



Ilan Bijaoui, Ph.D

# Reverse Reliance and Inclusive Development in South Saharan Africa (SSA)

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**Reverse reliance and inclusive development in**

**South Saharan Africa (SSA)**

**Ilan Bijaoui, Ph.D**

**Bar Ilan University**

**International Business and Innovation Institute**

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## Abbreviations

AADL	Anergi Africa Developments Ltd
ACALAN	African Academy of Languages
ACC	Atlantic Cocoa Corporation
ACPL	Afrotropic Cocoa Processing Limited
ADEF	Development of Education and Training in Africa
ADLAS	Association pour le développement de la langue SAAFI
AfCFTA	African Continental Free Trade Area Agreement
AFP	Analytical Finger Printing
AFREXIM	African Export-Import Bank
ALC	African Languages and the Cyberspace
AMGC	African Minerals and Geoscience Centre
AMIL	Anti-Money Laundering
APOI	African Palm Oil Initiative
ARECOMS Stratégiques	Autorité de Régulation et de Contrôle des Marchés des Substances Minérales
AREP	Africa Rainbow Energy & Power
AU	African Union
AUCPCC AU	Convention on Preventing and Combating Corruption
AVIGREF	Associations Villageoises de Gestion des Réserves de Faune
BBBEE	Broad-based Black Economic Empowerment
BCEAO	Central Bank of West African States
BEAC	Bank of Central African States
BLC	Bunge Loders Croklaan
BPR	Banque Populaire du Rwanda
BQA	Botswana Qualifications Authority
BRAC	Bangladesh Rehabilitation Assistance Committee
BRI	Belt and Road Initiative
CAEMU	Central African Economic and Monetary Union
CAPP	Central Africa Power Pool
CATTU	Anglophone-founded Cameroon Teachers Exchange Union

CBE	Cocoa Butter Equivalent
CBI	Cocoa Butter Improver
CBLD	Community-based literature development
CBWAS	Central Bank of the West African States
CCECC	China Civil Engineering Construction Corporation
CEEF	Consumer Energy Education Foundation
CEMAC	Central African Economic and Monetary Community
CERFITEX	Research and Training Center for the Textile Industry
CET	Central Electrica de Teterane SA
CGGC	China's Gezhouba Group
CITIC	China International Trust and Investment Corporation
CMDT	Compagnie Malienne pour le Développement du Textile
COMESA	Common Market for Eastern and Southern Africa
CPC	Cocoa Processing Company
CPI	Corruption Perceptions Index
CREC	China Railway Engineering Corporation
CREEC	China Railway Eryuan Engineering Group
CSR	Corporate and social responsibility
DDIP	Dire Dawa Industrial Park
DMRE	Department of Minerals, Resources and Energy
DOJ	Department of Justice
DPLN	The Promotion of National Languages
DRC	Democratic Republic of Congo
DSSI	Debt Service Suspension Initiative
DTCB	Diamond Trading Company Botswana
DTCI	Diamond Trading Company International
DTP	Diamond Technology Park
EAC	East African Community
EAIF	Emerging Africa Infrastructure Fund
EAIF	Emerging Africa Infrastructure Fund
ECBs	Écoles Communautaires de Base
ECE	Ethiopian Commodity Exchange

ECGA	Eastern Cotton Growing Area
ECOWAS	Economic Community of West African States
EDM	Electricidade de Moçambique
EPAs	Economic Partnership Agreements
ERGA	Eurasian Resources Group Africa
ERNWACA	Educational Research Network for West and Central Africa
ESR	Education for self-reliance
FCFA	Franc Colonies Francaises d'Afrique
FCPA	Foreign Corrupt Practices Act
FDI	Foreign Direct Investment
FENABE	Fédération Nationale des Producteurs de l'Agriculture Biologique et
Equitable	
FILSAH	La Filature du Sahel
FMOH	Federal Ministry of Health
FMOP	Free Movement of Persons, Right of Residence and Right of Establishment
FOCAC	Forum on China–Africa Cooperation
FRELIMO	Frente de Libertação de Moçambique
FRES	Foundation of Rural Services
FTF	Feed the Future
GDP	Gross Domestic Production
GIA	Gemological Institute of America
GNP	Gross national Production
GSA	Global Shea Alliance
HMCI	Healthymagination Mother & Child Initiative
ICBT	Informal cross-border trade
ICIJ	International Consortium of Investigative Journalists
ICO	International Coffee Organization
IER	Institut d'Economie Rurale
IFC	International Finance Corporation
IMF	International Monetary Fund
IPAR	Institut de Pédagogie Appliquée à vocation Rurale
KADU	Kenya African Democratic Union
KANU	Kenya African National Union
KAPU	Kenya Peoples Union
KICD	Kenya Institute of Curriculum Development
LAA	Linguistic Atlas for Africa
LAC	Liberia Agricultural Company

LIBCO	Liberia Company
LNG	Liquefied natural gas
LOITASA	Dialects of Education in Tanzania and South Africa
MFI	Micro Finance Institutions
NCE	National Commission on Education (NCE)
NBR	National Bank of Rwanda
NCOs	Non-Commissioned Officers
NGARA	Network for Natural Gums and Resins in Africa
NGOs	Non Governmental Organisations
NHPC	Nachtigal Hydro Power Company
NICU	Neonatal Intensive Care Units
NSGF	Northern States Governors Forum
PANMAPAL	Pan-African Master's and Ph.D Programme in African Languages and Applied Linguistics
PAPSS	Pan-African Payments and Settlement System
PASTI	Pan-African School for Translation and Interpretation
PET-CT	Positron Emission Tomography–Computed Tomography
PIDG	Private Infrastructure Development Group
PPP	Public–Private Partnership
RBM	Richards Bay Minerals
RFCC	Rwanda Farmers Coffee Company Ltd
RSPO	Roundtable for Sustainable Palm Oil
RTR	Roan Tailings Reclamation
SAA	Stories Across Africa
SAFDICO	South African Diamond Corporation
SADC	Southern African Development Community
SACO	Société Africaine de Cacao
SACU	Southern African Customs Union
SaLTS	Saving Lives Through Surgery
SAPH	Société Africaine de Plantations d'Hévéas
SAPP	Southern Africa Power Pool
SCAA	Specialty Coffee Association of America
SECOBIO	Société d'égrenage du coton biologique

SEZs	Special economic zones
SGR	Standard Gauge Railway
SIFCA	Société Immobilière et Financière de la Côte Africaine
SIPH	Société Internationale de Plantations d'Hévéas
SMEs	Small and Medium Enterprises
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SOCFIN	Société Financière des Caoutchoucs
SOCOMA	Société Cotonnière du Gourma
SOEs	State Owned Enterprises
SOFITEX	Société Burkinabe des Fibres Textiles
STEPIN	Strengthening Teachers' English Proficiency in Northern Nigeria
SRC	Sinoe Rubber Corporation
SWAPO	South West Africa People's Organization
TLP	Terminology and Lexicography
TOMOCA	Torrefazione Moderna café
UAI	The International Union of Academies
UN	United Nations
UNECA	United Nations Economic Commission for Africa.
UNIDO	United Nations Industrial Development Organization
UNISA	University of South Africa
WACB	West African Currency Board
WAMU	West African Monetary Union
WAPP	West African Power Pool
WCGA	Western Cotton Growing Area
WOCAL	World Congress of African Linguistics
WRM	World Rainforest Movement
WTO	World Trade Organization
ZANU-PF	Zimbabwe African National Union – Patriotic Front

## **Abstract**

Economic reliance is more profound because numerous African nations have borrowed heavily to finance infrastructure. Chinese "Angola Model" by which exports of raw materials is compensated by loans financing investment in infrastructure, could be also worked on by transport, health, housing, and education services deserving the population. Growth due to exports of raw materials without investment on the economy illustrates the colonial and post-colonial period. More raw materials exported and more vehicles imported benefit to other nations and the economy turns out to be increasingly more reliance on foreign countries.

Partnerships between African countries producing similar or complementary raw materials or agricultural products could generate industrialization and reverse reliance.

African partnership could be a part of the leadership in the international processed coffee market with a wide range of original brands.

Cocoa and shea are produced in the same African countries. The production of chocolate depends on those two ingredients. Partnerships between those African countries could improve negotiations with chocolate leaders in order to have a better sharing of revenues along the value chain.

Shea butter produced exclusively in African countries is a valued ingredient of the cosmetic industry. Sesame oil is its long shelf life due to the antioxidant, sesamol. This quality makes it applicable where there is inadequate refrigeration. It is also an important ingredient in cosmetic industry.

Africa could, by adequate partnerships, attract investments of cosmetics companies in order to process locally shea butter and sesame as food and cosmetic ingredients.

African natural and highly valued palm oil produced locally could lead the palm oil specialties market, high value high price.

Acacia gum, mainly produced in Africa, is an important ingredient in the food, pharmaceutical and cosmetic industries. Joint initiatives of the relevant countries in Africa could convince some of the MNC's involved in those domains to transfer to Africa a part of the acacia gum value chain in Africa.



Demand for organic cotton is growing and Africa has the required environmental conditions to produce high quality organic cotton and attract investment for local transformation from spinning to textiles items.

Africa is the main world source of cobalt and coltan used in the production of magnets, capacitors and alloys used by the high tech industry, especially in the electronic and automotive markets. China which imports and processes those raw materials could share the processing with Africa in selected domains.

Copper plays a central role in the gas production and distribution, in the maritime transportation and in the construction markets. Processing in Africa of a part of the value chain could start a reverse reliance process.

Microfinance doesn't alleviate poverty but benefits mainly to the wealthier producers, traders and financial investors. Cellphone financial applications could improve the availability of micro credit to necessity farmers and small businesses.

International associations and MNCs do not uphold internal economic development however chiefly the interest of a minority political and business elite. Still, the economy depends on exports of raw materials and fundamental agricultural production. There is not any industrialization course.

Corridors could be an economic opportunity for the provinces. Governments could utilize those corridors to advance the economic condition of the populace by PPPs investing of the benefits in the economies around the corridors, in sectors such as agriculture, energy, communication, trade and transportation.

