CHAPTER

2

Strength in diversification

2 Strength in diversification

This chapter delves into the crucial topic of economic diversification, specifically focusing on its significance for CDDCs. It highlights the traditional drivers of diversification, such as human capital development, competitive industries, and reliable infrastructure, including access to energy and information and communication technologies (ICTs). Despite the dynamic and ever-evolving nature of economies worldwide, these traditional drivers of economic diversification continue to be of utmost relevance for CDDCs. By analysing successful cases of diversification and addressing key challenges, the chapter offers insights into how CDDCs can navigate the complexities of diversification to foster sustainable and resilient economies.

If CDDCs are to achieve the Sustainable Development Goals in an increasingly uncertain global economic and political environment, they will need to become more resilient – by moving along value chains and diversifying production to offer a greater variety of exports. Diversification not only insures against future market shocks, but also generates economic growth and drives structural transformation.

To become more resilient, CDDCs will need to produce more varied products and exports.[1] Diversification is thus associated with structural transformation – reallocating labour and capital across sectors, industries, and firms to produce a wider assortment of goods and services. This reallocation can take place across broadly defined economic sectors, such as a shift from agriculture to manufacturing or services, but it can also happen within sectors, such as when farmers start to produce non-traditional agricultural goods.

Directions for diversification

Diversification can be horizontal or vertical. Horizontal diversification typically broadens the range of production and exports. Costa Rica, formerly a CDDC, for example, has established new industrial sectors and is exporting medical instruments and semiconductors. Or diversification can be vertical, involving greater variety in a sector's value chain, such as refining crude oil to produce gasoline or petrochemicals or using locally mined cobalt, nickel and manganese to make and export precursor materials for batteries. On a smaller scale, local companies can process raw agrifood commodities such as cocoa beans into cocoa butter. CDDCs can also diversify their markets – by increasing the range of countries to which they export.

CDDCs have significant potential for structural change through both manufacturing and services.[2] As agriculture becomes less labour-intensive, some agricultural workers can move to the manufacturing sector, which can absorb low-skilled workers and produce more tradeable goods for exports.[3] At the same time, diversification should expand the services sectors, with a focus on dynamic, high-productivity, and tradeable activities.

