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United Nations
Economic Commission for Africa

NOVEMBER
2020

COPY, TWEAK AND PASTE: HOW CENTRAL AFRICAN ECONOMIES CAN BENEFIT FROM ELSEWHERE EXPERIENCES TO BUILD SKILLS FOR ECONOMIC DIVERSIFICATION

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1. INTRODUCTION

Inadequate skills development and low productivity are hobbling the competitive edge and economic diversification potential of Central African countries. However, if they draw inspiration from the recent steps taken by Ethiopia to foster education in Science, Technology, Engineering and Mathematics (STEM), and learn from the track record of countries such as Japan and South Africa, among others, then the sub-region can also promote a skills revolution in the training and deployment of human resources to respond better to the challenges and opportunities for economic diversification in Central Africa.

2. THE PROBLEM AND WHY IT MUST BE RESOLVED NOW

There is a strong mismatch between the skills produced in secondary and tertiary institutions, including technical and vocational schools, of Central African countries and the urgent needs for meeting the UN's Sustainable Development Goals (SDGs), African Union's Agenda 2063, and the imperative of economic diversification in the sub-region. As many other parts of the

continent, Central Africa has a short supply of engineers, agricultural scientists and other professionals needed by the industry.

The subregion is well reflected in the script of a wider Africa which needs 4.3 million engineers and 1.6 million agricultural scientists but is busy churning out 80 percent of its graduates from the social sciences and humanities each year, with little concentration on Science, Technology, Engineering, Mathematics and Innovation (STEMi) (African Capacity Building Foundation 2017).

One can glean the level of competency towards economic diversification in Central Africa by looking at ranking of the countries of the sub-region in the 2019 Global Competitive Index (GCI) of the World Economic Forum (WEF) (World Economic Forum 2019), the 2019 Global Innovation Index on "Creating Healthy Lives—the Future of Medical Innovation" by Cornell University, INSEAD as well as the World Intellectual Property Organization (WIPO) (Cornell University, INSEAD & WIPO 2019).

The GCI measures countries' progress against

1 African Capacity Building Foundation. 2017. "Africa Capacity Report 2017 Building Capacity in Science, Technology and Innovation for Africa's Transformation." www.acbf-pact.org. Accessed August 3, 2020. <https://elibrary.acbfpact.org/acbf/collect/acbf/index/as-soc/HASH01ad/e44e7241/b749d69a/1a6c.dir/ACR2017%20English.pdf>.

12 productivity factors of which 4 are directly related to skills building, viz.: skills, innovation capability, labor market conditions and the level of ICT adoption. The others are: institutions; infrastructure; macroeconomic stability; health; product market; financial system; market size; and business dynamism. Out of the 141 countries reviewed for 2019, Central Africa's best performer is Rwanda which is the 100th in ranking. Six other countries from the subregion, classified, are in the 75th (least performing) percentile with Gabon topping this group of countries performers at the 119th spot and Chad trailing the entire index at the 141st position. Below are how these countries score on the index in the select four pillars directly linked to skills for economic diversification.

TABLE 1: PERFORMANCE OF CENTRAL AFRICAN COUNTRIES FEATURED IN THE 2019 GLOBAL COMPETITIVE INDEX

Country	Overall Ranking	Skills (% score)	innovation capability (% score)	labor market conditions (% score)	ICT adoption (% score)
Rwanda	100	40.1	30.9	63.6	37.6
Gabon	119	51	29	42.2	10.8
Cameroon	123	47.8	30.8	52.1	24.8
Burundi	135	36.6	24.4	50.7	14.8
Angola	136	29.1	18.8	46.8	30.5
DRC	139	42.3	18.0	48.3	19.1
Chad	141	29.0	27.7	42.2	10.8

The above performance of Central African countries in the GCI 2019 also mirrors the region's classification in the 2019 Global Innovation Index which ranks 129 countries on output in innovation driven by institutions, human capital and research, infrastructure, market and business sophistication. Rwanda – ranked 94th, and Cameroon – ranked 115th are the only two Cen-

tral African countries ranked in the classification both placed in the 70th percentile of performers.

Such low performance of Central African countries in international rankings is the result of, among other things, inadequate skills development. This undermines competitiveness and economic diversification. It must be tackled headlong if Central African wants to build resilient, diversified and globally competitive economies, better insulated from supply and demand shocks, including those triggered by COVID-19.

3. SOME CONDITIONS SINE QUA NON FOR AN EFFECTIVE SKILLS BASE FOR ECONOMIC DIVERSIFICATION IN CENTRAL AFRICA

1. Responsiveness of training to changing world demands: Skills development systems must produce human resources ready for use in the real world, meeting ever changing industry needs. Linkages between training centers and industry especially in industrial hubs such as special economic zones can lead to cost-efficient, effective and responsive manpower training and skills development. Public-private partnerships involving governments, training institutions and the private sector are needed not only to overcome financial constraints related to skills development programs and projects but also to align them to dynamic industry needs. To this end, Central Africa can learn from the successful experience in partnership building established between Norwegian training centers and the Raufoss Industrial Park as well as the Oslo Metropolitan

2 World Economic Forum. 2019. "The Global Competitiveness Report 2019." www.weforum.org. Edited by Klaus Schwab. Accessed August 6, 2020. http://www3.weforum.org/docs/WEF_TheGlobalCompetitiveness-Report2019.pdf.