## **Introduction**

After the political independence, the African nations needed to figure out which will be their political, economic, educational and cultural relations with the former colonial nation? What to change or adjust? What to liberalize or control?

The boundaries planned by the Paris conference have divided ethnic groups among nations and united in one nation conflicting populations in view of various religions or cultures of economic or cultural conflict of interest (Lord, 2020).

Local area's partition is the outcome of the complex boundaries. Solution could be a multilateral global alliance and more proficient ICBTs.

Post-colonial frameworks showed extensive variety of schooling in the local or colonial languages. Beyond the grade schools, English, French, or Portuguese has comprised an obstruction to education for the larger part. A multi language system starting with the local language followed by one national and or one international language could be the best multilingual solution.

African governance has effectively deracialised and yet ethnicised the state as the political class keeps on preparing the populace around ethnic political and religious parties. Multi party coalition sharing power with an elected president for a limited period is the best way to limit corruption and inequality.

## **Methodology**

The first chapter, Community separations and wrong unifications, determines the frontier of contact between distinct cultural groups, the frontier of partition between communities because of a natural boundary and the problematic political partition and false unification resulting from the Paris agreement.

The second chapter, the Independence era, analyzes the African political leadership after the independence and their economic and economic impact on their country.

The third chapter, the Corruption heritage, uses the Fraud Triangle Model, in order to analyze the nature of corruption, its impact and the anti corruption course.

The fourth chapter, Africanization of education, raise the problem of low education and culture, due to the language bottleneck and poverty.

The fifth chapter, Monetary and financial issues, raise the dependency of SSA countries in this domain. Is the ECO, a single currency in 2027 the solution?

The sixth chapter, Economic reliance, analyzes the economic and social situation in the sectors of Mining, Coffee, Cocoa, Acacia gum, Shea, Cotton, Organic cotton, Palm oil, Sesame, Cobalt, Copper, Coltan, Rubber and Polishing and proposes improvements of the added value generated in SSA countries.

The seventh chapter, Industrialization based on local raw materials and beyond, proposes industrialization based on African coffee brands, Coffee processing, African chocolate brands, Cocoa processing, Shea processing, Cotton, Cobalt and Copper and Coltan processing.

The eight chapter, Free trade agreements, presents and analyze the impact of the different free trade agreements between SSA countries: COMESA, EAC, ECOWAS, SADC, CEMAC SACU and the future AfCFTA.

The ninth chapter, Impact of dominant MNCs, analyzes the activities of selected MNCs, Bolloré group China Molybdenum Co. (CMOC), CITIC construction group, SINOHYDRO Corporation Limited, China Gezhouba Group Corporation Ltd (CGGC), Globeleq, General Electric (GE) and proposes a more equal sharing of wealth.

The tenth chapter, Infrastructure and local needs, raise the problem of infrastructure not related to the local needs and proposes improvements in the Energy, Transport and Cross boarder corridors.

The eleventh chapter, Chinese engagement in Africa, presents the positive and problematic involvement of China in the SAA countries economies and proposes a better sharing of wealth.

The twelfth chapter, Strategy for development, proposes a more efficient policy in Community integration, Africanize educational system, State management, Investment in the local economy, Less economic reliance and Infrastructure deserving African economies

## **Local area Partitions and Wrong Unifications**

The frontier of contact existed in conditions where distinct cultural groups resided and operated one next to the other. The frontier of partition between communities was a natural boundary, a mountain, or a stream. Paris agreement added to the problematic political partition and false unification.

### **Pre-colonial period**

Africa before the coming of the European conquerors has been portrayed as a local area at the phase of chasing after living. The reality was different. For the overwhelmingly larger part millennia communities in Kenya adapted to their environmental niches (Sheriff, 1985). The Agikuyu and the Miji Kenda established agricultural economies (Ndege, 2009). Others, including the Maasai and the Samburu, rehearsed pastoralist structures of production. The Luo and the Abagusii adjusted to a combination of crop cultivation and livestock keeping. Other than there, the Ogiek thrived on hunting and assembling. Production was first for aggregate means as opposed to the people gathering.

The kinship framework was the premise of production factors ownership which included land, livestock, and Work. Work was generally helpful within the family and the bigger kinfolk group. It was likewise manual. Excess was quantitatively small and forced restrictions on exchange. Regional and significant distance trade included prestige goods and impacted society just insignificantly. The rewards of work were for the most part reallocated in kind and as per need. There existed little contrast in abundance ownership. Classes, if they existed, were generally incipient. Correspondence and the libertarian ideal guaranteed that people never slid into abject poverty.

Frequently, people will more often than not imagine that the pre-colonial African native education had no literature since the dialects utilized had no composed structures. Similarly, the idea goes on that assuming there were no books in these dialects, the clients of such "crude" dialects had no education to discuss them, particularly when proficiency is restricted to the significance of the capacity to peruse and write.

Roy-Campbell (2001), drawing on the works of Cheik Anta Diop (1974, 1991), who has composed widely on the African past, focuses on the accomplishments of Africans during the age of antiquity in arithmetic, architecture, chemistry, and medicine, all provinces which required technical vocabulary and calculated framework. Roy-Campbell (2000) as cited by Banda (2002), records the accounts of Cheik Anta Diop and Walter Rodney as a declaration of the capacity of African people acknowledged through native African schooling.

People of African descent come from old, rich, and elaborate societies that made a wealth of technologies in many areas (Blatch, 2013).

### *Mathematics*

Eight thousand years ago, people in the present-day Democratic Republic of Congo (DRC) fostered their numeration framework. Zaslavsky (1983) introduced a bone, dated somewhere in the range of 9000 and 6500 B.C., which was uncovered at Ishango (DRC). The bone has what appear to be tallying marks on it, notches cut in groups. Its discoverer, De Heinzelin (1962), deciphered the examples of notches as an arithmetical game of some sort, a number formulated by a group framework in view of 10 as well as knowledge on duplication and of indivisible numbers.

The Yoruba framework (Nigeria) depended on units of 20 (as opposed to 10) and expected a noteworthy measure of deduction to recognize various numbers (Zaslavsky, 1983).

A design known as the African Stonehenge (Kenya), developed around 300 B.C. was a precise calendar (Lynch and Robbins, 1978).

An entire series of exploration projects on spoken and composed numeration frameworks in Africa have been started. These include studies up for counting in conventional Ibibio and Efik cultural orders Eukoha (University of Calabar - Nigeria); numeration among the Fulbe (Fulani), Ale, Ahmadu (Bello University, Bauchi, Nigeria); mental arithmetic, algorithms, and counting as a part of the various ethnic groups of Nigeria (Ahmadu Bello University, Zaria); preforeign numeration frameworks in Burundi (J. Navez, University of Burundi, Bujumbara); strategies for learning counting in Côte d'Ivoire (Tro, 1980; Zepp, 1990).

## ***Astronautic***

The Dogon people of Mali realized Saturn's rings, Jupiter's moons, the spiral design of the Milky Way, and the orbit of the Sirius star framework (Adams, 1983). Hundreds of years ago, they plotted orbits in this framework precisely through the year.

They realized this framework contained a principal star and an optional star (presently called Sirius B) of huge density and not noticeable to the unaided eye.

The work of Griaule (1948, 1952) and his disciples in the Dogon nation has shown the intricacy of Dogon cosmic knowledge and its symbolism (Griaule and Dieterlen, 1965, 1976; Dieterlen, 1941; Heusch, 1985). Sagan (1983), a professor of astronomy at Cornell University, accepted the duty of actually looking at the legitimacy of Dogon cosmology (Mudimbe, 1988). The Dogon hold that the planets as well as the Earth rotate about their axes and spin about the Sun. The Dogon holds that Jupiter has four satellites and that Saturn is surrounded by a ring. Not at all like each cosmologist before Kepler, the Dogon said to portray that the planet is moving precisely in elliptical, not circular orbits.

## ***Metals***

Numerous advances in metallurgy and device making were made across the sum of antiquated Africa. These incorporate steam engines, metal chisels and saws, copper and iron tools and weapons, nails, glue, carbon steel and bronze weapons, and art (Van Sertima, 1983; Brooks, 1971).

Advances in Tanzania, Rwanda, and Uganda somewhere in the range of 1,500 and 2,000 years ago outperformed those of Europeans. Old Tanzanian furnaces could reach 1,800°C — 200 to 400°C warmer than those of the Romans (Shore, 1983).

## ***Construction***

Various past African societies established complex created sophisticated built environments. There are the engineering accomplishments of the Egyptians: the bafflingly raised pillars and in excess of 80 pyramids. The biggest of the pyramids covers 13 sections of land and is made of 2.25 million blocks of stone (Woods, 1988). Afterward, in the twelfth 100 years and a lot farther south, there were numerous extraordinary urban communities in Zimbabwe and Mozambique.

The massive ancient structure, second in size to the pyramids of Egypt is important for the once extraordinary Zimbabwe realm, presently known as the Great Zimbabwe Ruins.

Covering around 198 acres of land, the Great Zimbabwe Ruins can be tracked down a couple of miles South East of Masvingo.

The Great Zimbabwe Ruins are principal for what is alluded to as the Great Zimbabwe Empire dating support to a period from 1100 to 1500 (Asante et al, 1983). The importance of the word Zimbabwe is connected to the stone remains of the nation as the name in a real sense signifies "Stone Houses" in Shona. There, monstrous stone buildings were the centers of urban communities. One incorporated a 250-meter-long, 15,000-tons curved granite wall.

In the thirteenth hundred years, the domain of Mali flaunted great urban communities, including Timbuktu, with stupendous royal residences, mosques, and colleges (Van Sertima, 1983).

### ***Medicine***

In what is currently Egypt, Nigeria, and South Africa the populace utilizes plants with salicylic corrosive for torment (as in headache medicine), kaolin for loose bowels (as in Kaopectate), and concentrates that were affirmed in the twentieth 100 years to eliminate Gram-positive microscopic organisms (Van Sertima, 1983). Various plants utilized had anticancer properties, caused early termination, and treated intestinal sickness and these have been shown to be principally as viable as numerous current Western therapies.

