



# Exploring the Path of Autonomous Development: the Development Dilemma and Coping Strategies of Sub-Saharan Africa in the Post-epidemic Era

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## Abstract

Based on the multidisciplinary research perspectives of economics, politics, and international relations, this paper starts with the analysis of the main characteristics of sub-Saharan African countries, analyzes their economic development difficulties and new challenges in the post-epidemic era, discusses the necessity for sub-Saharan African countries to explore the path of autonomous development at the level of economic structural reform and development model, and proposes coping strategies. Sub-Saharan African countries should seize the opportunity to accelerate economic restructuring under the favorable situation of the formal launch of the African Continental Free Trade Area (AfCFTA); take measures to develop agriculture and food production, manufacturing, digital economy, and the AfCFTA construction; and actively cooperate with China and other emerging countries to enhance their capacity for independent development.

**Keywords** Africa development · Resource curse · Over-reliance · Self-dependence · Economic restructuring · International cooperation

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## Introduction

In 2000, *the Economist* called Africa a “hopeless continent,” expressing the disappointment of Western scholars with Africa. Poverty, backwardness, civil war, political chaos, aid dependence and resource curse, and “failed states” are all used to describe Africa. Ten years on, profound changes have taken place in Africa. Seven of the world’s fastest-growing economies are in Africa, and 70% of the African population lives in countries with an economic growth rate of more than 4% over the past decade. In 2011, *the Economist*, aware of the absurd judgment made 11 years ago, returned to the cover title “Africa Rising.” Today, “the continent full of hope” and “the century of Africa” have become new labels given to this region by the Western media, and Africa is attracting the attention of the world again. But at the same time, Africa, which is in turmoil in the world, still faces certain challenges in its development process, especially the reforms carried out by sub-Saharan African countries in accordance with the will of the West are not in line with their own national conditions (Li, 2020), because the institutions and development plans designed by the West for Africa are not tailor-made for Africa, but impose the Western development model on Africa, without taking into account the local adaptability of Western systems and experiences in sub-Saharan Africa. This kind of forced intervention from the outside not only fails to improve the development and governance capacity of sub-Saharan African countries, but also makes them indescribably dependent on the West, which is not conducive to Africa’s independence, and even hinders Africa’s independent exploration and weakens the endogenous driving force of its development (Easterly, 2006; Moyo, 2010). Under the impact of the COVID-19 epidemic, Africa’s endogenous deficiencies have become increasingly evident, such as over-reliance on natural resources, poor infrastructure, and mutually constrained urbanization and industrialization, among others, all of which are related to Africa’s inherently outward-looking economic structure (Gollin et al., 2016; Good, 2005; Gungor & Simon, 2017; Huang & Qiu, 2020). In recent years, Africa has become more and more aware of the importance of industrialization to development. It is not only the source of raw materials in the West, but urgently requires the transformation of the economic structure, trying to change the economic model of a single export of raw materials, so as to achieve economic diversification. From the “New Partnership for Africa’s Development (NEPAD)” to the “Action Plan for the Accelerated Industrial Development of Africa (AIDA)” to the “Agenda 2063,” these documents have prioritized development issues as strategic objectives. African countries have gradually begun to explore new localization paths suitable for their own development. Thus, how to design appropriate mechanisms to achieve effective governance, establish a system with Africa’s own characteristics, and take an autonomous development path is an urgent consideration for sub-Saharan African countries at present. Therefore, this paper aims to analyze and discuss the development dilemma and evolutionary trend of sub-Saharan African countries in the post-epidemic era, attempting to explore the path of autonomous development of African countries from the perspective of economic structural reform and development model and propose insightful suggestions.

## Literature Review

A large number of scholars have conducted more in-depth studies and come up with many valuable results in this field. There are three main areas of research on African development.

First is the exploration of African development models; for instance, Malah Kuete and Asongu (2022) concluded that structural change in Africa is optimized with the development of infrastructure, especially energy and ICT, based on fixed effects models from 52 African countries over the period 2003–2018. Quartey and Oguntoye (2021) illustrated through a triple helix approach how key stakeholders in the triple helix framework effectively contribute to social, economic, and environmental well-being through industrial sustainability, and pointed out that maximizing enablers and minimizing barriers to possible interconnections and interrelationships between universities, industry, government, and their intermediaries could be a useful starting point for understanding and promoting industrial sustainability in Africa. Additionally, recent works have been conducted on African countries from the national system of innovation perspective and absorptive capacity angle to explain the possibility of developing a new model considering the specificities of developing countries and African ones (e.g., Ben Slimane & M'henni, 2021; Ben Slimane & Ramadan, 2017). Second is the research on strategic decision making for development in Africa, with major scholars such as Muntschick (2018), Bawa (2020), Bischoff (2020), Berg and Whitaker (2021), and Kpognon et al. (2021). The third is the study on Africa's development cooperation relationship with large countries. The data obtained from the literature search shows that for a long time, academics have focused more on development cooperation between traditional Western powers and Africa in African development studies, such as Franco-African cooperation (Charbonneau, 2016; Yates, 2018; Gronskaya, 2020) and US-African cooperation (Griffiths, 2016; Odinga, 2016). After entering the twenty-first century, with the continuous advancement of global economic integration and the unstoppable geopolitical pattern of the world "East Rising, West Falling," emerging countries, especially China, have accelerated the pace of "entering Africa," surging their activities in Africa, with the economic and trade cooperation becoming more and more frequent. Scholars have started to explore more development cooperation between China and Africa, such as development cooperation in the field of education between China and Africa (Ehizuelen, 2018; Eom et al., 2018; Zhu & Chikwa, 2021), cooperation in the field of renewable energy (Ayele et al., 2021; Lema et al., 2021), the Forum on China-Africa Cooperation (Wen, 2019; Zabella, 2020), etc. In recent years, studies on tripartite development cooperation between China, Africa, and the West have also been gradually increasing. For example, Hooijmaaijers (2021) specifically studied the emergence of the EU's perception of the "China in Africa" policy issue and the EU's policy response to it. Liu and Luo (2021) believe that while China and the West have differences in historical experience, diplomatic philosophy, and diplomatic principles. However, both sides also have a wide range of understandings and interests in Africa. Hence, on African issues,

China and the West should transcend suspicions and differences and establish a more open tripartite cooperation and exchange mechanism with Africa through the establishment of multilateral partnerships on African development to create a mutually beneficial and win–win situation.

Although the academic community has made certain research results on the topic of African development, there still exist some deficiencies in this research area, which are reflected in the following:

1. The existing research results still lack topicality, timeliness, and pertinence, and the foresight and theoretical depth need to be deepened. The research results are fragmented and lack systematic combing.
2. Most of the existing research results focus on the development cooperation relationship with large countries, and relatively little research has been conducted on the development model of Africa, among which the research on the indigenous and autonomous development model of Africa is even weaker.
3. The existing research results tend to focus on a certain aspect of development cooperation, such as politics, diplomacy, and economics, but seldom has a complete discussion on Africa's economic structural reform, and the research on China-Africa development cooperation is relatively lagging behind.

In this context, this paper aims to discuss the development dilemmas of sub-Saharan Africa in the post-epidemic era based on the multidisciplinary research perspectives of economics, politics, and international relations, and to explore and judge them accordingly, trying to explore an autonomous development path. This will help broaden the research perspectives and enrich the existing studies in this field, as well as provide reference for building an autonomous development path in Africa, which is of great significance to the endogenous development of Africa.