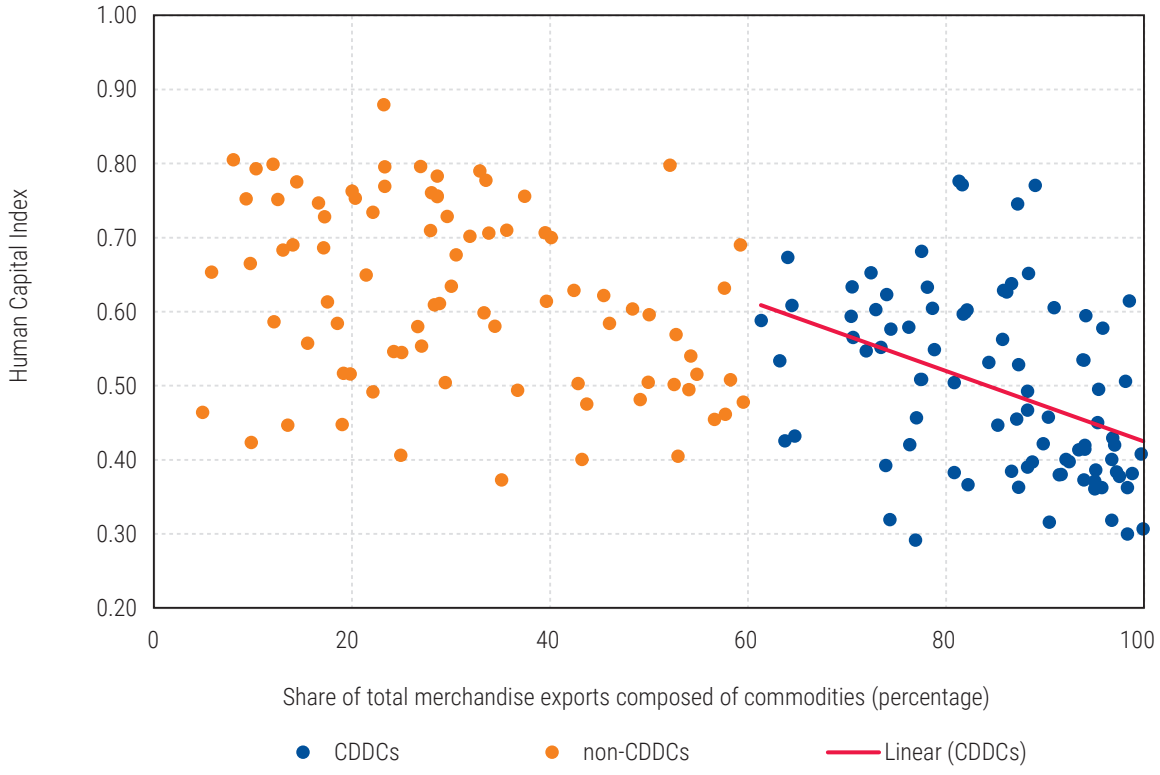
Enablers of diversification

Each CDDC will diversify according to its own needs, but there are some common broad approaches. Successful countries have, for example, first targeted priority sectors while making the economic environment more conducive to investment, business activity and international trade.[4] They have also maintained stable macroeconomic conditions and built regulatory frameworks that facilitate private-sector initiatives.

In addition, diversification requires a strong base of human capital – a well-trained workforce that can seize higher-skill employment opportunities. And there is empirical evidence of the importance of education for diversification.[5] To measure a country's strengths in this respect, the World Bank has produced a composite human capital index (HCI). Non-CDDCs have an average HCI of 0.63, while CDDCs have an average HCI of 0.48.

Figure 2.1 plots the HCI against each country's share of commodities in merchandise exports – indicating a more general negative correlation.[6] In Costa Rica, for example, an educated workforce with high technical skills has attracted high-tech companies.[7] Similarly, in Gabon, the International Multisectoral Centre for Vocational Education and Training, established in 2021, provides training in competencies such as mechanical engineering and computer maintenance.[8]

Figure 2.1 Commodity dependence and low human capital often go hand-in-hand: Commodity dependence, 2019–2021, and the quality of human capital, 2020



Source: UNCTAD based on data from the World Bank and the UNCTADstat database.

Note: The human capital index is available for 171 United Nations Member States.

Market access conditions are also a key factor in successful diversification. Many countries impose low tariffs for commodities but higher tariffs for goods based on those commodities. Such 'tariff escalation' is more common in manufacturing than in agriculture and can be found in both developed and developing countries and for imports of apparel, animal products, tanning and light manufacturing – as well as for food products.[9] Hence, tariff escalation in manufacturing could be a contributing factor to the lack of industrialization in CDDCs and poses an obstacle to export diversification. Tariff peaks that are often concentrated in agricultural goods, such as food products, can also limit the scope for export diversification in these countries. In this regard, it is important that trade liberalization under the framework of the World Trade Organization continues to address, through trade negotiations, the issue of tariff escalation and tariff peaks faced by many CDDCs. In addition, these countries should include in diversification strategies a detailed analysis of the tariff structure they face in export markets, as well as opportunities arising from existing trade preferences, such as under the Generalized System of Preferences and other schemes, given country-specificities that need to be taken into account.

Exports of goods from CDDCs can be further impeded by non-tariff measures (NTMs), which are generally more pervasive and present higher barriers.[10] NTMs include technical requirements and sanitary and phytosanitary measures. For agrifood products, NTMs can take the form of quality standards, food safety regulations, as well as requirements on labelling and traceability. Such measures raise compliance costs and further stretch limited administrative capacities of CDDCs.

To address NTMs, developing countries and their development partners need to boost product quality and safety, improve domestic infrastructure, and build national capacity to reduce the costs of trade, such as customs clearance. In addition, the trading partners of CDDCs should remove unnecessary NTMs and increase transparency by offering companies clearer information on regulations and requirements. Diversification and upgrading will often mean importing capital goods such as machinery and inputs, for which CDDCs can reduce import tariffs to zero.