Africans found ouabain, capsicum, Calabar bean (physostigmine), and reserpine and utilized operations.

### **Ouabain**

Ouabain is a noxious glycoside gotten from a few African shrubs or trees (genera *Strophanthus* and *Acokanthera*) of the dogbane family and utilized medically like digitalis (increase cardiovascular contractility) and in Africa as a bolt poison (Merriam-webster website).



Ouabain is included overall widely by researchers for in-vitro-studies to hinder the sodium siphon. In France and Germany, intravenous ouabain has a long history in the treatment of cardiovascular breakdown, and some keep on supporting its utilization by mouth in angina pectoris and myocardial localized necrosis

### Capsicum

Capsicum is otherwise called red pepper or bean stew pepper. The product of the capsicum plant contains a compound called capsaicin (webmd.com). Capsaicin appears to assist with decreasing agony and enlarging. A specific type of capsicum causes extreme eye torment and other terrible effects when it interacts with the face. This structure is utilized with good reason pepper showers.

Capsicum is additionally utilized for the overwhelmingly larger part for various purposes, including digestion problems, states of the heart and blood vessels.

### Calabar bean

Calabar bean (*Physostigma venenosum*) has been generally used to make medication, yet the seed is very noxious and can be lethal (webmd website). Calabar bean contains a compound that influences signals among muscles and nerves.

Calabar bean is utilized for constipation and epilepsy. Physostigmine is likewise utilized in the services and treatment of antimuscarinic toxicity and glaucoma.

### Reserpine

Reserpine, an alkaloid got from the plant *Rauwolfia* (Sarpagandha), is known for its purposes in neuropsychiatric consideration. It is utilized as a first-line specialist in lessening circulatory strain in principal hypertension (ncbi.nlm site).

### Surgery

Operations acted in antiquated Africa before they were acted in Europe incorporate immunization, post-mortem examination, appendage foothold, and broken bone setting, bullet evacuation, brain surgery, skin grafting, filling of dental cavities, setting up of dentures, what is currently known as cesarean section, sedation and tissue searing (Woods, 1988).

African societies performed surgeries under sterile conditions all around when this idea was just arising in Europe (Van Sertima, 1983).

### *Maritime travels*

The general acceptance by most people is that Europeans were the first to cruise boats to the Americas. In any case, a few lines of verifiable proof proposed that old Africans cruised to South America and Asia many years before Europeans.

As indicated by eminent American history specialist and etymologist Leo Weiner of Harvard University, perhaps the most grounded piece of proof to help the way that Black people cruised to America before Christopher Columbus was a diary passage from Columbus himself (Weiner, 1921). Weiner makes sense of what Columbus noted in his diary that the native Americans affirmed black-skinned people had come from the southeast in boats, exchanging gold-tipped lances.

It was found additionally that the proportion of properties of gold, copper, and silver amalgam was indistinguishable from the lances then being fashioned in African Guinea. Colossal Olmec head sculptures with African facial attributes found all through Central and South America support that Africans had gotten comfortable with America well before its obvious "disclosure."

A huge number of miles of streams across Africa where shipping lanes and numerous old cultural orders in Africa constructed an assortment of boats, including little reed-founded vessels, boats, and excellent designs with numerous lodges and cooking offices. The Malians and Songhai constructed boats 100 feet in length and 13 feet wide that could convey as much as 80 tons (Van Sertima, 1983).

It is likewise found that currents in the Atlantic Ocean flow from this part of West Africa to South America. Hereditary proof from plants has shown that descriptions and craftsmanship from cultural orders possessing South America at the time recommend small number of West. Around a similar time as they were cruising to South America in the thirteenth hundred years, these antiquated people groups additionally cruised to China and back, conveying elephants as freight.

## **Colonial period**

### ***Customary law***

At the point when European colonialists wandered into Africa, they experienced unwritten native regulations and overall sets of laws.

The conflict of colonizing societies brought about to some degree an unsurprising response - the composed formalization of native regulation by European hook, crook, or code (Bennett and Vermeulen, 1980; Shadle, 1999). Europeans had a generally established inclination towards composed overall sets of laws that followed back to Roman Civil Law and Justinian Code.

Indeed, even Great Britain with its common law tradition, viewed the law as something that ought to be memorialized and recorded as a hard copy by any semblance of Coke (1684), Blackstone (1765), and Halsbury (2022). In this manner carefully recording regulations comported with endeavors to "civilise" African grounds and people.

European powers oversaw and controlled standard overall sets of laws to their advantage (Glenn, 1997). By playing a functioning job in the formalizing of native regulations and general sets of laws, the European powers could practice power and command over their foreign spaces through a means that seemed to give deference and independence to native people.

Furthermore, every European power had its legitimate customs and unmistakable ways to deal with native commitment.

### ***Economic reliance***

During the colonial period, Africa was constrained to acknowledge the International division of work and assume the role of the production of agriculture and mining natural materials expected by the enterprises and customers in Europe. The goal was the political and economic mastery making conceivable the abuse of the colonized nation. This present condition required the control of the African economy so that the expected contributions to the European business could be established, moved, and appropriated.

In 1879, Portugal, Britain, and France had rather negligible to great extent waterfront settlements in Sub-Saharan Africa. Most settlements were connected to the principal control of parts to both help the progression of exchange to India and the Orient and the exchange of the African products. By 1891 Germany, Italy, and Belgium by implication controlled the Congo as an endeavor of King Leopold of Belgium and the extension of beachfront settlements into the internal frequently utilizing the conceding of regional freedoms to huge confidential syndication associations.

The significant change in 1914 was Germany's deficiency of its regions after World War I as a component of the Versailles settlement. Under the 6 League of Nations, Mandate Kamerun was division between Nigeria under British control (20%) and French Equatorial Africa. Togo was likewise separated along comparable lines with the British-ordered domain put under the organization of the Gold Coast and the French under French West African control. South-West Africa was ordered to the relatively new Union of South Africa and German East Africa was division between Belgium (Rwanda and Burundi) and British control (Tanganyika).

### ***Colonial administration***

France, Belgium, and Portugal stressed direct rule while Britain depended on circuitous rule frequently through local specialists.

The French colonial organization endeavored to administer as straightforwardly and consistently as could be expected (Crowder 1968; Crowder and Ikime 1970). The force of local pre-colonial elites was decreased, leading to extended resistance by the most centralized ethnic groups (Huillery 2010) and a definitive death of the lines of succession in 70% of pre-colonial states (Muller-Crepon, 2020). Nearby go-betweens were chosen on faithfulness and straightforwardly regulated by French authorities.

The British governed unexpectedly, though as opposed to against native infrastructures. Upon colonization, pre-colonial political designs and elites were incorporated into the colonial state yet held the larger part of their powers while being prompted as opposed to coordinated by local colonial officials (Crowder 1968; Hailey 1945; Lange 2009; Lugard 1965).

Bureaucracy was often expanding based on politics not professionalism (Stein, 2000). The state claimed or mostly possessed enterprises that depended on aid frequently tied to technology from developed countries with high import coefficients and little linkage to local capabilities. Little investment in infrastructure and minimal alteration in the pattern of colonial transportation inherited at independence.

Portugal's African realm was woven profoundly into the way of life, legislative issues, and economic matters of the metropole (MackQueen, 2016). Portugal, reality be told, was a pluricontinental element characterized by language, culture, and history. There was actively no empire, only one state, single and resolute abroad province.

To counter the convergence of settlers in urban communities, Portugal designated the nation region of its states for the populace with settlers from the metropole. State-supported rustic settlements were laid out in Angola (Cela and Cunene) and Mozambique (Limpopo).

These settlers, furthermore, were chiefly devastated laborers with few possibilities in the homeland. For their purposes, colonia settlement introduced an opportunity for economic development. From the mid-1960s until the last breakdown of the realm during the 1970s was set apart by guerrilla warfare.

### *Colonial education*

Rodney (1982) alluded to colonial education as the deskilling of talented African people. The presentation of frontier schooling made Africans leave their native expert abilities to help the colonial administration.

In British and Belgian settlements there was more dependence on schooling in nearby dialects while in French states the accentuation was on preparing in French. Education in Belgium Africa was more summed up with an accentuation on the humanities. The point of schooling in both British and French provinces was to prepare the local populace for authoritative or tertiary work as representatives, translators, medical attendants, or educators. In Portuguese provinces schooling for the local populace was extremely uncommon and lopsided.

The Belgians had consistently focused on the need for a wide premise of rudimentary guidance in the vernacular and by 1954, for instance, the level of the complete Congolese populace in schools was 9.4 percent as against 4.5 percent in British provinces and 2.7 percent in French provinces (Foster 1965).

The Portuguese colonial powers cared very little about teaching the native populace past their helpfulness to the requirements distinguished by the specialists. Therefore, little exertion was made to give significant education. In Mozambique there were an extremely set number of schools dissipated along the coast; participation was minimal.

### *Colonial monetary framework*

#### U.K.

The African economy was founded on barter or local coins. All British territories needed to cover local currency issues with 100% reserves in London. Thus the money supply was captured by the balance of payments whereby local currency boards could only expand and contract the money supply in line with surpluses or deficits on trading accounts.

#### France

France after World War II set up a new franc CFA (Colonies Francaises d'Afrique), which was freely exchangeable with other currencies. There were no comparable reserves in France although the central agency located in France had the governance to closely control economic allocation throughout the colonies. During independence, the former French colonies maintained the CFA framework whereas the former British colonies established their central banking institutions with the power to expand the money supply.

#### Belgium

Zaire (former DRC), after becoming an official Belgian colony in 1908, Belgium soon established a local government and opened the Bank of the Belgian Congo (pmgnotes site). The bank delivered its first notes in the 1910s and has portrayed a stunning Africa throughout its operation. The first issues were redeemable only at the branch of issue. These branches were Boma, Elisabethville, Kinshasa, Matadi, and Stanleyville (though Boma never delivered notes).