## Methodology

### Review Methods

Literature reviews in development studies are traditionally conducted in a descriptive and narrative manner. However, very often these reviews are biased because they only reflect the authors' perspective, which ultimately reduces their utility for policy recommendations (Conway & Lance, 2010; Denyer & Neely, 2004; Podsakoff et al., 2012). Therefore, more and more scholars urge researchers to conduct the systematic literature review (SLR) methodology (Leseure et al., 2004; Pittaway & Cope, 2007; Thorpe et al., 2005; Tranfield et al., 2003) which is only through a systematic review of past literature that intelligent policies might be implemented for the future (Ben Slimane et al., 2022; Glaser et al., 2016; Tranfield et al., 2003).

African development studies have attracted many researchers in multi-disciplinary subjects to analyze the urgent issue in the continent of Africa. In this study, the authors used SLR methodology in order to gain a better understanding of the subject so as to

identify the main development dilemmas to explore the autonomous path in sub-Saharan Africa. In line with methodology, the authors used a narrative synthesis, comparative analysis, and thematic analysis methodology to analyze and interpret the research results (Lucas et al., 2007; Rodgers et al., 2009). Due to limitations of space and importance, only a qualitative content analysis without a quantitative analysis and evaluation of the literature was presented so as to answer the research question. Figure 1 illustrates the systematic literature review process of this study.

As mentioned above, SLR aims to identify and present literature on African development by formulating research questions and selecting relevant research studies (Ben Slimane et al., 2022; Glaser et al., 2016). Thus, in summary, this paper aims:

1. To summarize the main characteristics, dilemmas, and challenges of economic development in sub-Saharan African countries and
2. To rethink on the sustainable development of sub-Saharan Africa in the post-epidemic era.

We will follow the strategies proposed by Kitchenham et al. (2010). Following the proposed strategy, in subsequent subsections data selection, inclusion and exclusion criteria, search strategy process, selection process and data extraction and synthesis processes are discussed.

### Data Selection

In order to arrive at information pertinent to this study, data were retrieved in December 2022 from the Web of Science core collection platform by Clarivate

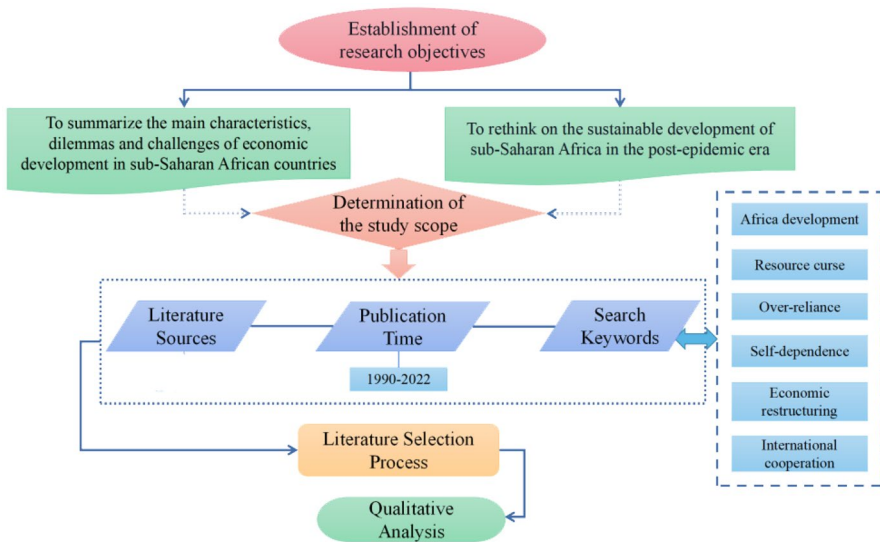


Fig. 1 SLR process roadmap

analytics, Google Scholar, and Science Direct, which are frequently used by state-of-the-art systematic reviews (Goyal & Kumar, 2021; Vrontis et al., 2021).

Setting up an inclusion and exclusion criteria makes sure that only articles that are relevant to study are included (Memon et al., 2020). No previous similar attempt to synthesize this particular literature in a systematic manner was found. Thus, we sought to identify a pattern of keyword occurrence in the academic research on sub-Saharan African development through an initial scoping search of articles directly related to our topic according to Vrontis et al. (2021), in order to select the most appropriate search terms. As a result, a string of appropriate search terms (“Africa development” OR “Resource curse” OR “Over-reliance” OR “Self-dependence” OR “Economic restructuring” OR “International cooperation”) was used to search the articles in title, abstract, or keywords, yielding 9134 initial results. Then the search was refined to include only English, French, Italian, and Chinese language journals, conferences, symposiums, and workshops published from January 1990 to December 2022 which resulted in 3531 articles (refer to Fig. 2 for complete overview of the selection process).

The articles were screened on the basis of reading titles and abstracts and even full-length papers were accessed in case there was a doubt on the relevancy. After a review of titles and abstracts, articles were excluded based on duplicity, non-availability of full text, and if the studies were not related to any of our research questions. After a thorough review of the articles, we excluded articles that were not clearly related to sub-Saharan African development, but appeared in the search, because of keyword match. After this screening and assessing process, 3398 studies were disqualified. Next, we reviewed the reference lists of the articles selected so far to identify additional manuscripts that may have been disregarded by the search engines (Rana & Paul, 2017). This further step provided 12 additional studies. The final database used for this study comprised 145 articles.

## Data Coding

After data selection, we read the full text of each article in order to retrieve information relevant to our topic (Danese et al., 2018). We used Mendeley and MS Excel to manage the data of these studies. Referring to Vrontis et al. (2021), the data containing study title, authors, citations, publication year, type of paper, and the study context were extracted and recorded in an excel sheet.

For the purpose of recording and summarizing important data collected from each article, a data extraction form after a thorough analysis of each study was devised because it eliminates human error and documents the procedure in a replicable and transparent way (Tranfield et al., 2003). The coding categorization using the data extraction form enabled us to descriptively and thematically analyze the reviewed field. Figure 3 shows the fields of the data extracted from research studies.