Diversification and value upgrading also depend on the availability of capital goods and inputs for new and higher value-added products. In this context, a lack of competition in domestic input markets can compromise the competitiveness of exporters in international markets and needs to be addressed through an appropriate competition policy response. For example, there is evidence suggesting that, in Malawi and the United Republic of Tanzania, a lack of competition led to markups of the price of fertilizers, an essential input.[11] Key services such as transportation and telecommunications can also be subject to anticompetitive behaviour, resulting in lower quality standards and higher prices and thereby hindering the competitiveness of firms that depend on these services. A strong competition authority that effectively prosecutes collusion and other anticompetitive behaviour can help maintain efficient input markets and thereby strengthen the competitiveness of exporting firms in CDDCs.

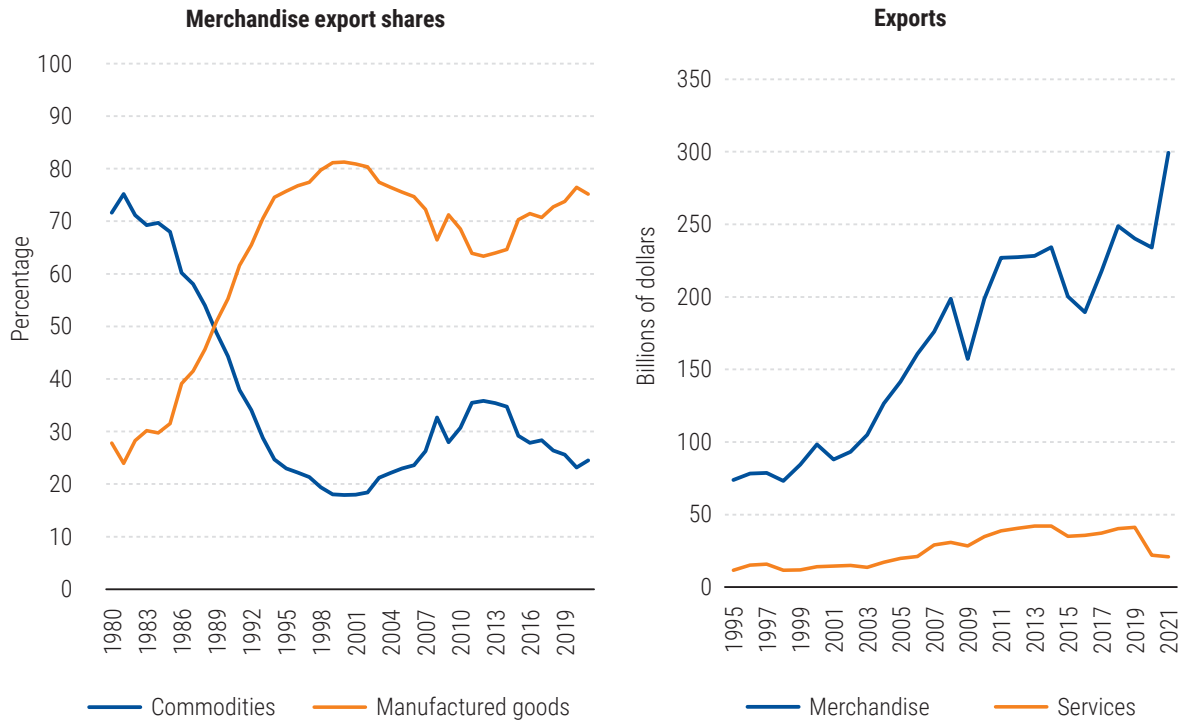
Another key requirement is good physical infrastructure, including roads, ports and airports. This is a major concern for CDDCs, particularly the landlocked developing countries (LLDCs) that must export most goods through neighbouring countries. Links with global markets can therefore be improved through regional integration – as through the implementation of the African Continental Free Trade Area.