In 1927, the government made all currency redeemable at any branch, adding “Payables a vue” to their notes, which means payable on sight in French.

### Portugal

Portuguese colonial banking followed the continental model of government initiative and tight control, not the British model of private initiative without much government control; the development of Portuguese colonial banking was always chiefly a matter of profiting from the opportunities afforded by economic evolution as opposed a matter of autonomously fostering the economic development of the territories (Nune et al, 2010).

The infrastructure of the Banco Nacional Ultramarino (BNU) in 1864 was planned to advance the economic condition of Portugal’s overseas possessions, by providing a stable currency and granting credit to business enterprises. It was a joint initiative of the Portuguese government and the entrepreneur Francisco Chamiço, who was linked to a Lisbon banking house led by his brother Fortunato Chamiço. Portugal had a single colonial bank for the entire colonial empire. The Portuguese colonial bank had its headquarters in Lisbon, not in the colonies themselves and the Portuguese colonial bank was not a freestanding bank, as it was authorized to undertake operations as a commercial bank in the home nation.

### ***Slavery and local conflicts***

While both slavery and the slave trade existed in Africa before the onset of European trade in the 16th century, the European shock to the demand for slaves faced by African societies drastically increased the number of slave exports. This European demand shock and rise in slave exports increased the number of inter-African conflicts near the coast. Provinces with higher levels of participation in the slave exchange exhibit higher levels of conflict.

Akan (Ghana), Kongo (Northern Angola, the western portion of the Democratic Republic of the Congo), and Makua people (Mozambique) were major participants in the slave exchange (Levi et al, 2019). The Akan were located in West Africa, the Kongo in Central Africa, and the Makua in East Africa.

## Akan

The presence of slavery and conflict was a part of Akan history before, during, and after the trans-Atlantic slave exchange and Europeans exacerbated the level of conflict (Mudimbe, 1988). The Ashanti empire is a consolidated empire of the Akan people that lasted from the 1670s to 1957 in what is today Ghana.

One of the key characteristics of the Ashanti Empire was its militaristic nature and desire to wage war for regional expansion. Capturing slaves was a military tactic that served the main goal of regional expansion in two ways. Depleting conquered lands of people decreased the area's ability to resist and revolt against the Ashanti rule (Thornton, 1999). Slaves were sold to Europeans in exchange for weapons. Guns established a power disparity between the Ashanti Empire, with its access to the coast, and its neighbors in central Africa who did not have good access to exchange with Europeans. The vast larger part of slaves sold by the Ashanti Empire to Europeans was thought by contemporaries to have originated from deep within central Africa as prisoners of war (Sparks, 2014).

## Kongo

By the early 1500s, the Portuguese would only accept slaves for exchange. To secure Portuguese goods, the Kongo traders began to sell off their existing stock of slaves, fanning out to central markets to procure as numerous slaves as they could find for sale to the Portuguese along the coast (Vansina, 1990). As Portuguese demand for slaves increased, the Kongo quickly found themselves engaged in conflict and using conflict as a means to obtain more slaves. In the second decade of the sixteenth century, for example, the Kongo invaded the neighboring Mbundu to capture slaves in response to an exchange mission from the Portuguese crown (Hilton, 1985). Portuguese military assistance eventually solidified the Kingdom of Kongo's power in the region. The Kongo continued to use wars as a way of capturing slaves, as the slave exchange and conflict became entrenched ways of life for the Kongo people. As the slave exchange became normalized, Kongo people within the kingdom began to prey on one another. Kidnapping was common. Slavery became an acceptable means for settling disputes. If one party could not compensate another monetarily, they could sell a child as a slave (Levi, 2019).



## Makua

The Makua was historically not heavily included in the slave exchange. Their misfortune, however, was in being surrounded by neighbors who were with Arabic traders and, later Europeans, for example, the French and Portuguese. As the demand for slaves increased, especially from the Portuguese, the Makua began to lose power relative to their rivals, for example, the Yao, who profited from the exchange and access to guns from the Portuguese. As the hallowing out of Makua lands advanced, the Makua chiefs turned to the slave exchange themselves. Initially, the Makua used the common tactic of raiding weaker neighbors and then trading their slaves in exchange for guns.

By the 1850s, the Makua had established themselves as a major exporter of slaves (Isaacman, 1989). This timeline matches the observations in our conflict data, where the 19th century is the only century with a recorded conflict for the Makua. Once the supply of slaves from neighboring lands began to be exhausted, however, the Makua made the fateful decision. This self-destructive strategy led to revolts and swiftly eroded the cohesion and stability of Makua society by the 1870s (Isaacman, 1989).

## ***Nigeria unification, North-South, and Biafra***

Despite British missionaries appearing in Nigeria from the early 19th century, Britain only began to play a defining role in Nigerian political life following the 1885 Berlin Conference (Lord, 2020).

The North and the South of Nigeria were initially treated as separate because of their different cultures and governmental structures, with especially potent contrasts between the mostly Islamic feudal Hausa (North) and the village democracies of the Igbo (South). However, in 1914, the British united the provinces, creating a fragile lattice of disjointed groups.

This unification of two disparate cultural entities, creating a nation almost destined to fracture, was not the only way in which the British failed to understand the nation they were imposing on. The British respected the feudal Hausa framework, so gave power to them in the North, however, were unfamiliar with the participatory democracy of Igbo villages. They imposed unpopular ‘warrant chiefs’ as representatives in the South, widening regional divisions.

Factionalism did not turn into significant violence until January 1966, in the so-called 'Igbo coup'. A group of army officers, mostly Igbo, ousted and killed President Balewa and other notable Northern leaders. In response, Northerners massacred Igbo and other non-Northern tribes, for example, Yoruba. There was a mass exodus of Igbo people fleeing the South, and a year of political instability, culminating in the secession of Biafra, and the Northern-controlled national government declaring war to reunite the nation.

The British understood that the oil-rich South was the most anti-British region, and therefore the British would only continue to receive oil revenues if the South remained united with the more pliant North. The only way to persuade Northern emirs to agree to a joint constitution was to give them more political power than warranted by their geopolitical significance.

On the 30th of May 1967, seven years after Nigeria achieved independence from Britain, Eastern Nigeria proclaimed itself the Republic of Biafra. The first years of independence had been fractured, marked by pogroms, multiple constitutions, and coups. The immediate lead-up to the war was complex, and agitations rose from regional and tribal divisions, especially between the Northern Hausa/Fulani and the Southeastern Igbo, with the Yoruba and Middle Belt being pulled into the conflict.

### ***Buganda kingdom***

The British employed a strategy of selective native engagement in the Uganda Protectorate (Morris and Peruse, 1966; Dennison, 2019).

From the onset of their colonial involvement, the British extended favoured status to the Kingdom of Buganda in comparison to other surrounding kingdoms and people (McKnight, 2000).

Buganda (Uganda) grew rapidly in power in the eighteenth and nineteenth-century becoming the dominant kingdom in the region (Osterhammel, 2015). Buganda started to expand in the 1840s and used fleets of war canoes to establish colonial supremacy over Lake Victoria and the surrounding provinces.

The first direct contact with Europeans was established in 1862 when British explorers John Hanning Speke and Captain Sir Richard Francis Burton entered Buganda and according to their reports, the kingdom was highly organized (Sagan, 1985).

The complex structure of governance of the Baganda so impressed British officials, however political leaders in neighboring Bunyoro were not receptive to British officials who arrived with Baganda escorts (Byrnes, 1992).

Buganda became the centrepiece of the new protectorate, and numerous Baganda were able to take advantage of opportunities provided by schools and businesses in their area. Baganda civil servants furthermore helped administer other ethnic groups, and Uganda's early history was composed from the perspective of the Baganda and the colonial officials who became accustomed to dealing with them.

The British granted Buganda significant legal governance and independence including the right to legislate in consultation with and approval of the British colonial regime (Haydon, 1960).

Examples of Buganda colonial -era legislation include the Buganda Agreement of 1894, Buganda Agreement (Native Laws) of 1913, the Buganda Succession Order of 1926, the Busulu, and Envujo Law of 1928, the Buganda Courts Ordinance of 1940, and the Buganda Agreement of 1955 (Mukwaya, 1953).

The abundant issuance of Buganda legal codes and the deference given to the Kingdom set Buganda apart as favoured under British rule in the Protectorate (Morris, 1972). Colonial n-era customary codes were not free from European influence.

In the case of Buganda, there were radical changes in landholding rights. The customary codifications about Buganda were stripped of any formal legitimacy at the time of Ugandan independence in 1962.

When Uganda became a sovereign nation, the elimination of second-class colonial -era citizenship resulted in the laws that formerly applied to the British applying to all Ugandans. So-called "native laws" lost their subjects and their legal relevance. By way of example, the Succession Act of 1906 which had initially applied to British subjects became the universal formal law of succession in Uganda and officially displaced contrary and inconsistent customary laws and practices.

Customary practices in provinces, for example, succession and guardianships remained dominant in practice and still do to this day. At independence, in 1962, Buganda had achieved the highest standard of living and the highest education rate in the nation.

### ***Colonial authoritarianism in Kenya***

British colonial economic policy in Kenya included land alienation for European settlers (Sorrenson, 1968), African taxation (Tarus, 2004), African migrant/forced Work (Zezeza, 1992), development of settler dominated agricultural production and peasant commodity production, export production, rail and road transport and communication, education and health. These policies were formulated and implemented incrementally during specific phases of colonialism: the pre-1920 period which was interrupted by the outbreak of the First World War; the interwar period which furthermore saw the great depression between 1929 and 1934; the Second World War 1939-45 and the post-War era (Wiggley, 1965).

### **Post-colonial period**

#### ***Political ideology***

Africa after 1965 is characterized by authoritarian regimes. Democracy has been flouted or rejected (Gutkind and Wallerstein, 1976; O'Meara and Carter, 1986).

Political dictatorships have been imposed. Some charismatic leaders have vanished into obscurity (Mudimbe, 1988). Touré (Guinée) was isolated and Nkrumah (Ghana), challenged and insulted, died in exile (Powell, 1984).