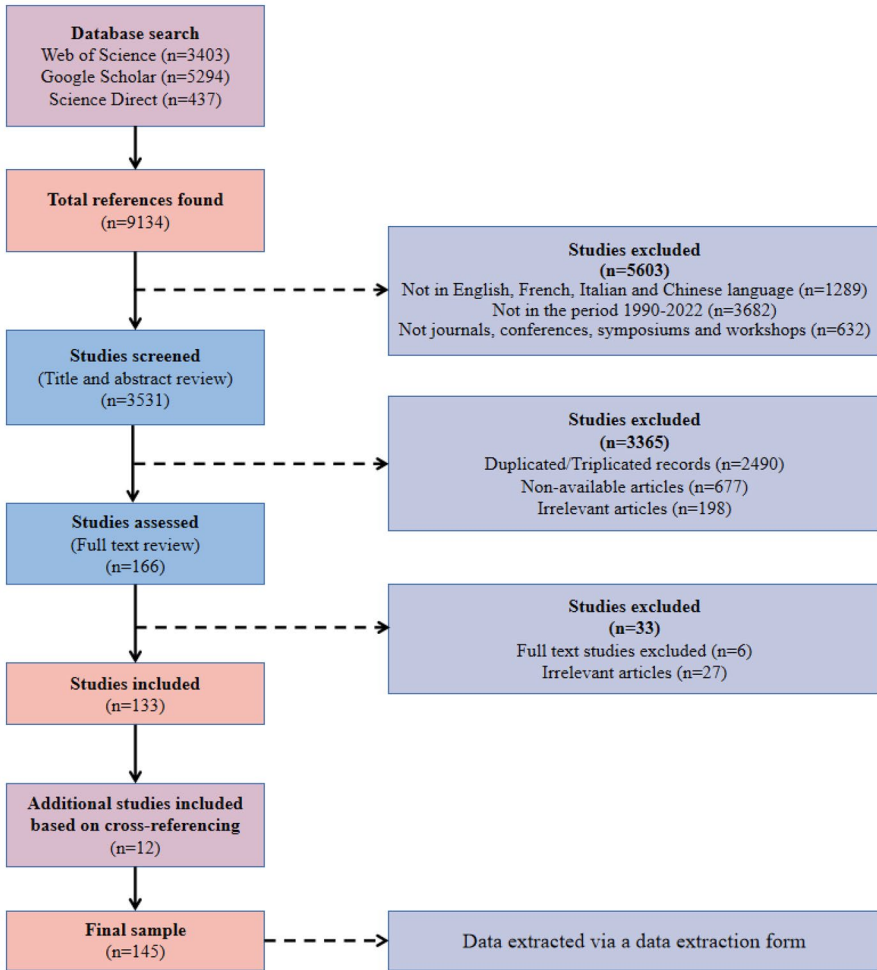
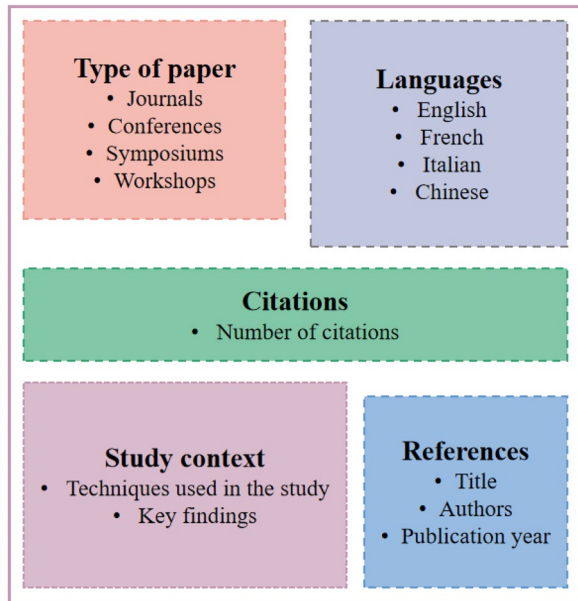


Fig. 2 Complete overview of data selection process

## Main Characteristics of Sub-Saharan African Countries

In the first place, Africa is rich in natural resources. Africa is endowed with unique natural resources, among which mineral resources are particularly rich and huge. The African continent has about 30% of the world’s known mineral reserves, 40% of the world’s gold, up to 90% of the world’s chromium and platinum, and 12% of the world’s oil reserves. Among sub-Saharan African countries, South Africa is the world’s largest gold producer, with more than 35% of the world’s known gold reserves and 60% of global gold production (Wilson, 2001). Namibia, known as the “world strategic metal reserve,” is the country with the richest mineral resources in Africa. With oil reserves of 37 billion barrels,

**Fig. 3** Extracted data fields of selected studies



Nigeria is one of the top 10 countries with the largest oil reserves in the world. Congo leads the world in diamond production and Equatorial Guinea's bauxite production. In resource-rich sub-Saharan African countries, rents from natural resources (excluding forests) can even exceed 10% of GDP, so Africa is also known as the "fertile continent."

In another, there are significant differences and diversity between regions and countries. Sub-Saharan Africa, which straddles the northern and southern hemispheres, is made up of more than 40 countries of different sizes, which have different populations, cultures, and languages and constitute a very diverse group (Binns et al., 2012). Some countries have good development, relatively developed, and high per capita income, but more countries are still fighting for peace and survival, and people are struggling to survive on the line of subsistence (Moore et al., 2002). Geographically, 30 countries in sub-Saharan Africa have a population of less than 20 million. More than 30% of the population lives in resource-poor landlocked countries, while another 70% lives in coastal areas where resources are relatively abundant. From the perspective of economic factors, countries in sub-Saharan Africa have different levels of economic development. There are 23 low-income and 25 middle-income countries in sub-Saharan Africa, with large economic differences between countries. In 2017, GDP growth in Côte d'Ivoire and Senegal was more than 7%, while GDP growth in Togo and Niger was only 4.4% and 4.9% (IMF, 2019).

Besides, there is widespread unrest and conflict within sub-Saharan Africa. On the one hand, the country is poorly governed and there will be chaos in every election. Various political events and political riots such as the Malian coup d'état and the violent conflicts triggered by the presidential election in Côte d'Ivoire have



emerged one after another. On the other hand, terrorism, extremism, and separatism prevail. International terrorist forces such as Islamic State and al-Qaeda continue to infiltrate Africa, and the Sahel region has become the most rampant high-risk zone for terrorist activities. The number of piracy in the Gulf of Guinea has soared, separatist groups such as the National Resistance Movement of Mozambique and Boko Haram in Nigeria have become increasingly violent, and countries such as Somalia, Niger, and Burkina Faso are facing the threat of rising extremist violence. In 2018, the death toll caused by terrorist attacks in sub-Saharan Africa surpassed that of the Middle East and North Africa for the first time, ranking second in the world (Asongu & Odhiambo, 2019, 2021).

What's more, the poverty rate remains high and poverty is widespread. The root causes of terrorism and non-traditional security problems prevalent in sub-Saharan Africa still lie in poverty (Asongu & Le Roux, 2019; Bicaba et al., 2017). Although Africa is rich in natural resources, the development of industry and agriculture is slow, the level of economic development is low, the people live in hardship, and the poverty rate remains high. Africa's poverty and weakness are inextricably linked to the historical slave trade and colonial rule before independence (Langan, 2017). The West plundered and encroached on Africa's natural and human resources, transforming Africa into a western raw material-producing area and commodity market. However, due to the existence of the colonial economic structure and the role of the old international economic order, the situation of Africa controlled and exploited by the West after independence has basically not been changed (Beegle et al., 2016). Although it has gained independence politically, it has always been unable to be independent economically. Of the 28 poorest countries in the world, 27 are in sub-Saharan Africa, and Nigeria has even overtaken India to become the country with the largest number of poor people in the world. The World Bank and the Bretton Woods institutions predicted in 2018 that the incidence of poverty in sub-Saharan Africa would reach 87% by 2030, accounting for 90% of the world's extreme poverty. Although the economies of countries such as Burkina Faso and Rwanda are accelerating rapidly, poverty is still widespread in sub-Saharan Africa. After years of war, a large number of people have poured from the countryside to the surrounding urban areas, creating a common phenomenon of unique slums encircling cities south of the Sahara. Combined with the economic contraction and financial difficulties of countries due to the COVID-19 epidemic, the economic situation in sub-Saharan Africa has reached its worst ever, with an economic growth rate falling below  $-3\%$  and losses as high as US \$3.7 billion to US \$79 billion (IFC, 2020; IMF, 2020). As a result, about 40 million people in sub-Saharan Africa will be plunged into extreme poverty, and poverty will become more and more serious.

Although compared with Africa 20 years ago, sub-Saharan Africa today has made significant progress in peace and stability. However, at the level of economic development, African countries are still constrained by unfavorable factors such as relatively low levels of labor productivity, poor infrastructure, and business environment. What the unique natural resources bring to Africa is not a sustained and bright development future, on the contrary, it pushes Africa into the plight of the "resource curse" (Ross, 2003). The economic development of sub-Saharan African countries is facing many difficulties and challenges.

## The Predicament and Challenge of the Economic Development of Sub-Saharan African Countries

The predicament of economic development in sub-Saharan Africa persists both before and after the epidemic. The epidemic is only magnified to highlight the adverse factors that restrict Africa's economic development. The sudden COVID-19 epidemic has brought great challenges to African employment, infrastructure construction, economic transformation, and so on (El-Sadr & Justman, 2020; Haddout et al., 2020; Naidu, 2020).