Some countries are diversifying by creating special economic zones (SEZs) where business and trade laws are different from those in the rest of the country. In 2019, across 147 economies, there were nearly 5,400 SEZs.[12] Such zones need to be carefully designed to correspond to local conditions and international economic trends and have good electricity and telecommunications services and connections to transport routes.[13] And they need to connect well with the rest of the economy and spread knowledge and innovation beyond SEZ borders – through partnerships between governments, international institutions, and local firms. Such measures could include capacity building and training programmes and networking events where local suppliers can make links with foreign firms. In Ethiopia, for example, there has been success in linking some industrial parks with local suppliers for the garment industry.[14]

Malaysia moves on from rubber and tin

Malaysia provides a good example of manufacture-led diversification. In 1980, primary commodities accounted for 72 per cent of merchandise exports, mainly rubber and tin ores.[15] From the 1980s, the Government promoted both vertical and horizontal diversification and value upgrading – by promoting foreign direct investment (FDI), creating industrial clusters and funding research and development. The result was sustained growth in manufacturing, particularly electronics. At the same time, Malaysia stepped up the value-added for commodities such as rubber (Figure 2.2). As a result, Malaysia is now among the top global exporters of

Figure 2.2 Malaysia is a successful case of manufacture-led diversification: Malaysia, commodities in total merchandise exports, 1980–2021, and exports, 1995-2021



Source: UNCTAD based on data from the Department of Statistics Malaysia (merchandise export shares) and UNCTADstat database (Exports).

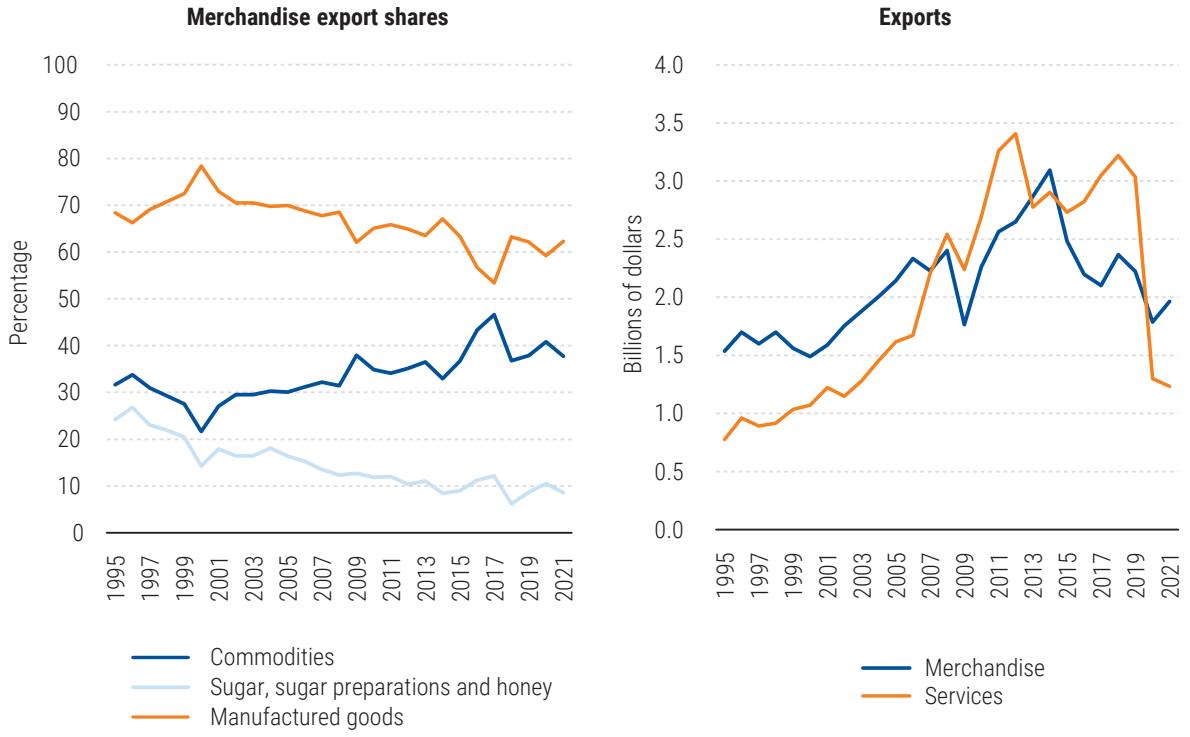
Note Commodities correspond to SITC sections 0 to 4; manufactured goods correspond to SITC sections 5 to 8.