In African nations, for example, Benin, Zambia, Ghana, Malawi, Ethiopia, Kenya, and Nigeria, pluralism in the political competition was installed by regimes that hitherto had monopolised political power. In Zambia, for example, the United Independence Party of Kenneth Kaunda which had monopolized the political space had to submit to political pluralism and democratic competition following agitation from civil society formations, especially the Zambian council of exchange unions. In Benin, exchange unions, students, and exchangers mobilized into a political opposition that ultimately compelled the Kerekou regime to succumb to a sovereign national

conference which eventually led to the removal of autocracy and the installation of a democratic regime (Mazrui 1977).

### ***Socialism, the most fashionable doctrine***

Frantz Fanon (1925–61) is one of the twentieth century's most significant anti-colonial intellectuals (.jacobinmag site). Born in Martinique under French colonial rule, Fanon joined the anti-Vichy Free French Forces in World War II and served in North Africa and France. After qualifying as a psychiatrist in Lyon in 1951, he ended up in French Algeria and rehearsed at the Blida-Joinville psychiatric hospital until he was deported in 1957 for his political sympathies toward the Algerian national struggle. Fanon formally joined the Algerian National Liberation Front (FLN) in exile in Tunis and represented the movement in the International phase.

Fanon expressed his commitment to the African revolution in *Peau noire, masques blancs* (1952), *Les Damnés de la terre* (1962), and *Pour la révolution Africaine* (1969). The alienation of colonialism entails both the objective fact of total dependence (economic, political, cultural, and religious) and the subjective course of the self-victimization of the dominated. The colonized internalize the imposed racial stereotypes, particularly in attitudes toward technology, culture, and language. Fanon expounds on the antithesis in terms of antiracist symbols. Negritude becomes the intellectual and emotional sign of opposition to the ideology of white superiority. At the same time, it asserts an authenticity that eventually expresses itself as a radical negation: the rejection of racial humiliation, rebellion against the rationality of domination, and revolt against the entire colonialist framework. This symbolic violence ultimately turns into nationalism and subsequently leads to a political struggle for liberation. The synthesis is the conjunction of, on the one side, "national consciousness" and "political praxis," and, on the other, the contradictions established by existing cultural classes: the national bourgeoisie, proletariat, under proletariat, and peasantry.

Fanon formulated the three phases in which national culture is formed:

1) The native, under the influence of the coloniser's culture, seeks to emulate and assimilate it by discarding his own culture, what Homi K Bhabha later calls mimicry (Bhabha, 1984, 1994). The native tries first to implement the Western values, religion, language, and practices and reject his own culture. Fanon (1961) calls this phenomenon donning white masks over black skins.

2) Fanon argued that the sense of ‘inadequacy and inferiority in the colonized’s psyche results in violence, which according to the natives, is a form of self-assertion. Violence even erupts against his natives, when the native realizes that he cannot become truly “white.” he can never be truly white or white enough for the coloniser to treat him as equal, and returns to study his own culture, with a romantic and celebratory mode.

3) In the third phase, the native is truly anti- colonial, accompanied by a critical analysis of his own culture. Fanon realised that national culture helps define the native culture against the overwhelming assault of the colonial. However cultural nationalism would not ensure that the working classes and the oppressed would be remedied. Thus while his concept of cultural nationalism was representational, it was furthermore materialistic and economical.

Colonial occupation did not allow the industrialization of Africa however chiefly to produce primary goods or extract raw materials. It encouraged and intensified class struggle, tribalism, and ethnicity. These were strategies to perpetuate or prolong their rule and domination.

States in Africa are multiethnic, and their expansion was continually making anything like tribal loyalty a thing of the past, substituting in its place national and class ties (Rodney, 2020).

To accept such a contention would mean extending the definition of the tribe to cover Shell Oil and Gulf Oil as economic benefits.

## **Multi-dimensional boundaries**

### ***The frontier of partition***

The frontier of partition is a type of natural frontier in which communities were separated by a buffer zone over which neither side claimed or exercised any governance. Such boundaries were provided by very thick forests like the Sambisa forest and deserts in Nigeria. The states of Central Sudan including Bornu, Air, Maradi, and the Fulani Empire had such boundaries (Ajala 1969).

The boundaries were responsible for dividing single communities, for example, the Maasai and Kuria between Kenya and Tanganyika (later, Tanzania), the Somali between Kenya, Somali and Ethiopia, the Luo, furthermore among Kenya, Uganda, and Tanzania, and the Teso and the Samia between Kenya and Uganda. Today, all this has established a problem for nation-building (Coplin 1971).

### *The frontier of contact*

The frontier of contact exists in conditions where distinct cultural and political groups live and operate side by side. Some African groups that were well organized usually had this type of frontier.

The Yoruba states and Dahomey (Republic of Benin) in West Africa as well as Buganda and the neighbors in East Africa best illustrate this model of the frontier.

The Casamance, separated from the rest of Senegal by the Gambia (frontier of partition) has made attempts since 1982 to become a sovereign territory (frontier of contact) (Naida, 2016).

The problem is the French ruled this specific territory separately from Senegal from 1854 to 1939 and combined the two provinces during the last twenty years of colonialism. The ethnic group Diola, who speak the Diola language, practices animism and comprises about 60% of the populace of Casamance (Fall, 2010). They desire to be independent of a nation in which the larger part of the populace speaks Wolof (90%) and practices Islam (95%).

If France had evaluated their territories and accounted for these contrasts, these two provinces would be separate and the Diola people, along with the other ethnic groups of Casamance, would be able to function as a sovereign territory, with the ability to form their laws and government around their own beliefs and culture.

### *Political frontier*

#### Berlin conference

Political boundaries in Africa date back to the Berlin West African conference of 1884-1885, which invariably climaxed the scramble and partition of the continent (Gbenenye, 2016).

The word 'scramble' is used to qualify the hasty and hectic struggle with which the European powers – Britain, France, Portugal, Spain, Germany, Belgium, and Italy – carried out the partition or allocation of various parts of the African continent among themselves.

The conference was held in Berlin from November 15, 1884, to January 30, 1885, under the chairmanship of Otto von Bismarck, then chancellor of Germany. On February 26, 1885, the Berlin treaty was signed (Reynord 1973). Those new political boundaries have separated ethnicities and families.

### Ethic division

The Ewe lives in Ghana, Togo, and Benin. Somalia is shared by Ethiopia, Kenya, and Somalia. The Senufo are found in Mali, Cote d'Ivoire, and Burkina Faso. This condition includes border disputes that have plagued the relationship between some independent African states, for example, those between Sudan and Uganda, Somalia and Ethiopia, Kenya and Somalia, Ghana and Togo, Nigeria and Cameroon, in the Bakassi Peninsula.

Any type of frontier was inconceivable among some Africans of the pre-colonial period and their neighbors. Such groups include the Masai, the Tuareg, the Somali, and similar nomadic groups. The Ogaden region was the conventional home of nomadic people ethnically related to Somali tribes, yet it is currently divided between the nations of Ethiopia and Somalia since colonial international boundaries were drawn without consulting the local people living in such border provinces.

Homogeneous ethnic groups were divided, for example, the Egun ethnic groups were divided by the international boundary with one part in Nigeria, (English-speaking) and the other in Benin (French-speaking).

Other examples include the Hausa-Fulani groups found in Cameroon, Niger, and Nigeria, the Shuwa/Kanuri found in Nigeria, Niger, Cameroon, and the Gude found in Cameroon and Nigeria.

The boundaries were responsible for dividing single communities, for example, the Maasai and Kuria between Kenya and Tanganyika (later, Tanzania), the Somali between Kenya, Somali and Ethiopia, the Luo, furthermore among Kenya, Uganda, and Tanzania, and the Teso and the Samia between Kenya and Uganda (Ndege, 2009). The fact that the administrative and ethnic boundaries were coterminous nurtured negative ethnicity as various communities competed for foreign resources.



## Inter-ethnic competition

Inter-ethnic competition would characterize the post-1945 nationalist struggles and post-colonial politics. Examples include attempts by so-called minority Luyia, Kalenjin, and coastal communities to establish quasi-federalism as a counterpoise to Kikuyu-Luo domination in independent Kenya. Furthermore, the colonial boundaries would lead to Somali secessionist attempts by the Kenya Somali in their bid to join their kin and kith in neighbouring Somali. The colonial state-employed authoritarian forced to hold Kenya's diverse communities together.

During the 1960s Tanzania supported FRELIMO's war against Portuguese colonialists. In the 1970s Guinea's support for the liberation struggle in neighboring Guinea-Bissau brought it into conflict with the Portuguese authorities. The white minority regime in the former Rhodesia made repeated raids into Mozambique to operate from their territory. Angola, which gave support and shelter to SWAPO's fight for the liberation of Namibia, suffered considerable hardship from South African aggression and interference. In its attempt to prevent the liberation of Namibia, South Africa resorted to full-scale military invasions of Angola and it was clear that the 1984 agreement between the two nations did lead to peaceful co-existence as long as Namibia remained under South African occupation (Ojo and Orwa et al. 1987).

## **Informal cross-border exchange (ICBT)**

UNCTAD (2019) defines ICBT as an exchange conducted between neighboring nations by informal businesses. In Africa, these businesses are predominantly managed by women and youth. ICBT is furthermore a trading network reconnecting communities that were divided by the political boundaries.

About 30%-40% of exchange in Africa is through ICBT. It fails to meet the formal requirements of recognized trade because of the lack of regulations adapted to this kind of economic activity. Corruption at the boundaries could be transformed into better police salaries, low custom taxes, and better revenues for growers and traders.

It can be legal and profitable for poverty reduction if it is recognized, organized, and supported by relevant services and infrastructure, for example, warehousing, transportation, health, and financial services.

This economic and social activity could be a positive answer to the Paris agreement by decolonizing the boundaries.