3 Cornell University, INSEAD & WIPO. 2019. "Global Innovation Index 2019: Creating Healthy Lives—The Future of Medical Innovation." Vers. 12. Edited by Soumitra Dutta, Bruno Lanvin and Sacha Wunsch-Vincent. Accessed August 6, 2020. <https://www.globalinnovationindex.org/gii-2019-report#>.

University and Small and Medium Sized enterprises (SMEs).

Contact: Raufoss Industrial Park:

<https://www.raufossindustripark.no/kontakt>

Contact Oslo Metropolitan University:

Institutional partnerships: e-mail

international@oslomet.no

<https://www.oslomet.no/en/about/contact>

2. Systematic auditing of market needs vis-à-vis available skills:

Governments in Central Africa must systematically survey the changing needs of the market in relation to available skills set in order to address noted gaps. South Africa, for instance, has a well-developed skills auditing/market needs system coordinated by the Department of Higher Education and Training (DHET), under which institutions such as the Sector Education and Training Authority (SETA), the National Skills Authority and the National Skills Fund operate. In fact, each year, the country publishes the South Africa Critical Skills List which, for example, the Department of Home Affairs uses to make it easy for foreigners with needed skills immigrate to the country (DHET - Republic of South Africa n.d.). This underscores the need for Central African countries to strengthen their skills portability in the framework of the African Continental Free Trade Area (AfCFTA).

3. Quality and efficiency of training modules/ practices: Required skills must be acquired at the right time, at the right place and in the most efficient way. Trainees must be continuously retrained and exposed to developments/mutations in various fields of productive knowledge as

per the emerging needs of industry. Lessons must also be drawn from the most advanced training programs available elsewhere and adapted to the needs of the sub-region. Course availability must be expanded in addition to well-equipped laboratories for scientific training and state-of-the-art workshops for technical and vocational training.

4. Flexibility of offers: Skills development programs must be designed to allow everyone who so wishes (and is able) to access training regardless of the subject, the time or the methods chosen. COVID-19 has provided clear examples of the power of online/distance learning, for instance. To address skills shortage, promote continuous education and facilitate access to technical and vocational training in Central Africa, the cost of professional training must be reduced by using, for example, a transferable credit system. An example is the European credit system for vocational education and training (ECVET) established in 2009. It enables people in the EU to get validation and recognition of work-related skills and knowledge acquired in different systems and countries – so that they can count towards lifelong vocational

4 DHET - Republic of South Africa. n.d.

"Skills Development." <https://www.dhet.gov.za/>.

Accessed September 4, 2020.

<https://www.dhet.gov.za/SitePages/SkillsDevelopmentNew.aspx>.

5 European Union. 2009. "Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Credit System for Vocational Education and Training (ECVET)." [eur-lex.europa.eu](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0708(02)&from=EN). Accessed September 4, 2020. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0708\(02\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009H0708(02)&from=EN).

qualifications anywhere in the Union (European Union 2009) .

5. Ease of access to skills-building: Unnecessary barriers to accessing training such as the up-front payment of fees and age limits should be eliminated. The government and private ventures should provide multiple training and skills development opportunities to seekers and especially marginalized groups including the youth, women, disabled people and rural populations. Governments need not be the sole providers of funding for continuous training in critical skills. They should incentivize the private sector to do so. Malaysia and Singapore collect taxes for special training funds while Argentina incentivizes SMEs to spend up to 8% of salary allocations on training and get refunded.

6. Transferability/interoperability of skills: Skills acquired in formal, ongoing career trainings must be attested/certified. Central Africa should create harmonized certification systems on critical skills for economic diversification. This will facilitate the transfer of skills from industry to industry and country to country, which will be crucial for relevant regional value chains. Europe has developed a good system of training interoperability. International

training programs such as the Erasmus Mundus scheme in Europe aid in the mobility of skills through support for intercultural understanding (https://ec.europa.eu/programmes/erasmus-plus/node_en). The India International Skill Centers (IISC - www.nsdcindia.org/india-international-skill-centers) helps to develop skills for the global job market and to certify them to international standards in order to support with skills-based immigration. For further details of the above points, see Mastaki (2020) .

4. LESSONS FROM ETHIOPIA, JAPAN AND SOUTH AFRICA

Rather than trying to reinvent the wheel, it is important to look inwards to Ethiopia and South Africa and eastwards to Japan to find specific examples of how countries can improve skills development and align it to their strategic development objectives. Japan managed to get its act together very quickly to become structurally transformed as early as the 1900's and revamp its economy after the destruction of World War II. South Africa capitalized on its mineral wealth to foster economic diversification. Ethiopia is

6 Mastaki, Jean Luc. 2020.

"Bâtir les compétences pour la diversification économique en Afrique centrale: Tirer parti des expériences d'ailleurs." <https://www.uneca.org/webinar-2-36-ice>.