surgical gloves, which in 2021 generated $455 million in export revenue. In addition, Malaysia had oil resources that it was able to convert into petrochemicals.[16] The overall result has been a deep structural transformation. Between 1982 and 2000, the share of employment in agriculture fell from 31 to 17 per cent, while that in manufacturing increased from 16 to 23 per cent. Commodity exports became less significant: between 1980 and 2000, their share of total merchandise exports dropped from 71 to 18 per cent.

Mauritius sees beyond sugar

Mauritius is a good example of how to upgrade and add value in both manufacturing and services. At independence in 1968, 90 per cent of merchandise export revenue was generated by raw sugar and molasses.[17] The Government realized that reliance on a single cash crop posed a significant risk and, from the early 1970s, set up export processing zones, particularly for textiles and garments. Then in the 1980s, it sought FDI for the expansion of the services sectors – notably tourism, information and communications technology, and banking and finance.[18] From 2008 to 2019, the value of services exports usually exceeded that of merchandise exports (Figure 2.3). The drop in 2020 was due to the COVID-19 pandemic, which hindered tourism and travel.

Figure 2.3 Services played a key role in the diversification process of Mauritius: Mauritius, commodities in total merchandise exports, and of services exports, 1995–2021



Source: UNCTAD based on data from UNCTADstat database.

Other countries have diversified production and exports or moved along commodity value chains.

- Costa Rica – Diversified its exports away from coffee and bananas towards the manufacture of medical instruments as well as ICT services and eco-tourism.
- Botswana – Established a diamond-processing industry, cutting and polishing raw diamonds, and has developed a tourism sector.
- Chile – In parallel with growing exports of copper, Chile diversified to non-mineral exports.
- Indonesia – Moved from exports of iron ore to become a leading exporter of stainless steel. Between 2016 and 2021, exports of iron and steel rose from $2 billion to $21 billion.[19]

Other CDDCs are at various stages on the path towards diversification and value upgrading.[20]

Reliable access to electricity

A critical component of diversification is access to reliable energy services, since adding more value usually means consuming more energy. This is a major problem in Africa. In 2020, of the 20 countries that had the lowest share of the population with access to electricity, all were African CDDCs whose average share of commodities in exports was 90 per cent (Table 2.1). Electricity in CDDCs can also be very expensive.

Households and firms in CDDCs typically experience frequent power outages and voltage fluctuations.[21] In Zambia in 2019, for instance, 86 per cent of manufacturing firms experienced electricity outages – typically for 13 hours a month.[22] Interruptions in supply hinder the adoption of new technology and modern production methods and require firms to invest in generators that add to their production costs – all of which reduce their competitiveness in international markets.

Good access to electricity is also vital for education and training. In Chad, for example, in 2021, only 4 per cent of primary schools had access to electricity.[23] Lack of electrical power also affects the health of the workforce, particularly in rural areas. In the developing world in 2020, around 2.4 billion people cooked with open fires or inefficient stoves, polluting household air and killing around 3.2 million people each year.[24] There is also an important gender dimension since women often take on time-consuming tasks such as fetching fuelwood. The productivity of women-led microenterprises is boosted by access to modern energy sources, particularly for heat-intensive food processing or for lighting for home-based work carried out in the evenings. Street lighting also contributes to women's security.

Diversifying sources of imports

While reducing reliance on a single commodity for exports, countries also need to be concerned about overreliance on one or two countries for imports – particularly for food. At times of acute crisis, development partners can offer more support and help prevent hardship in the most vulnerable countries. FAO, for example, has proposed a food-importing financial facility which would help the most vulnerable countries, including the LDCs, access critical foodstuffs.