### Over-Reliance on Natural Resources

Sub-Saharan Africa's main role in world trade has been to provide raw materials for global value chains. Africa has been committed to economic diversification and transformation in recent years. Although oil-rich and non-resource-rich countries have made some progress in product diversification, the level of product diversification in sub-Saharan Africa as a whole is still significantly lower than in emerging and developing countries in Asia, such as Bangladesh, Cambodia, Indonesia, and Viet Nam, where the actual export structure is still concentrated in the area of raw materials. Therefore, although a large number of sub-Saharan African countries are officially classified as resource-rich countries by the World Bank, more countries are still classified as resource-dependent countries. Over-reliance on natural resources can easily lead to the following problems.

Above all, over-reliance on natural resources can easily lead to "Dutch disease" in African countries. "Dutch disease" refers to a crisis that occurred in the Netherlands, which was already a major exporter of manufactured goods in the 1960s, when it discovered large reserves of natural gas. It refers to the phenomenon that the boom in resources leads to distortions in the economy, leading to higher inflation and a contraction in tradable sectors such as manufacturing (Rajan & Subramanian, 2011; Torvik, 2001). Nigeria is the most typical example. Nigeria has become Africa's largest economy by virtue of oil, and the government relies on crude oil for 2/3 of its revenue. However, after the international oil price began to fall, Nigeria's economy was quickly on the verge of collapse, falling into a trough of negative growth in 2016.

Furthermore, resource dependence can easily lead to increasingly serious social problems in African countries (Good, 2005). Firstly, resource exploitation and trade are capital-intensive industries in nature, and the direct employment opportunities created by them are limited (Powell & Rey, 2015). These small employment opportunities often require highly specialized skills that are not available to the vast majority of the unemployed and youth in sub-Saharan Africa. Take Angola as an example. Its crude oil exports account for half of its GDP, while the relevant employees are less than 10,000 (Lall et al., 2017). Moreover, with the reduction of available resources and the increase of mining difficulty, resource-based enterprises are laid off and the number of unemployed is increasing. Due to the singleness of industrial development in resource-based areas, the strength of the tertiary industry is weak, the channels for the diversion of the unemployed are very limited, and the social

employment situation is very grim. Secondly, resource wealth can destroy governance and create a vicious circle. Rent generated by natural resources can easily lead to greedy rent-seeking behavior. Mineral wealth leads to a low willingness of governments to be accountable to the people, little interest in improving institutional capacity and governance, and inability to implement policies conducive to sustainable growth. Corruption is still widespread in most resource-rich countries south of the Sahara. For example, nine of the 20 most corrupt countries in the world are resource-rich in sub-Saharan Africa, according to the corruption perception index of the 2019 Transparency International report (2021). Finally, due to long-term institutional reasons in resource development, the gap between the rich and the poor, backward education, and low population quality in resource-dependent African countries are becoming more and more serious, further increasing social instability.

Last but not least, over-reliance on natural resources will inevitably lead to the simplification of leading industries and the initialization of products in sub-Saharan Africa. Accompanied by the simplification of leading industries and primary products, there is a serious waste of natural resources (Fadare, 2013). The pursuit of a single goal and short-term benefits of the industry, backward technology and equipment, and extensive management have led to great damage to the ecological environment, and African countries must pay a certain price for the ecological environment. It can be said that the regional economic development model, which is over-dependent on natural resources, is an unsustainable model that needs to pay high environmental and ecological costs (Satterthwaite, 2003).

## Poor Infrastructure

Infrastructure investment in sub-Saharan Africa has grown slowly and has almost stagnated in the past 40 years, accounting for about 20% of GDP. As a reference, with the rapid urbanization in East Asia, infrastructure investment even reached about 40% of GDP at one time (Lall et al., 2017). The infrastructure gap in Africa is huge, with an infrastructure gap of about \$1.7 trillion by 2040. According to the G20 Global Infrastructure Outlook (2021), the infrastructure with the largest gap is road transport, followed by communications engineering, water supply and drainage, energy, and finally airports, ports, and railways. In terms of road facilities, there is a lack of public transport within the city and between cities, traffic congestion is serious, and traffic accessibility is worrying. The density of the road network on the periphery of cities in sub-Saharan Africa is so low that there are few road links. These factors lead to the geographical separation between labor force and jobs. The high dispersion of urban groups and long-time commuting make it difficult for factories and enterprises to find sufficient employees (Freire et al., 2014).

The COVID-19 epidemic has highlighted the problem of inadequate infrastructure in Africa. The first one, transport infrastructure services are blocked. Transportation network can enhance market liquidity and enhance business efficiency. For example, the majority of the population in sub-Saharan Africa lives in rural areas, and agriculture is an important economic activity in Africa. Improved roads facilitate farmers to

transport agricultural products to the market and then return inputs needed for agriculture from the market, increasing income-generating opportunities and increasing productivity in the agricultural sector. The interruption of transport and logistics services caused by the epidemic has not only seriously affected trade activities, but also greatly delayed the entry time of goods at the port, seriously affecting the quality of goods (especially perishable products) and increasing transport costs. It has also exacerbated the shortage of inputs to key agricultural production factors, seriously affecting the timely distribution and input of seeds, fertilizers, and agrochemicals. Next one, the power supply is becoming more and more insufficient. In developing countries, 41% of residents have access to electricity, compared with 16% in Africa. The per capita electricity consumption of African residents is 10% of that of other developing countries (Jaglin, 2019). The epidemic has made the already inadequate power supply tighter and more unstable, seriously affecting production and life in sub-Saharan Africa. Besides, the storage infrastructure of storage products is insufficient and inappropriate. Under the epidemic, this problem is even more prominent, and the products that need to be temporarily stored, especially fresh products, have suffered huge losses (Jacquemot, 2021). Lastly, the deficiency of information and communication technology infrastructure is highlighted. Internet penetration in sub-Saharan Africa is low, with an average of less than 20% of the population having access to the Internet. This is compared with 90% in developed countries and 60% in other developing countries. There are also significant differences in Internet use among African countries: Gabon (62%), South Africa (56%), and Mauritius (55%) have the highest proportion of Internet users, with more than 50%. As the countries with the lowest proportion of Internet users, the Central African Republic and Guinea-Bissau have only about 4% of Internet users. Low Internet penetration, coupled with huge differences in network infrastructure between regions, have made it difficult to implement forms of telecommuting and learning in sub-Saharan Africa during the epidemic. Infrastructure investment in sub-Saharan Africa will also be severely affected by the epidemic. Challenges in project preparation and implementation, as well as reduced investment, may delay the delivery of infrastructure projects such as energy projects, roads, airports, and ports.

### **Urbanization and Industrialization Restrict Each Other**

The process of urbanization in sub-Saharan Africa is slow (Saghir & Santoro, 2018), with less than 50% of the urban population in the whole of Africa, and there is a wide gap between countries (Donnelly et al., 2005). In 2000, the urban population ratio in Burundi was only 8.3%, while that in Gabon was fully 80.1%. Seventeen years later, the urban population ratio in Burundi has increased by only 4 to 12.7%, which is still a far cry from Gabon's urban population ratio of 87.6% in 2017. The driving force of urbanization generally comes from the industrial structure from the agricultural sector to the industrial and service sectors, which leads to the migration of labor from rural areas to urban areas (Gollin et al., 2016).