The Common Market for Eastern and Southern Africa (COMESA) and the East African Local area (EAC), however, seem to recognize that ICBT is a real feature of life in African borderlands and that it helps create jobs and significantly contributes to income generation and helps sustain livelihoods (Nshimbi, 2020b). The two Regional Economic Communities (RECs) have separately instituted the Simplified Exchange Regime (STR), which includes measures to help informal cross-border exchangers fulfill customs procedures and requirements (Nshimbi, 2020a; UNECA, 2017).

COMESA launched the STR in 2010 to simplify and streamline the documentation and procedures for the clearance of small cross-border exchangers' consignments while enabling them to profit from the COMESA preferential tariffs trading environment (cta site).

The STR intends to overcome the above challenges by simplifying the entire course of clearing goods for small-scale cross-border traders by way of introducing a simplified certificate of origin for all goods that appears on the Common List.

A simplified customs document – traders are supposed to declare goods that appears on the Common List and duty is not payable on the declared goods.

A common list of qualifying goods - The Common List will be gazetted by each member state and notified to the general public. Once gazetted, the Common List will furthermore be displayed at all border posts within COMESA.

Ethiopia is set to start executing the COMESA STR and other related exchange facilitation instruments, which are critical in strengthening cross-border and COMESA intra- regional trade, especially during this time of the COVID-19 pandemic.

Eight other regional States including Burundi, D R Congo, Kenya, Malawi, Rwanda, Uganda, Zambia, and Zimbabwe are already executing the STR.

Under the EAC Customs Union, the STR is furthermore implemented and aims specifically at small exchangers who regularly transact in low-value consignments.

An approved simplified certificate of origin (SCOO) exempts consignments of goods that originate in the EAC and are valued at under US\$ 2,000 from payment of import duty in the EAC destination nation.

### *Inclusive trade in ethnic groups*

Trade in Africa has conventionally taken place between people of the same ethnic group (Bouët et al, 2020). However, these communities are distributed on both sides of these boundaries because of this historical factor.

Little et al. (2010) and Tegegne et al. (1999) gave the example of Ethiopia–Kenya transborder exchange and exchange between Uganda and the DRC, Sudan, Kenya, Tanzania, and Rwanda as an illustration of ICBT conducted between people of the same ethnic group.

Golub and Mbaye (2009) cite the case of exchange between Gambia and Senegal (Mourides ethnic group), and Bouquet (2003) the case of the exchange of cocoa between Ghana and Côte d’Ivoire, Golub and Hansen-Lewis (2012) the case of Yoruba trading between Benin and Nigeria.

In the southern and southeastern boundaries of Ethiopia, informal exchange consists mostly of exports of livestock. Traders buy animals on credit and repay lenders when the animals are sold. Because trust is more solid within ethnic groups, informal trade prioritizes exchange between people of the same group. Ethnic groups furthermore play this role because of insufficient provision of public goods. Ethnic groups can substitute for governments in providing hospitals, safety nets, and access to culture and economic information (Golub and Hansen-Lewis 2012).

The Borana Oromo extends across 500 kilometres, from the Moyale border of Ethiopia and Kenya points to Isiolo, about 200 kilometres from Nairobi (ECA, 2010).

The Somali ethnic groups live on four sides of Kenya, Ethiopian, Djibouti, and Somali boundaries; the Afars, along the three boundaries of Djibouti, Eritrea, and Ethiopia, and the Tigrays and Kunamas on both Eritrean and Ethiopian sides, across boundaries.

These cases illustrate how, despite the long distances from the national central markets, informal exchange promotes and enhances the timely availability of fundamental goods across boundaries to remote communities far from central national markets. For instance, Moyale is 773 kilometres from Addis Ababa and about 700 kilometres from Nairobi; Dowelle is 720 kilometres from Addis Ababa, however only 105 kilometres from Djibouti; Wuchale is about 700 kilometres from Addis Ababa however only about 250 kilometres from the port city of Berbera.

Culturally, the groups living along the regional South Africa Zimbabwe boundaries have a lot in common -for example, the Venda-speaking people of Beitbridge in Zimbabwe and Musina in South Africa speak the same or related dialects, intermarry, and own land on either side of the boundaries (Munyanyi, 2015; Muzondo, 2020). Broadly, the Venda is a transnational local area straddling the Limpopo River. This encourages groups on either side of the border to further their exploitation of available opportunities (Duri, 2012).

## *West Africa*

### Trade combating poverty

West Africa does exhibit two types of marketing Communities: micro-Communities that organize supply on a small scale at the boundaries, consisting predominantly of exchange from nearby provinces however furthermore from the central; and large trans-national or national Communities that dominate exchange in each sector, particularly unprocessed products and locally manufactured or imported products. Hausa, Yoruba, Ibo, and Zerma exchangers control this sector in the eastern parts of the West African region (ECA, 2010).

Informal cross-border trading is deeply rooted in West Africa's cultural history. Lagos' "Tinubu Square" was labeled after a famous Yoruba informal cross-border trade. Women informal cross-border trade of Togo are known as the "Nana-Benz". They conduct their businesses on the regional and even international phase, drawing on a long history of trading experience as informal cross-border trade (Lesseur and Leeman, 2009).

A high proportion of trade crossing the boundaries are young, poorly educated, unregistered businesses of limited profitability, with small-scale operations that travel long distances (World Bank 2020a, Karare et al, 2021). Less than 50% of the trade along the six priority corridors in West Africa are formally registered and as much as 40% have monthly earnings of no more than US\$100. Exchangers generally operate in an environment where they have few other alternatives. Informal trade is a means of survival given the lack of other productive opportunities, while for consumers it may be the only way of getting access to affordable products (Shaw and Reitano 2014) including food and other widely used consumer goods.

Women are active traders in all product groups, apart from livestock. Women's representation is relatively equal in consumer durables in most of the corridors; however, it is more variable when it comes to food. In most cases, there are proportionally more women exchangers in agricultural produce and other food products.

### Main trade flows

The major flows of unprocessed products in West Africa are cereals and leguminous products: sorghum/millet, beans, and chickpeas that leave the Sahel zones of Nigeria, Burkina Faso, Senegal, Mali, Mauritania, and the dry savanna of Guinea, Côte d'Ivoire, Benin, and Togo to meet demand in the coastal cities following antiquated informal exchange transactions and routes. Informal cross-border trade is estimated to range from 20 percent of GDP in Nigeria to 75 percent in Benin (Meager, 2003).

Cross-border trade in locally produced paddy rice between Mali and Senegal is motivated by seeking complementarities between provinces with a production surplus and deficit, and to supplement incomes (Tondel et al. 2020).

The Techiman market (Ouagadougou-Tema) has a long-term specialization in fresh produce hence; there is a preponderance of food (and livestock). Kati Dral (Dakar-Bamako) and Pouytenga (Lomé-Ouagadougou) specialize in livestock. Niangoloko (Abidjan-Ouagadougou) is a very small market catering to local requirements. The focus is on food and consumer durables.

Madoua (Lagos-Kano-Niamey), with a populace of about half a million people, is a large, diversified city. Consumer durables are to the fore.

### Nigerian hub

The Nigerian hub is one of the most active with informal exports going to nations like Benin, Niger, Chad, and Cameroon. In Niger (Nigeria) alone, it is estimated that tens of thousands of tons of Nigerian grains are sold annually. Informal exchange in petroleum products has helped make Nigeria the major economic power in West Africa by supplying provinces (especially rural ones) that are shunned by conventional Global companies, for example, Total, Shell, and BP however furthermore national distribution companies. In Ghana, the informal market is dominated by informal exports of non-processed produce and minerals, for example, cocoa, gold, and diamonds into Togo and Cote d'Ivoire however furthermore re-exports throughout the region in used vehicles and spare parts.

### Abidjan-Lagos Corridor

Top products exchanged along the Abidjan-Lagos Corridor, and value of exchange, September–December 2019 are fish, pastries and bread, disposable items, plastic household utensils, and articles textiles, agricultural raw materials, charcoal, electric and electronic devices, second-hand clothes, clothing, beverages and footwear (Afreximbank 2020). Informal exports from Nigeria are dominated by fuel. Around 14 million women engage in cross-border exchange along the Abidjan-Lagos Corridor yearly, accounting for seventy to ninety percent of exchangers (Aboudou et al, 2017). The Togolese and Ivorian Authorities realize significant revenues from exporting gold and cocoa respectively that originated from other nations.

## *Central Africa*

### Cameroon

Cameroon is one of the few nations in which the National Statistics Agency (Institut National de la Statistique) has conducted an official data collection on ICBT. Cameroon's informal exchange consists of exports and 're-exports' of manufactured goods to Chad, exports of agricultural products and foodstuffs to Nigeria, and imports of manufactured goods. Cameroon sold in 2013 handicrafts, fertilizers, fuel, cement, and machinery to Chad, which took 44.5 percent of its exports, while it tended to send mostly agricultural products and foodstuffs, cereals, livestock, coffee, tea, and spices to Nigeria, which accounted for another 39 percent of its exports. More than half of Cameroon's exports were made up of agricultural products and foodstuffs (53 percent), with re-exports of manufactured goods, fertilizers, transports, machinery, and spare parts, representing a large proportion of the remainder (36 percent). Nigeria and Chad were furthermore responsible for almost all imports to Cameroon (97 percent), with the West African giant selling sugars, fuel, transports, plastics, and cotton, while Cameroon's neighbor exported mostly plastics and livestock.

### Uganda, DRC

Uganda has been collecting data on ICBT since 2005 for two weeks each month. Uganda monitors twenty border crossings and four bus terminals at its boundaries with the DRC, Kenya, Rwanda, Tanzania, and South Sudan, while Uganda, therefore, has to up-rate its data to estimate exchange flows for the missing weeks, while making sure to account for weekly and seasonal variations in volumes exchanged.

In Uganda, informal exports as a percentage of exports varied from a low of 16 percent to a high of 19 percent in the period between 2011 and 2016 and 10 percent in 2019. In the case of imports, the share remained at around 1 percent over the same period and in 2019 (Ubos, 2019, 2020).