Boosting food emergency preparedness should involve building up public stocks while strengthening safety nets and social protection.[25] Net-commodity-importing developing

Table 2.1 Many African CDDCs suffer from low access to electricity: Countries with the lowest levels of access to electricity

	Percentage of population with access to electricity, 2020	Percentage of commodities in total merchandise exports, 2019–2021
South Sudan	7	100
Chad	11	98
Burundi	12	95
Central African Republic	15	76
Malawi	15	93
Burkina Faso	19	97
Democratic Republic of the Congo	19	82
Niger	19	89
Sierra Leone	26	87
Liberia	28	74
Mozambique	31	94
Guinea-Bissau	33	98
Madagascar	34	74
United Republic of Tanzania	40	88
Benin	41	92
Uganda	42	86
Guinea	45	95
Zambia	45	89
Angola	47	98
Rwanda	47	91

Source: UNCTAD based on data from the UNCTADstat database and the World Development Indicators database of the World Bank.

countries, particularly the LDCs, may not have the financial resources to achieve these objectives. In this context, the recent worsening of indicators of fiscal sustainability of LDCs illustrates this point. Indeed, the fiscal deficit as a share of GDP in the median developing country that was a net importer of basic food in the period 2019-2021 worsened from 2.1 per cent in 2019 to 3.5 per cent in 2022.[26] Therefore, these countries will need additional financial support if they are not to cut spending on essential services such as health or education.

At times of crisis, markets for food, fertilizers and fuel must remain open – to balance supply and demand across the globe and avoid price spikes. In 2022, the WTO's 12th Ministerial Conference exempted the World Food Programme's humanitarian food purchases from export prohibitions or restrictions.[27] This is a useful contribution, but LDCs and other vulnerable countries need far-reaching commitments that ensure access to essential foodstuffs and other basic commodities. Efforts to stabilize commodity markets will benefit from greater market transparency.

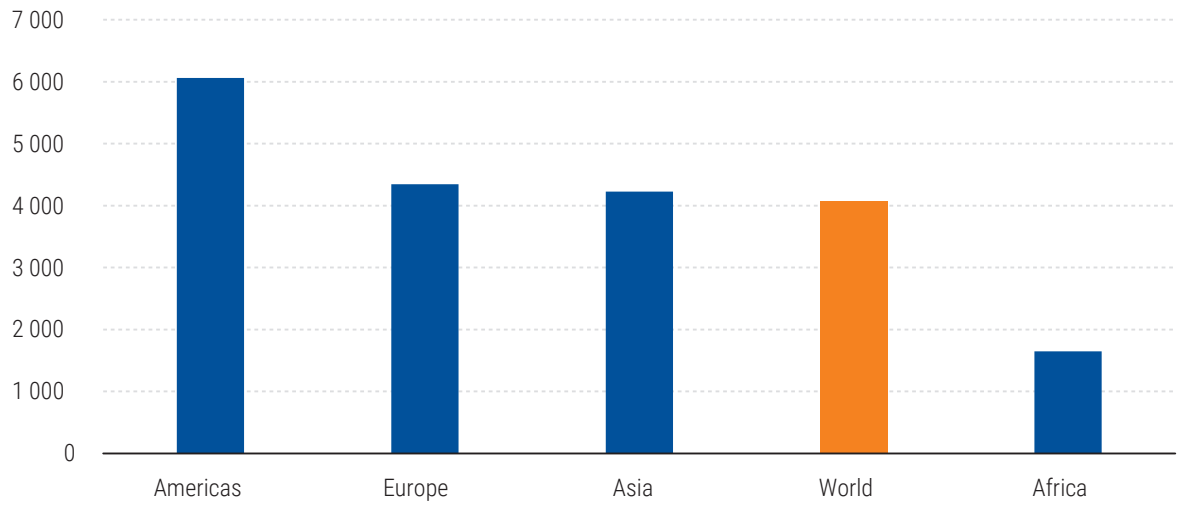
In addition, net-commodity-importing developing countries need to be more resilient to future commodity market shocks – particularly for key food staples. Some countries could increase their own agricultural output – especially those in Africa, where, in 2020, average cereals yields were less than half the global average (Figure 2.4). Yields can be increased through higher-quality inputs along with finance, capacity-building and better technology, including climate-smart agriculture, while also reducing post-harvest losses through better storage, processing and transportation. Moreover, food production can also be increased along the extensive margin where planted areas can be expanded sustainably, i.e. without contributing to deforestation or loss of biodiversity. Food security in food-deficit countries can be further bolstered by cutting food waste and distributing food more equitably across the world.