However, the vast majority of sub-Saharan African countries have not yet experienced industrialization, and the small volume and low productivity of producer

services, coupled with the lack of a modern industrial system, make urbanization in sub-Saharan Africa lack the impetus for sustainable growth. Urbanization shows a trend of low efficiency and low quality (Zhou & Jing, 2018). The fragmented and sprawling urban pattern and backward infrastructure not only affect the quality of life of urban residents, but also lead to a series of follow-up problems, such as poor labor mobility, high cost of living, high wage level, high operating cost of enterprises, and difficulty in giving full play to scale effect and spillover effect brought by urban agglomeration, which directly affect the investment expectation of enterprises, weaken the competitiveness of industry, and hinder the process of industrialization (Zhou & Jing, 2018). The deficiency of industry in turn restricts the benign development of urbanization. Urbanization and industrialization have inevitably entered a vicious circle, showing mutual constraints in cities in sub-Saharan Africa (Gungor & Simon, 2017). Under the epidemic, the demand and prices of raw materials are impacted by external international markets, which further hinders the process of urbanization and industrialization in Africa.

### **The Characterization of the Impact of COVID-19 Epidemic on the Economic Development of Africa**

The World Bank had predicted that GDP growth in sub-Saharan Africa would rise to 2.9% in 2020, 3.1% in 2021, and 3.3% in 2022. But the sudden COVID-19 epidemic has changed all economic expectations, leading to the first recession in sub-Saharan Africa in 25 years, according to the World Bank (2020a). GDP growth will shrink from 2.4% in 2019 to -2.8% in 2020, with per capita income falling 5.3% (World Bank, 2020b). The International Monetary Fund (2020) forecasts that GDP in sub-Saharan Africa will fall by 3% in 2020. The five largest economies in the region, Nigeria, South Africa, Angola, Kenya, and Ethiopia, have all experienced sharp declines in economic growth. South Africa's economy will even suffer a major decline of -7.1% (UNECA, 2020).

In the first place, the COVID-19 epidemic has led to disruptions in trade and the value chain. The market diversification pattern in sub-Saharan Africa has been changing over the past two decades, with South-South trade opportunities, especially with China and other Asian countries, expanding rapidly in the wake of the global financial crisis of 2008–2009. In 1998, the five largest exporters in sub-Saharan Africa were the USA, the UK, France, Germany, and Belgium, with a total export value of US \$26 billion. In 2013, trade between emerging and developing Asian economies and sub-Saharan Africa (by value) exceeded trade with the European Union for the first time. By 2017, China, India, the USA, South Africa, and Switzerland had become the top five exporters in sub-Saharan Africa, with total exports rising to US \$126 billion. With the outbreak and spread of the COVID-19 epidemic, many countries have closed their borders, and suspended flights and services (Ozili, 2020). Strict border controls and production delays have interrupted the free flow of people and goods (Rogerson & Rogerson, 2020). The disruption of the global value chain has pushed up the prices of important raw materials and

industrial intermediates related to the epidemic (Teachout & Zipfel, 2020). Poor global manufacturing supply chains and channels have had a significant impact on Ethiopia and Kenya (agribusiness and clothing), Tanzania (manufacturing), South Africa (automotive industry), the Democratic Republic of the Congo and Zambia (mineral exporters in the electronic value chain), and other African countries that are already involved in the global value chain. A slowdown in major economies, including the USA, the European Union, China, and India, will undoubtedly create “supply chain contagion” throughout sub-Saharan Africa, reducing not only the demand for exports (goods and services) from sub-Saharan Africa, but also significantly lower the international prices of the region’s exports, particularly oil, minerals, and metals (Baldwin & Tomiura, 2020). Compared with northern economies, southern economies tend to be less buffered against outbreaks. As a result, changes in the export market pattern of sub-Saharan African economies will have a more serious impact on them than on other countries.

In another, the COVID-19 epidemic has led to a sharp decline in foreign capital flows to sub-Saharan African countries. In 2019, before the outbreak of COVID-19, foreign direct investment (FDI) in Côte d’Ivoire grew 71% to \$1 billion, accompanied by a degree of diversification of the oil industry and sustained economic growth. The FDI inflowing to Nigeria jumped 81% to \$3.3 billion. The epidemic has impacted the psychological expectations of investors. What’s more, the collapse in the prices of crude oil, metals, and minerals; the slowdown in economic activity in sub-Saharan Africa; and macroeconomic imbalances will all make investors more cautious (Huang & Qiu, 2020). At the same time, bilateral and multilateral investment treaty investors need to first use their money for other global needs, such as health care in their own countries, which tighten investment in the overall market. The FDI absorbed by Africa is expected to fall by 25–40% in 2020 (UNCTAD, 2020). The decline in FDI inflows will affect not only extractive industries but also other sectors including manufacturing and/or infrastructure investment. In addition, remittance income has been an important source of foreign funding for sub-Saharan African countries such as Nigeria and Senegal. Remittances from Nigeria to their home countries account for about 5.7% of GDP, with most of the remittances coming from the USA, Europe, Cameroon, the United Arab Emirates, and China. Under the impact of the epidemic, the level of economic activity in source countries has declined, and a large number of migrant workers from Africa have been laid off, resulting in a sharp drop in remittance income. According to UNECA (2020), remittance income in sub-Saharan Africa is expected to decline by 23.1% in 2020, which will deal a severe blow to African countries with a large proportion of GDP.

What’s more, the COVID-19 epidemic has caused heavy losses of employment and income in sub-Saharan Africa. The epidemic has led to widespread wage cuts, vacations, and layoffs, with services (hotels, tourism, and transport sectors) and the entertainment industry being hit hard. African countries implemented various blockades during the outbreak, including travel bans, restrictions on public gatherings, closure of workplaces, schools, and most places in the service and entertainment industries. These blockades disrupt the labor market, raise unemployment, cut off supply chains and food chains, shrink business and consumer demand, and threaten the livelihoods of many people. Take tourism as an example. According to UNECA

et al. (2019), in 2016–2018, tourism revenue in African countries accounted for 8.5% of GDP, and in Seychelles it even accounted for 38% of its GDP. However, the blockade, detention, and border restrictions caused by the COVID-19 epidemic have almost paralyzed the tourism industry and caused a sharp decline in tourism income in related countries, threatening the livelihoods of millions of people. Before the outbreak of the COVID-19 epidemic, South Africa was one of the most popular tourist destinations in the world. As an industry worth US \$8.5 billion, the tourism sector is South Africa's main source of trade. In 2020, the number of tourists in South Africa fell by 72.6%, and the total volume of entry and exit fell by 712% compared with the same period last year (Statistics South Africa, 2021). The epidemic has brought unprecedented challenges to South Africa's tourism and hotel enterprises, and its international and domestic tourism is regarded as an "unfortunate victim of the crisis" (Higgins-Desbiolles, 2020). Data show that 67% of South African enterprises failed to make ends meet during the epidemic, and the epidemic even made it difficult for South African Airlines, which has a history of 86 years, to survive as a symbol of the South African aviation industry. The huge job losses caused by the ensuing bankruptcies and layoffs are disproportionately concentrated on those who are already disadvantaged in the labor market, such as women, manual workers, and low-income families (Casale & Posel, 2020), and have led a negative impact on those who have been vulnerable in South Africa, such as women, Blacks, youth, and less educated groups (Köhler & Bhorat, 2020).

The impact of the epidemic on the economic and social development of sub-Saharan Africa is enormous. The COVID-19 epidemic has reduced agricultural productivity, weakened the supply chain, heightened trade tensions, limited employment prospects, and increased political and regulatory uncertainty (Calderon et al., 2020), resulting in estimated output losses in sub-Saharan Africa of between \$37 billion and \$79 billion in 2020. The epidemic has destroyed lives and economies, and has erased the economic progress of sub-Saharan Africa over the past decade. Of course, there are reasons for national and regional economic governance, but the main reason lies in the export-oriented economic structure of sub-Saharan African countries and their position in the global value chain (Huang & Qiu, 2020).