Accessed August 3, 2020.

https://www.uneca.org/sites/default/files/images/SROs/CA/jklm-n_pppt_webinar_skills_dvpt_july_2020.pptx.

7 Economic Commission for Africa. 2013. African Science, Technology and Innovation Review 2013. Addis Ababa: ECA.

Accessed August 7, 2020.

https://www.uneca.org/sites/default/files/Publication-Files/st_innovation_report.pdf.

8 Gessese, Nabiyeleul. 2020. "Export substitution to leverage agribusiness, leather production and aviation services – what to learn from Ethiopia." www.uneca.org. Accessed September 10, 2020. https://www.uneca.org/sites/default/files/images/nabiyeleul_gessese_presentations_combined_webinar_30_jul_2020.pdf.

9 Shoko, Yamada. 2020. "Adaptive skills development to boost economy: The experience of post-WWII Japan and its implications for Africa." www.uneca.org. Accessed 8 2, 2020.

making significant efforts to structurally transform its economy by adjusting its skills development priorities in alignment to its import substitution agenda. Based on the proceedings of a webinar on “Skills for Economic Diversification in Central Africa: Leveraging Experiences from Successful Comparators and Building Partnerships,” organized by ECA on July 30, 2020, below are specific lessons to be learned from these countries:

Ethiopia

Ethiopia's strategy has been to match an import-substitution vision with a massive skills recalibration scheme – the 70:30 model, whereby 70 per cent of students entering higher and professional training institutions are oriented towards science and technology courses (Economic Commission for Africa 2013).

In this configuration, the country prioritizes three sectors: agribusiness, leather manufacturing, and aviation. Substantial skills building in the transformation of hides and skins, which are byproducts of Ethiopia's gigantic cattle sector, has blossomed its leather industry (Gessese 2020). International shoe and other leather product brands are financing or engaging in joint ventures with local firms which provide qualified labor in tanneries. Ethiopia is now a locus for the production of high-end leather shoes, bags and other fashion apparel. The industry thrives on 52% local investment, 45% foreign direct investment (FDI) and 3% joint venture portfolios (Gessese, *ibid*). In the aviation industry, the country has successfully honed skills across air transport trades.

The success of Ethiopian Airlines, the main source of foreign currency inflow into the country, attests to this.

With this strategy, Ethiopia is confident to grease its way into, and benefit from, the African Continental Free Trade Area (AfCFTA). Central African countries can therefore take a leaf from Ethiopia's disciplined promotion and enforcement of the 70:30 learning ratio which privileges skill acquisition in science and technology to support the needs of manufacturing and economic diversification.

Japan

According to Shoko (2020), Japan already had a strong productive capacity base, having attained 100% literacy and numeracy rates for children of school age by 1900. This made it easy to implement government policies aimed at developing technical and vocational training especially in the heavy industries. The country's flying literacy and numeracy level gave it the fortitude for a rapid come-back into productivity after the heavy losses it suffered during World War II, especially from the shelling of Hiroshima and Nagasaki cities with the atomic bomb.

Besides its skills readiness for shoring up economic diversification after WWII, Japan was quick to spot and harness several exogenous opportunities cropping up after the war. These included the purchasing power of other Asian countries which began experiencing

an economic miracle from 1950 and the US' appetite for military equipment to pursue its war efforts in Korea and Vietnam. .

These situations created a high demand for Japanese products, providing additional incentives for the country to swell its skills-base for economic diversification, notably by expanding and quickening the pace of Technical and Vocational Education and Training (TVET) programs. Public-private partnership ventures were therefore established with special measures to reconcile training modules with job-market demands.

From the 1980's, the rise of internationalization of production systems and the service industries edged Japan to diversify its skills sets from hard to soft skills such as critical thinking, creativity, problem solving and work-place innovation.

What does Japan's experience mean for Central Africa? First, training programs and policies should be constantly checked, adapted and modified.

try. More information can be gleaned from

<https://skills-for-development.com>.

South Africa

South Africa is progressing in its efforts to reduce its dependence on the mining sector. This includes measures to recalibrate existing skills from its higher education system to fit the needs of the manufacturing and renewable energy sectors as well as the knowledge economy (Fakir 2020) . One of the reasons for this flexibility is the country's skills vs. market needs auditing system (through the South Africa Critical Skills List seen in part III above), which helps to align competencies with identified sustainable development priorities.

Historically, to satisfy its mining needs and support its apartheid machinery, South Africa developed flagship university engineering programs. The programs supplied the skills for its mining and mineral beneficiation endeavors, the manufacturing of armaments, coal and oil extraction, as well as cement production.

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