Countries can also cut energy imports by making greater use of renewable energy sources. Africa has 60 per cent of the best solar resources globally but only 1 per cent of installed photovoltaic capacity.[28] The SIDS too have substantial potential to expand renewable energy.[29] Seychelles, for example, in its updated NDC, has set a target of 15 per cent renewables in the energy mix by 2030.[30] The updated NDC of the Bahamas includes the target of at least 30 per cent renewables in the energy mix by 2030.[31] In its National Energy Policy, Barbados has set a target for 100 per cent renewable energy by 2030.[32] And in its National Development Plan, Fiji aims to generate 100 per cent of its electricity from renewable sources by 2036.[33] The Small Island Developing States Accelerated Modalities of Action (SAMOA) Pathway calls for an acceleration of renewable energy deployment with more financial resources, technology transfer and capacity building.

Diversifying through a climate emergency

Today's developed countries reached their high income and consumption levels by restructuring from agricultural to energy-intensive industrialized output. Developing countries are following a similar trajectory but under fundamentally different circumstances – notably a climate emergency. They cannot, therefore, stake their futures on fossil fuels.

Figure 2.4 Cereal yields differ significantly across regions: Cereal yields in selected regions, 2020
(kg per hectare)



Source: UNCTAD based on data from FAOStat.

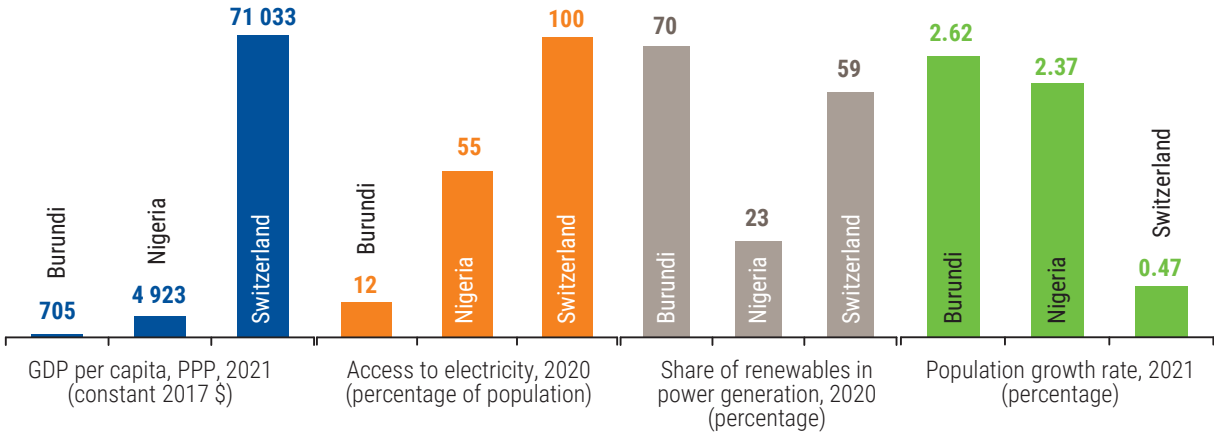
There are two ways of reducing greenhouse gas emissions from economic activity. One is to make growth less emissions-intensive; the other is to deliberately slow economic growth. In particular for developing countries, limiting growth is not an option if they are to attain the SDGs, so they need to look instead to minimize GHG emissions while taking advantage of the changing global energy landscape by reconfiguring their economic structures and energy systems.

Many CDDCs provide the raw materials essential for clean energy technologies – including battery metals such as cobalt, lithium and copper. They should not get trapped at the entry of value chains but rather move along them to add value locally. A promising example is the recent cooperation agreement signed between the Democratic Republic of the Congo and Zambia to jointly develop a battery precursor industry.[34] CDDCs that have large potential for renewable power generation can also become suppliers of green hydrogen while using this to generate electricity in remote and currently unserved areas.[35]

CDDCs have a chance to take a new development path and avoid some of the worst by-products of industrialization, such as smog and polluted rivers that cause disease and premature death. Most CDDCs have already spelt out plans for scaling up renewable energy, strengthening energy efficiency and have presented other strategies to reduce GHG emissions in their NDCs. Green industrialization and green growth will require large investments in infrastructure and energy systems. Most of the targets in their NDCs are conditional on financial, technological and capacity-building support from the international community.[36] CDDCs will therefore need to work with their development partners to mobilize the necessary finance and transfer of technologies.