## **Reflections on the Sustainable Development of Sub-Saharan Africa in the Post-epidemic Era**

The accelerated spread of the COVID-19 epidemic in Africa has exposed the deep-seated structural problems of Africa's economic and social development model, prompting intellectuals in African countries to reflect on Africa's economic and social development model. On the one hand, African economies have long adopted a resource export-driven growth model, which is overly dependent on the outside world and difficult to resist external shocks. On the other hand, Africa's economies have "growth without development" or "growth with little development," and the uneven social distribution has led to the fragmentation of the middle and upper classes from the lower classes, which leads to social hazards (Yao & Xu, 2020). Although the epidemic has brought many challenges and pressures to Africa's

economic, political, and social development, these challenges and pressures will also be transformed into motivation for African leaders to deepen reforms. The epidemic is a good opportunity for African leaders to face the deep-seated structural problems, to fundamentally accumulate internal resources according to Africa's own characteristics, to adopt an inclusive governance framework and an endogenous development model, to create unique African values, to reduce systemic dependency, and to truly embark on the path of autonomous development and achieve "Africa's second independence" (Mail & Guardian, 2020). The AU report *Impact of the Coronavirus Covid-19 on the African Economy* also pointed out that the COVID-19 epidemic should be used as an opportunity to change Africa's development model, especially to transform the trade patterns with Europe, the USA, China, and other emerging countries, and to translate the policy recommendations on productive transformation put forward in *Africa's Development Dynamics 2019-Achieving Productive Transformation* into realistic actions in order to build economies that can withstand external shocks and achieve sustainable development (AU, 2020; OECD, 2019). Implemented at the concrete operational level, there are five main points as follows.

### **Prioritize the Development of Agriculture and Vigorously Develop the Manufacturing Industry**

Collier and Dercon (2014), an economist who has contributed to the promotion of structural adjustment policies, has pointed out that for Africa to achieve economic development in the next 50 years, agriculture must achieve tremendous growth. Collier and Dercon (2014) also stated that Africa's economic development cannot be achieved through agriculture alone, but also through industrialization and urbanization, which require a decline in the number of people employed in agriculture and a shift of agricultural labor to the non-agricultural sector. The development of the manufacturing sector has created space for the shift of labor factors from agriculture to non-agricultural industries, which in turn has generated a development mechanism linking agriculture to economic and social transformation (Li et al., 2020; Wiggins, 2000). While non-agricultural industries are important, the external drivers of non-agriculture can hardly work if agriculture fails to generate surplus. Therefore, sub-Saharan African countries in the post-epidemic era need to prioritize agriculture and see agriculture as a driver of economic and social transformation. The development of agricultural talent should be placed at the key of agricultural work, the issue of food security should be placed at the foundation of agricultural work, and the operation of new technologies (e.g., Internet+, big data, cloud computing) should be used as a new growth point for agriculture in order to improve autonomous food production capacity and agricultural technology.

At the same time, Latin America and Africa are the only two regions in the world where reverse element redistribution has taken place. In many African countries, labor factors have shifted to below average productivity, which means that their ongoing economic structural transformation is disadvantageous



(Gumata & Ndou, 2019). In order to carry out structural transformation, especially in the right way, jobs must be created in the “right” sector. Newly created jobs must absorb large amounts of (unskilled or semi-skilled) labor without affecting productivity levels. African countries need to create more jobs to create more added value in global value chains.

Labor-intensive manufacturing, especially light industry, is a good choice for job creation in sub-Saharan African countries. African countries need to identify one or more labor-intensive industries that have a global competitive advantage or can meet strong domestic demand (Fine et al., 2012; Ozawa & Bellak, 2010). In addition, light industry has the potential to act as a springboard because of its low capital demand, limited economies of scale, easy access to technology, and the possibility of sales in domestic and foreign markets. It is the best hope for expanding output, employment, productivity, and exports in sub-Saharan Africa (Dinh et al., 2012; Thwala, 2006). Although light industry has always been competitive, sub-Saharan Africa is potentially competitive in light manufacturing. Firstly, Sub-Saharan Africa has the advantage of labor costs. In Ethiopia, for example, the labor productivity of well-managed companies can be close to that of China and Vietnam. But wages in Ethiopia are only half that of Vietnam and 1/4 of those in China, so its overall labor costs are lower. Secondly, Sub-Saharan Africa is rich in natural resources that can provide raw materials such as leather in the footwear industry, soft and hard wood in the furniture industry, and land in integrated agricultural industries. Thirdly, according to the “African Growth and Opportunity Act” and the “Cotonou Agreement,” sub-Saharan Africa enjoys duty-free and quota-free access to the light industrial product market in the USA and the European Union. The disadvantage of sub-Saharan African countries relative to their main competitors lies in their lower labor productivity. However, most sub-Saharan African countries have sufficient natural resources and low-wage labor. The comparative advantages in these two aspects are sufficient to offset the negative effects of low productivity, allowing sub-Saharan African countries to have the privilege of exporting products to enter high-income markets.

In the post-epidemic era, Sub-Saharan African countries can intervene by adopting specific, feasible, focused, and low-cost corresponding policies to boost output and productivity, promote exports, open the door to import expansion, and realize potential comparative advantages in the light manufacturing sector. Possible policies include integrating SMEs and the informal sector into value chains, adopting, adapting, and disseminating technology at the firm level, and addressing education and training issues. The nature and extent of relevant public policies in areas such as institutional support, skills upgrading, and leading firm-to-firm coordination will need to vary from country to country. Resource-rich countries should first use natural resources to finance job creation by investing the proceeds from natural resources in renewable capital (e.g., machinery or factories) in order to keep per capita consumption constant between generations and thus achieve intergenerational equity.

## Strengthen Infrastructure Development and Improve Public Health Governance Capacity

In the post-epidemic era, sub-Saharan countries should firstly strengthen their sanitation infrastructure, gradually increase access to clean water and sanitation facilities, and improve the capacity of public health services to minimize the impact of epidemics on national economic development (Oleribe et al., 2019). Africa already faces the dilemma of a shortage of medical professionals, weak health infrastructure, inadequate laboratory capacity, and lack of modern medical equipment (Smit, 2018). The COVID-19 pandemic is further impacting Africa's fragile health systems, inducing the risk of system collapse. Driven by persistent infrastructure gaps and growing populations, governments in sub-Saharan Africa should strengthen public health governance capacity and infrastructure as the first line of defense against major public health events in the post-epidemic era, and improve health care and social protection systems. Long-term planning is needed to organize the establishment of national public health command centers led by scientists, strengthen health service platforms, train health care providers, and enhance coordination within government as well as between government and the private sector (Rispel et al., 2018). Secondly, the construction of transportation infrastructure should be focused on repairing the transportation and logistics services interrupted by the epidemic and optimizing the transportation network. In addition, efforts should be made to ensure a continuous and stable supply of electricity and to avoid the production and life in sub-Saharan Africa from being affected by the shortage of electricity supply. And lastly, storage infrastructure and information and communication technology infrastructure need to be strengthened.