In 2019, Industrial products continued to dominate informal exports while Agricultural products dominated Informal imports (ubos, 2019; 2020). DR Congo took the largest share of Uganda's informal industrial exports amounting to \$ 329.8 million in 2019, 62 percent of the informal exports, followed by Kenya with US\$ 97.5 million, 18.3 of the informal export. South Sudan came third, with \$61.7 million, 11.6 percent of the total export.

In 2018, data collected by the Bank of Uganda (BoU) and the Uganda Bureau of Statistics (UBOS) estimated that the totality of Ugandan informal exports - to all of its neighboring nations - was worth USD 546.6 million, and the totality of its informal imports USD 60 million (Uganda Bureau Of Statistics (UBOS), 2019).

Informal exports from Uganda have almost doubled in the last 10 years from USD 143.2 million in 2010 to USD 269.8 million in 2018 (UNDP, 2020). Compared to other destinations of Uganda's informal exports, the DRC's importance has been growing rapidly, accounting for 27.1% of Uganda's total informal exports in 2010 to 49.4% in 2018. Informal imports are overall less important for Uganda, and those from the DRC are of a lesser magnitude: USD 23.3 million in 2018.

From DRC to Uganda: Minerals, timber, coffee, cacao, petrol, batteries, honey, rice, palm oil, motorbikes, spare parts, batteries, generators, cigarettes, fabric (kitenge), groundnuts, millet, perfume, creams, cosmetics

From Uganda to DRC: All of the industrial goods listed in "DRC to Uganda", fish, livestock (goats, chicken, etc), certain agricultural products (tomatoes, onions, beans), cement, beers and soft drinks, salt, cooking oil, soap, clothes, plastic goods, shoes

In recent years, there has been a range of initiatives to advance exchange relations between DRC and Uganda. In April 2018, Uganda and the DRC signed an MoU establishing a bilateral framework for enhancing cross-border exchange. They agreed to remove non-tariff exchange barriers, combined with a range of other measures to boost the exchange flow (Xinhua, 2018).



Both governments in 2019 decided to construct key road Communities connecting the two nations to ease business (Uganda Bureau of Statistics UBOS, 2019).

The research was carried out in the following key border points: Mpondwe (Uganda)/Kasindi (DRC), Arua (Uganda)/Ariwara (DRC), and Odramachaku (Uganda/ DRC). These border points were chosen in terms of their relative importance including such considerations:

- Mpondwe is the Ugandan border point with the most informal exports in Uganda, estimated at USD 149.3 million in 2018 and USD 171.7 million in 2017 (respectively 27.3 and 31.1 percent share of Ugandan informal exports). It is furthermore the second most important border point in terms of imports; importing goods worth USD 10.2 million (or 16.9% of the informal import bill).
- Odramachaku is an equally important border point with the DRC and is the second biggest informal export point and third most important import point with the DRC.

### *Horn of Africa*

In the Horn of Africa, secretly organized groups are established jointly to operate ICBT. Such clandestine cooperatives raise funds, organize purchases and sales of goods and livestock and arrange transport calendars across boundaries, even up to the national central markets in Addis Ababa, Nairobi, Mogadishu, Berbera, and Djibouti, probably through negotiations with custom and police officers, local militias and administrators (ECA, 2010).

Trade in live animals is a long-standing native practice that continues to be the main intra-regional trade flow in the 'Horn of Africa' sub-region. Informal trade is centered on camels, cattle, sheep, and goats, commonly traded from the borderlands between Ethiopia, Kenya, and Somalia, towards key consuming markets in the region, for example, Addis Ababa and Nairobi, and via the ports of Djibouti and Berbera towards the Middle East.

The export of livestock from Somalia, including Somaliland, to the Middle East represents one of the largest concentrations of live animal trade in the world, with annual exports of livestock and livestock products from the region, including between neighboring nations, estimated to be close to US\$1 billion (Little et al. 2015). This thriving trade between the Horn's coastal States and the Gulf nations is massively dependent on informal imports from Ethiopia.

Holleman (2002) estimates that 50 percent to 60 percent of the animals exported from Berbera Port originate outside Somaliland, either from south-eastern Ethiopia or from Central Somalia. Most of the livestock that is sold in Nairobi is furthermore sourced informally from neighboring nations.

Little (2005) estimates that Nairobi purchases about 450,000 cattle annually. The livestock trade is furthermore behind the emergence of abattoirs in and around Addis Ababa, which export much of their output to the Middle East in the form of chilled meat. The animals that are slaughtered at these abattoirs are often sourced from northern Kenya via informal channels (Little et al. 2015).

Somalia became the world's largest duty-free port as consumer goods, for example, rice, sugar, electronics, textiles, and other items were able to enter the nation without paying duties and were then re-exported, informally, to neighboring nations, for example, Kenya and Ethiopia (Hagmann 2005).

### *East Africa*

Nations such as Uganda, Tanzania, and Ethiopia are generally recognized as sources of non-processed tradable goods consumed in Kenya and South Sudan. Kenya is a major source of manufactured goods sold informally into the region.

Concerning non-processed goods, food items are the most exchanged to satisfy the huge demand in the horn of Africa and to mitigate ecological variations.

In East Africa, most informally exchanged goods are staple food exports, for example, corn, rice, and cattle; as well as consumer goods, for example, clothes, shoes, and electronics. In most cases, these two types of goods will flow in opposite directions.

### Uganda's trade with East Africa

Data from Uganda's customs authorities highlights the fact that a thriving informal market exists in Ugandan manufactured goods for South Sudan, DR Congo, and Tanzanian markets.

In 2006, the value of Ugandan informal exports to its five neighboring nations – Kenya, Rwanda and Tanzania, DRC, and Sudan stood at US\$ 223.89 million, corresponding to around 83% of official exports to these nations over the same period (FEWNET, 2010).

By 2009, Uganda's total informal exports to the five nations had almost tripled to reach approximately \$790.73 million. The exports included shoes, clothes, fish, beans, maize grain, sandals, flour, beer, medicines, and alcohol spirits. Sudan and DRC were the main destinations for informal exports and accounted for 74.1% and 64.4% in 2009 and 2010 respectively. Informal imports were estimated at \$66.49 million in 2010. Kenya was the main source of informal imports and accounted for 56% of total informal imports in 2010.

In addition to foodstuff and livestock, a range of manufactured and re-exports are exchanged informally in Eastern Africa. These include sugar, edible oils, used clothing and shoes, packaged beverages, soft drinks, confectionery, plastic products, contraband fuel, chemicals, and low-quality goods from Asian nations.

### Kenya

Kenya's informal imports from Tanzania are chiefly agricultural food exports and fish (Gore, 2012). Maize is the leading item followed by beans, fish, and rice, in that order. Others include yams, carrots, tomatoes, cassava, cabbages, cowpeas, sugar, rice, bananas, millet, maize meal, and groundnuts.

Kenya's agricultural food exports to Tanzania include wheat flour, bread, root crops, sugar, rice, bananas, maize meal, milk, and coffee. The main export items include cooking fats/oil, toiletries, petroleum products, beer, margarine, car and bicycle parts, sweets, and biscuits.

Maize is a key import item from Uganda. Others include beans, coffee, sorghum, simsim, choroko, millet, groundnuts, rice, cassava, and yams. Fish is another major import item from Uganda. The bulk of fish found on Kenyan beaches originate from Uganda and this exchange is closely tied to informal exports of Kenya's manufactured exports to Uganda (Ackello-Ogutu, 1996). Other imports include charcoal, wood fuel, timber, re-exports of textiles, and bicycle and car parts. Leading informal exports to Uganda include petrol, cooking oils/fat, beer, and wine. Others are soft drinks, cigarettes, toiletries, hardware, textiles, wheat flour, bread, milk, maize flour, confectionaries, sugar, and salt.

Cross-border trade in livestock is the most significant form of exchange in this region. Dalleo (1975) observes that this practice pre-dates the colonial period. Little (2007) contends that 95 percent of the exchange in livestock is informal.

The usual practice is to move livestock across the boundaries on foot. This has been widely documented along almost all the ICBT routes in the region including Southern Sudan/Northern Kenya (Gurele and Lautze, 2000), Southern Ethiopia/Northern Kenya (Teka, Alemayehu, and Ayele, 1999; Mahmoud, 2003), and Southern Somalia/Northern Kenya (Little, 2000; 2006). Other popular products in this region include pasta, biscuits, food aid, and electronics, in numerous cases, they backhaul their purchases using the same trucks. Umar (2007) estimates that about 25 percent of livestock exchangers in Kenya/Ethiopia/Somalia are included in the sale of staple foods, informally imported from Somalia and purchased by revenue from livestock exchange.

In Kenya, along the border with Somalia, livestock trade has been carried out for millennia, long before the production of colonial boundaries (Gro Intelligence, 2014). Long-distance livestock caravans, particularly cattle, travel great distances to reach viable markets. When traders cross the porous border between Somalia and Kenya, they may not be maliciously breaking exchange laws, but rather following trade routes that have been used for generations.

At Busia Kenya, one of the busiest border crossings in East Africa, substantial amounts of agricultural exports flow into Kenya.

In March 2014 alone, over 28,500 tonnes of agricultural goods were informally traded from Uganda into Kenya, about 20,000 tons of which were corn.

Kenya consumes at least 200,000 tons more sugar than it produces every year. However, Kenya furthermore has laws planned to protect its domestic sugar industry, including restrictions on how much sugar can be imported from neighboring nations, where the cost of production can be much lower. This condition creates the perfect conditions for ICBT: demand, exchange restrictions, and favorable margins.

### Ethiopia

Petty- and small-scale traders supply border markets with principal goods for fundamental consumption by people and communities living along border provinces (ECA, 2010). These include food grains, fish from lakes, clothing, medicines for people and animals, and fuel, which cannot be obtained regularly from the central national markets at reasonable prices. This trade furthermore encompasses products (livestock, food, and manufactured goods) sold across boundaries as surplus at better prices or to earn income to purchase fundamental needs on the other side of the border. In the Horn of Africa, operators are delala (brokers), wokils (agents), and shirkas (partners). These include both unregistered and registered exchangers: retailers, entire salers, exporters, and importers (MoARD, 2008). Women usually participate as small traders across boundaries and sometimes as travelers, shopkeepers, and store owners. They sell milk and dairy products, chicken and eggs, grains and beans, clothes, shoes, and electronic goods along the Kenya and Somalia boundaries.