Countries and regions will follow their own energy transition paths, considering their resource endowments and availability of financial and technical capacity – and the needs of their current and future populations. The different circumstances they face are illustrated in Figure 2.5. Burundi, Nigeria and Switzerland have very different endowments and population growth rates.

Figure 2.5 Countries differ in terms of their development status and natural endowments: Selected energy and socio-economic indicators



Source: UNCTAD based on data from the World Bank (GDP per capita), United Nations World Population Prospects database (population growth rate) and IRENA.

Note: These countries were selected for purely illustrative purposes to highlight the diversity of challenges of countries at different stages of development and with different natural resource endowments.

Hence, as CDDCs diversify, transform, and upgrade their economies to achieve the SDGs, they have to take these differences and inequalities into account.

From link to link

In an increasingly volatile global economic and geopolitical environment, both CDDCs and net-commodity-importing developing countries need to diversify and upgrade their value chains. A number of CDDCs have demonstrated that it is possible to move along the value chains of commodity and non-commodity sectors so as to be more resilient.

At the same time, net-commodity-importing developing countries need to diversify their sources of imports of basic commodities such as food, fuels and fertilizers – while boosting their own production, particularly of food and renewable energy. For this, they need the full support of the development partners, particularly for strengthening social safety nets and emergency preparedness.

Many of these processes do, however, carry the risk of increasing inequalities, both within and between countries, as analysed in the next chapter.

Endnotes

1 Independent of the structural composition of an economy, a reduction of concentration of export destinations is also a form of diversification.
2 UNCTAD, 2021d
3 Hallward-Driemeier and Gaurav, 2018
4 See e.g. UNCTAD (2015) for specific recommendations in this regard.
5 Giri et al., 2019
6 The key components of the Human Capital Index are education and health measured by survival rates, quality-adjusted years of schooling and prevalence of stunting.
7 Rodríguez-Clare, 2001
8 https://www.uneca.org/stories/gabon-launches-technical-training-hub-to-revolutionise-skills-for-economic-diversification
9 UNCTAD, 2022a
10 UNCTAD and World Bank, 2018
11 World Bank; Organisation for Economic Co-operation and Development, 2017
12 UNCTAD, 2019b
13 UNCTAD, 2021a
14 Whitfield et al., 2020
15 Based on data from the Department of Statistics Malaysia.
16 Based on data from COMTRADE.
17 Based on mirror data from COMTRADE.
18 See also UNCTAD (2001) on the role of FDI in the diversification process of Mauritius.
19 Based on Comtrade database for harmonized system code 72.
20 For example, economic diversification is included in key forward-looking policy documents of gas and oil-dependent economies of the Gulf Cooperation Council, such as in Vision 2030 of Bahrain; Vision 2035 of Kuwait; Vision 2040 of Oman; National Vision 2030 of Qatar; Vision 2030 of Saudi Arabia; and Economic Vision 2030 of Abu Dhabi, United Arab Emirates.
21 Ayaburi et al., 2020
22 According to World Bank Enterprise Survey data.
23 UNESCO Institute for Statistics, 2023
24 IEA et al., 2022
25 Gentilini, et al., 2022
26 UNCTAD calculation based on data from UNCTADStat database and Kose et al. (2022).
27 WTO, 2022
28 IEA, 2022
29 Blechinger et al., 2016
30 UNFCCC, 2021a
31 UNFCCC, 2021b
32 Ministry of Energy and Water Resources of Barbados, 2021
33 Ministry of Economy of the Republic of Fiji, 2017
34 UNECA, 2022b
35 UNCTAD, 2023c
36 UNCTAD, 2019a