## Improve Capacity Building and Develop New Economic Sectors

Capacity building is at the heart of Africa's economic transformation (Wang, 2019). Ben Slimane and M'Henni (2021) indicated that innovation and trade are the core drivers to address the poverty issue. Sub-Saharan Africa should increase human resource training, actively cultivate its own human and intellectual capital, encourage and support indigenous financing mobilization initiatives at all levels in Africa, and strengthen support for institutional capacity in African countries, sub-regional organizations, and the AU. Support for African youth and women's empowerment movements should also be increased at all levels, given that youth and women are the focus of African capacity development (Semete-Makokotlela, 2021).

What's more, the COVID-19 pandemic has highlighted the importance of developing digital economy. The digital economy in Africa was already taking shape before the outbreak of the epidemic (Friederici, 2018). And during the COVID-19 pandemic, the sudden increase in online healthcare, consumer, education, entertainment, and office demand due to the physical quarantine measures imposed by the need to contain the epidemic has contributed to the industrial opportunities and dividends of the African digital economy that are emerging (Amungo, 2022). The advancement and development of digital technology and technological innovation in Africa is particularly urgent in the current context (Abendin & Duan, 2021). The

response to the epidemic at the level of the AU, African sub-regional organizations, and African countries shows that the continent has entered the “fast track” of digitalization and digital industry development, accelerating market integration and regional cooperation, and providing important opportunities for the development of local manufacturing, the regularization of small and micro enterprises, and the upgrading of urban infrastructure. It has also planted the seeds of hope for reshaping the socioeconomic structure of Africa (McKinsey & Company, 2020; Yao & Xu, 2020). Trade allows for specialization in production, which on the one hand diversifies consumption, thus attaining higher welfare levels (Ben Slimane & M’henni, 2021; Ben Slimane & Ramadan, 2017). On the other hand, it generates innovation. Trade diffuses these innovations, and innovations stimulate further trade (Ben Slimane & M’henni, 2021; Ben Slimane & Ramadan, 2017). Hence, a virtuous cycle ensues. The new industries represented by the digital economy have shown greater resilience and development potential than the traditional economy under the pandemic, and the new opportunities brought by the COVID-19 pandemic have undoubtedly triggered a wave of digital economy development in Africa. Various digital cooperation platforms, online promotion meetings, and live-streaming with goods and other new industry cooperation have flourished, effectively driving the foreign exports of African specialty products (Zhao, 2021). Sub-Saharan African governments should take the opportunity to implement measures to advance the local digital economy in accordance with the development needs of the digital economy highlighted during the pandemic (ESSR Africa Research Unit, 2020). For example, the African region should establish faster, more extensive, and cheaper network connections; promote lower tariffs for operators; and make digital payments a more secure and convenient transaction option for businesses and residents to maintain normal work life under the pandemic, stimulate a thriving digital economy, and lay the foundation for future economic recovery and development in the region (Ejemeyovwi et al., 2021; Ma et al., 2020).

### **Promote the Development of the AfCFTA and Advance Regional Value Chains**

African countries in the post-epidemic era can promote regional value chains and supply chains within the continent by accelerating economic integration arrangements in Africa at a time when global value chains are being reshaped to enhance autonomous development capacity. Ebrahim Patel, South Africa’s Minister of Trade and Industry, has stated at the 10th BRICS Trade Ministers’ Meeting that Africa must build resilient and diversified supply chains, in which increased domestic manufacturing capacity should be part of a new, inclusive supply chain in which countries diversify their manufacturing capacity (Patel, 2020). Opportunities to expand existing product lines and develop new products exist throughout sub-Saharan Africa, but African countries at the lower end of the global value chain are unlikely to establish independent industrial chains and industrial systems in the short term, plagued by a single economic structure, debt, frequent wars and regional conflicts, lack of development funds, science and technology, etc. (Yao & Xu, 2020). This not only means that the inward development of

Africa's industrial chain will be a gradual and long process, but also means that this development process cannot be achieved without the support and cooperation of international development partners. Therefore, African countries in the post-epidemic era need to pay more attention to improving endogenous development and intra-regional circulation construction, while continuing to seek to establish a positive interaction with extra-regional countries in the external circulation development pattern. Only by strengthening international cooperation, joining forces internally and externally, and forming synergies can Africa embark on a sustainable development path.

Among these, it is particularly important to advance the construction and development of the African Continental Free Trade Area (AfCFTA). The AfCFTA offers an opportunity to leverage trade for structural transformation, economic growth, and job creation in Africa. This is because through the AfCFTA, it can open up Africa's currently fragmented and compartmentalized markets, remove obstacles to intra-regional trade liberalization and lower trade costs in sub-Saharan Africa, expand common markets and intra-regional trade volumes, improve the trade environment and business environment, and attract more foreign direct investment, thereby promoting manufacturing development and employment, accelerating the transformation and upgrading of member economies, and ultimately achieving economic diversification, industrialization, and social development (AfCFTA, 2019; Zhang, 2020). In advancing the construction of the AfCFTA, Africa should first develop a national AfCFTA strategy to identify and take full advantage of the opportunities of the agreement and complete a roadmap for AfCFTA implementation, including a timetable for the preparation of goods and services commitments. The roadmap should also be completed through the implementation of AfCFTA's "sister policy," the Boosting Intra-African Trade Action Plan, in particular by enhancing productive capacity, and improving regional infrastructure and payment system policies. Furthermore, public support for this agreement should be achieved as soon as possible so that AfCFTA and the liberalization commitments made can be understood by the African population, passing the AfCFTA from the halls of high-level meetings to the people of all countries. Second, investment in the construction of logistics and transportation corridors such as railways, highways, airports, and ports should be strengthened, because the lagging development of infrastructure in Africa is a physical obstacle to cross-border trade among member countries. Lastly, the AfCFTA policies should be formulated and implemented with the help of international organizations, and appropriate domestic institutional arrangements should be made to integrate domestic development policies with AfCFTA legal provisions and work plans. A more flexible and dynamic management approach should be adopted to make the AfCFTA construction an effective long-term mechanism for promoting economic development throughout sub-Saharan Africa. In particular, it is important to ensure sufficient relevant accompanying measures and flexibility to enable Member States to redistribute benefits and share costs equitably. Otherwise, the uneven distribution of benefits and costs among Member States may lead to disputes and conflicts, which will affect the implementation of the agreement and the construction of the AfCFTA (Wang, 2019; World Bank, 2020c; Zhang, 2020).

## Strengthen Economic Ties with China and Other Emerging Economies

For a long time, due to historical colonial affiliations, African economies have been very closely tied to the European and American markets. Any movement in the European and American economies can have a significant impact on the African economy. Although Africa's economy suffered a severe setback in 2009 due to the financial crisis, with growth rates falling below 2%, it quickly bottomed out in 2010 thanks to strong growth in emerging economies such as China. The sustainable growth of African economies and the economic development of China and other emerging economies are increasingly showing a mutually beneficial symbiotic win-win situation (Bräutigam, 2010, 2011; Zhu & Chikwa, 2021). Looking into the future, with the epidemic hitting the global economy, the US economy recovering more slowly, and Europe in deep debt crisis, if Africa wants to maintain its economic momentum in the post-epidemic era and achieve the leapfrog development from a pre-industrialized society to a fully industrialized one, it is necessary to further strengthen the economic ties with China and other emerging economies, so as to add new momentum to the sustainable development of African economies (He, 2018; Li, 2020; Moyo, 2010). Especially when it comes to development aid, with reference to Western development aid to Africa, from the "modernization" theory to the "Berg Report," Western countries and international financial institutions have formulated various development plans for Africa under the framework of the "Washington consensus," and forced African countries to accept the rules of the game set by Western countries through the means of overlapping aid (Easterly, 2006). And when the West provides aid to Africa, it often comes with unfair conditions that are detrimental to others and even forces a country to carry out political and economic reforms (Moyo, 2010). Western aid to Africa is not based on humanitarian concerns, but on self-interest (Moyo, 2009; Riddell, 2008).

