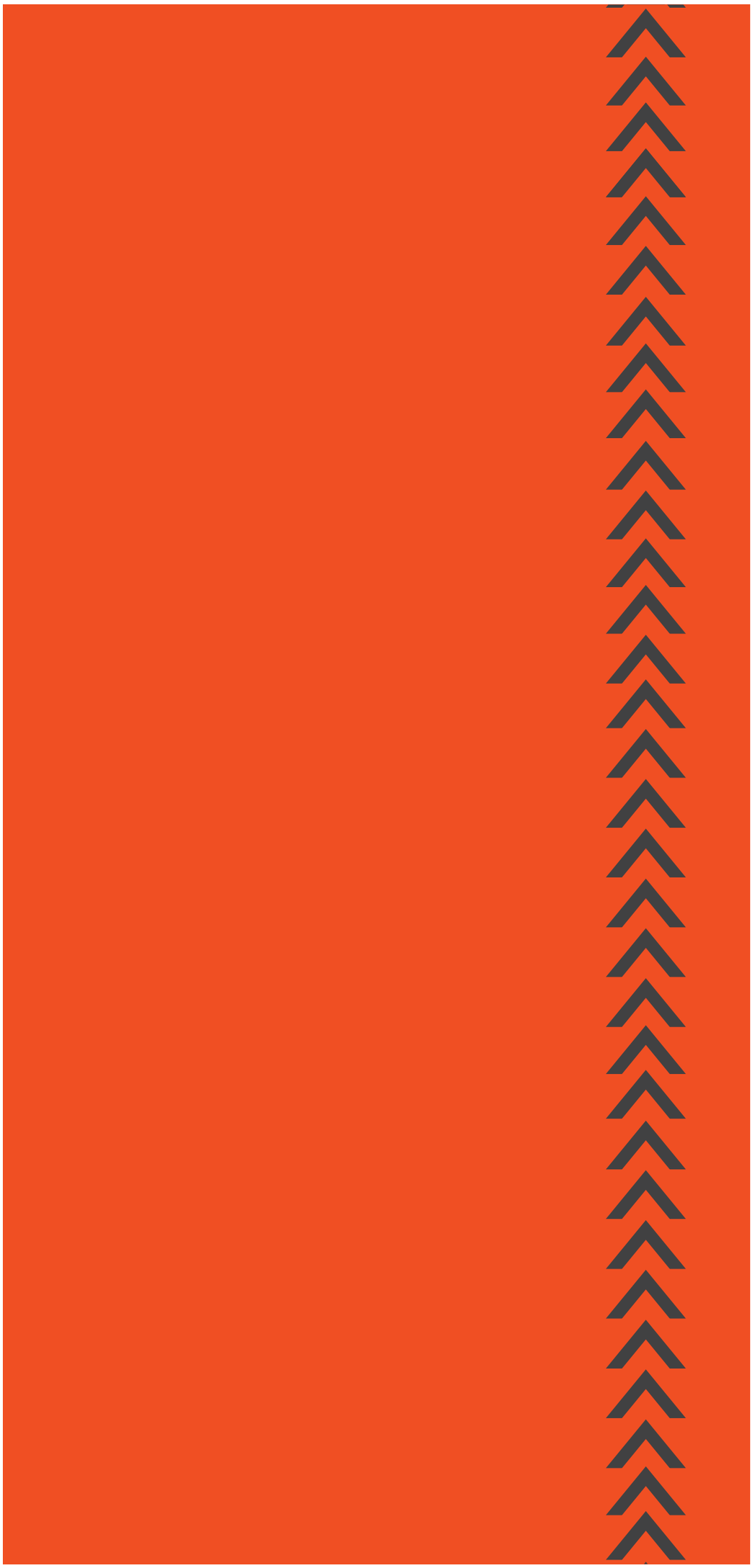

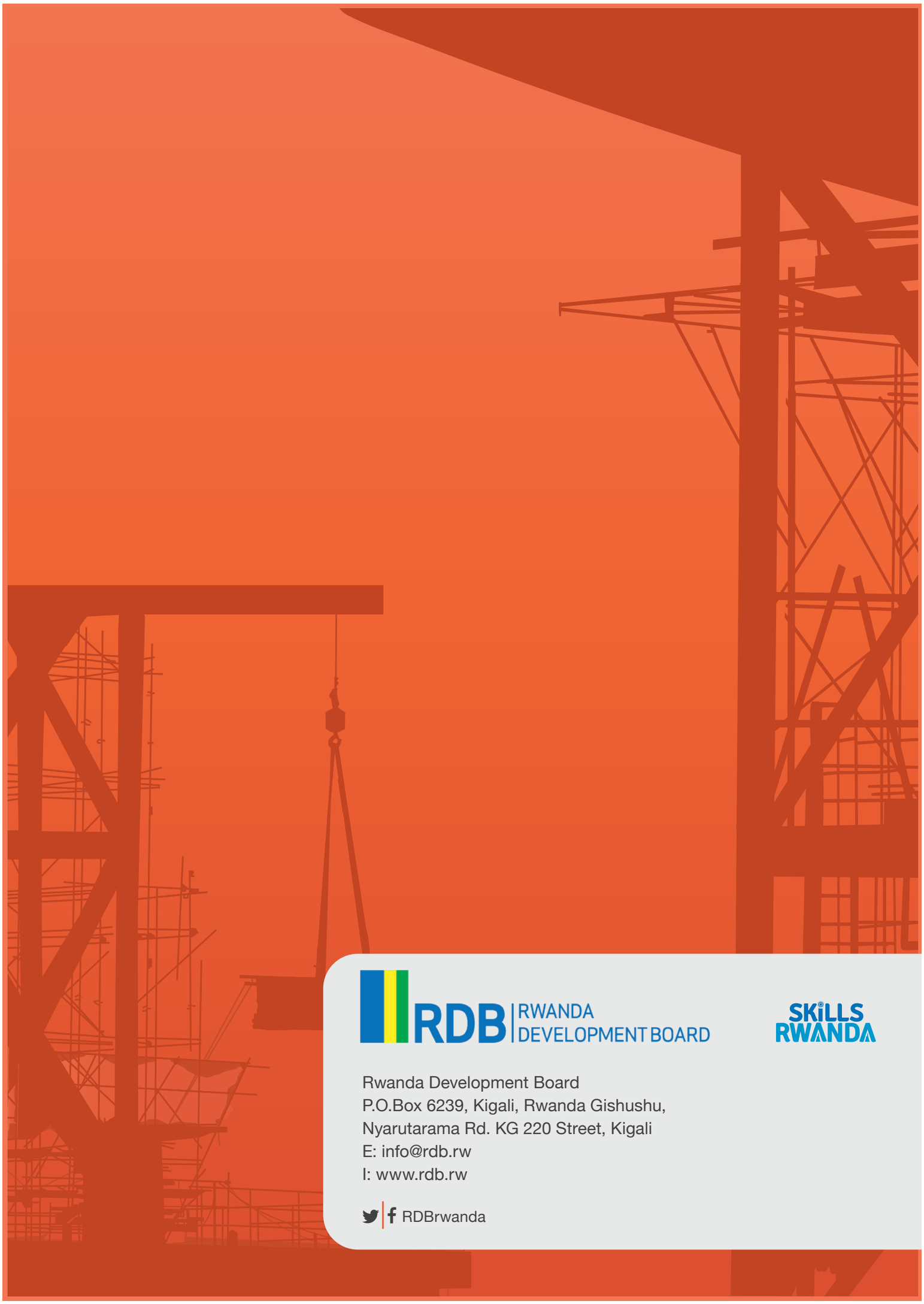

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