The West hopes to earn high profits of its export products through aid means and protects the investment interests of its own enterprises in Africa, so as to realize its global strategic intentions (Li, 2020). The fundamental purpose of the trade policy formulated in a series of meetings since the Lomé Conference is to ensure that Africa, as a source of raw materials, exports a large number of primary products to the West. Therefore, the West focuses its development aid on education, health care, and other social sectors; lacks enthusiasm for "hardware" aid such as infrastructure construction in Africa; and also lacks interest in helping Africa achieve industrialization (Zhou, 2018). From the perspective of sustainable development, if we want to build a harmonious society, the future of Africa must achieve sustainable and inclusive development. Then for Africa, from relying on aid to getting rid of aid is the only way (Glennie, 2009), and aid cannot become a platform for long-term sustainable development (Moyo, 2009). African countries must establish the principle of autonomy. First of all, when receiving aid, we would rather give up the loan than the sovereignty. Secondly, Africa should have a certain degree of autonomy in the choice of donor countries. Finally, the goal of self-reliance should be gradually achieved by receiving aid.

Take China as an example. China's development aid to Africa always adheres to the concept of truth, friendship, and sincerity; adheres to the correct concept of justice and interests; and is dominated by the development agenda of African countries without any political conditions. As a result, the relationship between sub-Saharan Africa and China has become closer and closer in recent years. China's participation has been left behind by the Mombasa–Nairobi Standard Gauge Railway (SGR) in Kenya, the deep-water port of Criby in Cameroon, and the China-Africa Saisai Agricultural Cooperation Project in Mozambique.

China is one promising partner (Moyo, 2010). China's development aid to Africa is oriented by the needs of recipient countries. On the basis of non-interference in the internal affairs of recipient countries, China supports the infrastructure construction and digital construction of sub-Saharan Africa and countries in various ways such as aid, trade, and investment, and promotes the high-quality co-construction of the Belt and Road Initiative (BRI) by strengthening the sustainable development capacity of the recipient countries (Bräutigam, 2010, 2011; Ubi, 2014). Although China's technical aid programs to Africa also include policy and technical advice, they do not impose China's own development experience on Africa, but implements different policies for different countries, discusses and builds together, and pays attention to practical results (Tan-Mullins et al., 2010; Wang, 2019). The *Foreign Aid Management Measures* promulgated by China in 2021 also clearly stipulates that other countries, international organizations, and non-governmental organizations can cooperate with China to implement foreign aid projects. Different from the previous aid projects, which are generally carried out by donor countries, China's foreign aid attaches importance to multi-party participation with the goal of building a community with a shared future for mankind, which is essentially different from that of the West in terms of the purpose of development aid (Li, 2020). Development cooperation between similar countries such as China and sub-Saharan Africa can provide Africa with an alternative to traditional Western aid. The BRI proposed by China in recent years is the most powerful engine for Africa's development (He, 2018; Wang, 2019). Through close development cooperation with China, especially by promoting the BRI construction between China and Africa, sub-Saharan Africa is expected to receive more support and aid in development governance, break the theoretical paradigm, promote the transformation of development governance, achieve inclusive growth and sustainable development, and thus truly embark on the path of autonomous development.

In general, sub-Saharan Africa in the post-epidemic era should explore an autonomous development path that focuses on a more sustainable economic recovery; enhance the endogenous drivers of economic growth through economic structural transformation; achieve diversification drive through measures such as developing agriculture and food production, autonomous manufacturing, digital economy, and AfCFTA construction; meet the minimum needs for health and survival of the underclass through enhanced implementation of health and social protection systems in African countries; promote trade and innovation through well-designed economic policy measures that actively cultivate the country's human, public, and intellectual capital; enhance the competitiveness of enterprises; increase the sophistication of export products; and actively integrate into regional value chains in order to gradually move away from dependence on natural resources and achieve sustainable economic development.

## Conclusion

Since the independence of the African continent, the endogenous development momentum of sub-Saharan African countries has been increasing day by day. However, the current liberal world economic and political system is still the fundamental factor restricting the development of Africa. Objectively speaking, the development aid led by Europe and the USA has not found a localized development path for Africa. The reason is that the rights and status of the Western aid countries and the sub-Saharan aid countries are not equal. With the increasing voices of African people questioning Western “democracy” (Wike et al., 2016, 2019), the forces that dominate the development of sub-Saharan Africa are also quietly changing. The new cooperative relationship between emerging economies, such as China and Africa, provides another experience and choice for the development of sub-Saharan Africa.

The Ethiopian scholar Oqubay (2015) also pointed out that the development experience and lessons of East Asia may be more meaningful for Africa, although the new cooperative relationship between China and other emerging countries and Africa has broken the West’s control over Africa; has improved the infrastructure, employment, and people’s livelihood in sub-Saharan Africa to a certain extent; and has promoted Africa’s peripheral status as a source of raw materials and resources for Western countries in the past. However, from a global perspective, the globalization dominated by American neo-liberalism makes the cooperation between emerging countries and Africa still within the framework of the current liberal world order, which does not fundamentally change Africa’s marginal role and status in the world order and global system, but makes the whole African continent more vulnerable in the global economic system (Colclough & Manor, 1991; Eyoh & Sandbrook, 2003; Mudge, 2008).

Currently, economic globalization is under double impact. First, some countries, represented by the USA, are promoting unilateralism and trade protectionism, which have far-reaching impact on the globalization process. Second, the COVID-19 pandemic has caused serious impact on the global industrial chain and supply chain. While the pandemic poses risks, it also brings opportunities. On the one hand, the devastating impact of the pandemic on international trade will be long-lasting. On the other hand, the pandemic has also reinforced the geopolitical and geo-economic forces at play. African countries that are standing at the crossroads of economic structural transformation should seize the opportunity to actively promote trade and innovation and accelerate structural transformation and upgrading of their economies, by taking strong measures to improve infrastructure, increase productivity, and create jobs to move away from dependence on commodity production and exports. Diversification is driven by measures to develop agriculture and food production, manufacturing, digital economy, and the AfCFTA construction to explore the path of autonomous development and promote the economy to the next stage of development.

The development of the world shows that successful developing countries and regions have a remarkable characteristic; that is, they adhere to the autonomy of

formulating policies to the outside world, with the aim of serving national interests (Woo-Cumings, 1999). The experience of African countries following and imitating the development path of other countries after independence has not been successful. The epidemic will not reverse globalization, but it will reshape it. In the post-epidemic era, if Africa wants to compete for its place in the jungle of the world surrounded by wolves, it must embark on an autonomous path of sustainable development, gradually create a political and economic system suited to their own history and reality, enhance the ability to independently decide their own affairs, formulate and implement their own development plans, and independently solve their own political crises, so as to truly grasp the autonomy of development.

Compared with similar previous studies on this topic, this paper uses the systematic literature review methodology to explore the existing literature that focuses mainly on African development, thus summarizing main development characteristics of sub-Saharan Africa. It presents a holistic theoretical framework summarizing the important elements that have to be considered in order to facilitate the sustainable development of sub-Saharan Africa in the post-epidemic era. However, there are some shortcomings in this study that should be considered. According to the space limitations, this paper only focuses on the qualitative analysis. The quantitative analysis and evaluation of the literature are not presented. In future work with SLR as research method, we will add an exact description of the findings such as trend of publication in time, publication outlets, prolific authors, and their affiliated institutions and countries in the paper.

**Data Availability** All data generated or analysed during this study are included in this published article.

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