Large-scale traders with ready capital and heavy trucks tend to dominate the market. They handle both basic goods and luxury items, for example, food and clothing, livestock, electronic goods, medicines and medical supplies for people and animals, building materials, fuel, and spare parts.

Large ICBT operators in Ethiopia fund their security guards with satellite mobile phones. They operate through their wokils, delalas, or shirkas, usually collaborating with people who know local transport corridors and use their ethnic and clan connections.

## Rwanda

Rwanda is systematically collecting data on ICBT within her boundaries since 2009. Rwanda monitors 59 border crossings within her boundaries with all four of her neighbors: Burundi, the DRC, Tanzania, and Uganda. Rwanda captures data on a year-round basis. In Rwanda, the informal exchange is furthermore more common on the export side: it accounted for 34 percent of Rwanda's total exports to its immediate neighbors in 2016, but only 9 percent of its imports (NBR, 2020).

## *Southern Africa*

ICBT contributes between 30-40 percent of total intra-SADC exchange (Afrika and Ajumbo, 2012). Some studies estimate that the average value of informal cross border trade in the SADC region stands at \$17.6 billion per year. Items traded chiefly include foodstuff, for example, maize, rice, and beans although additional products, for example, handicrafts and minerals are furthermore commonly traded in the region.

Maize trade is the most informally exchanged foodstuff, averaging approximately 80% of the total recorded ICBT in foodstuff between 2005 and 2012. Mozambique, Zambia, South Africa, and Tanzania are generally the major source nations while DRC, Malawi, and Zimbabwe are the major destinations (FEWSNET, 2012).

## *Beitbridge port, South Africa-Zimbabwe*

The Beitbridge port of entry is South Africa's busiest land border for human as well as commercial and non-commercial traffic (IOM, 2021). It is connected to the Beitbridge border post on the Zimbabwean side and therefore links South Africa with the rest of Africa.

The border post is approximately 12 km from Musina, the northernmost town of South Africa in Limpopo province. The Beitbridge port of entry is situated at the intersection of the South African N1 Highway and the Zimbabwean A6 Highway (Moyo and Nshimbi, 2019a). The two are joined by the Alfred Beit Road Bridge.

Other than what is considered a conventional exchange, substantial local and informal trade that consists of small volumes of every day and retail goods that range in value from about ZAR 500 to ZAR 15,000 (Pederby et al., 2016) officially and unofficially passes through this border post. The colonial government of Limpopo has declared Musina a development point with the setting up of a special economic zone that is expected to create about 19,000 jobs.

The informal economy makes up the environment in which ICBT occurs (Nshimbi and Moyo, 2017; Nshimbi et al., 2020; Hart, 2016).

It includes legally unprotected and unregulated employment and enterprises as well as all structures of informal employment in small unregistered or informal enterprises (Nshimbi, 2018; Muzondo, 2020).

Other than migrant workers, the people in these movements have furthermore included informal cross-border traders and other travelers from and to as far-flung parts of Africa as Zambia, DRC, and the United Republic of Tanzania (Nshimbi, 2020b). Furthermore, not all people who travel to and from South Africa through the border stay in Musina town. Some informal traders proceed to Johannesburg to source goods for export to their nations of usual residence (Nshimbi and Moyo, 2018).

An overwhelming larger part of the traders said they were Zimbabweans, who resided in Zimbabwe and largely exported goods to that nation (Chikanda and Tawodzera, 2017), building materials, fresh fruits, and vegetables, processed food, fresh meat, household goods, cosmetics, handicrafts, and electricals. In general, the most traded goods included new clothes and shoes, processed food, household items, and beddings, particularly blankets, bed covers, bed sheets, and pillows.

Cross-border traffic at the Beitbridge border grew significantly from approximately 600,000 in 2004 to over 1.6 million in 2010 (Crush and Tawodzera, 2016). However, transient tourists visiting to trade, see family or find medical attention constitute a large proportion of these figures (Crush and Tawodzera, 2016).

The popularity of illegal border crossings has led to the emergence of the magumaguma and the malayitshas. These are people, who for a fee, assist informal traders who wish to pass the border illegally (Duri, 2012).

They are easily able to speed up the immigration course by moving travelers to the front of the long queues or bypassing the border authorities entirely (Dale-Jones, 2019).

The authorities on both sides of the border continuously accept bribes to ignore smuggling and informal border crossings (Muzvidziwa, 2005). These unofficial crossing points have been called Dumba, Mushambe, and Mai Maria.

Cigarettes are a widely smuggled commodity because they are easily transported in various quantities, primarily from Zimbabwe to South Africa (Muguti and Marongwe, 2017).

Specific brands of Zimbabwean cigarettes, for example, Everest and Madison, are in high demand in South Africa, where they are profitable on the black market (Lemboe and Black, 2012). The vast contrasts in the cost of tobacco products between Zimbabwe and South Africa have primarily motivated the smuggling of cigarettes (Muguti and Marongwe, 2017; Lemboe and Black, 2012; van der Zee et al., 2019). Cigarettes are more expensive in South Africa because the government charges excessive taxes on them.

Explosives regularly find their way across the Beitbridge border post. These explosives are reportedly used for various illegal activities including bank robberies in South Africa (De Wet Potgieter, 2 May 2013). Other explosives are usually sold to illegal gold miners who, in their pursuit of coveted minerals like gold and diamonds, use them to blast mine shafts

Precious minerals worth several millions of US dollars have furthermore been reportedly exported, into South Africa. Gold and diamonds are some of the most smuggled minerals because they are highly valued. The former Governor of the Zimbabwe Reserve Bank, Dr. Gideon Gono, estimated that between 2002 and 2007, more than 15 tons of gold worth US\$ 400 million were smuggled out of the nation annually (Shumba, 2016). Other independent sources differ, with some stating that the figure is double the one given by official state figures. Farooqui (2020) argues that Zimbabwe loses about thirty-four tonnes of gold each year to smuggling.

Motor transports, electric goods, and groceries cross the border illegally into Zimbabwe (The Independent, 21 June 2019).

Chrome is another mineral that is smuggled, mostly by artisanal miners, from Zimbabwe to South Africa where it is transported to China in its raw form or as ferrochrome (Duri, 2012).



Artisanal miners are means miners who work independently, sometimes outside of government regulation. Their numbers are difficult to ascertain, however it is estimated that there are over 500,000 artisanal miners in the nation, and they are responsible for a lot of dependents (Farooqui, 2020). These artisanal miners are forced to smuggle the minerals into South Africa because the Reserve Bank of Zimbabwe-owned Fidelity Printers and Refiners which buys, refines, and exports the gold, does not pay the miners enough money for their minerals (Farooqui, 2020).

Another precious mineral that is smuggled out of Zimbabwe via the Beitbridge border post in large quantities is diamonds. The Independent (2019) reports that in the space of three years, Zimbabwe lost over US\$1 billion worth of diamonds because of smuggling by organized syndicates that include foreign nationals.

The scrap copper is allegedly assumed to sell better in South Africa where it fetches more in comparison to other nations in the region. As an example, in 2020, ZIMRA officials intercepted a suspiciously loaded truck smuggling 19.6 tons of scrap copper across the Beitbridge border into South Africa (Muleya, 2020)

The smuggled copper is stolen from developed infrastructure, for example, telephone poles and electricity power lines. There were numerous reports of people caught in the act of cutting down electrical cables and telephone lines made from copper. This is an incredibly risky initiative that may end up with the thieves being electrocuted. Usually, the offenders use the load shedding calendars and steal the electrical cables before the power comes back on (Mabuza, 2019).

The smuggling of vehicles is rampant, chiefly because the local car assembly industry is barely in operation. An average of 4 000 means of transport are imported from South Africa every month (Mhara, 2020). However, some of the vehicles are illegally imported and under-invoiced in collaboration with clearing agents and law enforcement officers at the border.

The most trafficked drug into Zimbabwe has been Broncleer (or Bronco in street slang), a cough mixture that is abused as an intoxicating substance (The Herald, 30 May 2015). Manufactured in South Africa by Adcock Ingram Limited, Broncleer contains harmful materials if taken excessively (Chireka, 2015).

In addition, the organised smuggling of prescription drugs is increasing, and it is motivated by medication shortages in local clinics and hospitals.

This causes the few pharmacies left with drugs to place high price mark-ups on medical prescriptions for entire sale and retail (Razemba and Maphosa, 2018). The scarcity causes several people to turn to the smugglers for drugs, some of which are not government-approved (Razemba and Maphosa, 2018).

Zimbabwe's medical costs are expensive in comparison with other nations. For example, in Indian retail pharmacies, the rabies vaccine costs the equivalence of US\$4 at most, while in Zimbabwe, the same medication ranges between US\$25 and US\$30. Antifungal medicines, for example, clotrimazole cost US\$0.62 for 30 g in India; in contrast, a similar dose goes for \$7 in Zimbabwe (Nemukuyu, 2019).

### ***ICBT in Covid 19 context***

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Burkina Faso, Cameroon, Republic of Congo, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Libya, Mali, Niger, Rwanda, Sudan, Uganda, and Zimbabwe among others have opted to close land boundaries. Measures are more or less restrictive; however, in nations like Cameroon, the Republic of Congo, Côte d'Ivoire, Ethiopia, Gambia, Ghana, and Zimbabwe, land boundaries are strictly closed. In most cases, these interdictions concern movement of persons, while traffic of trucks shipping goods is authorized.

### **Accelerator Labs (AccLabs)**

Covid-19 and climate changes change ICBT conditions furthermore about transactions conditions. Access to finance is a central component to unlocking the economic potential of borderland provinces and UNDP has set out to find ways to support and empower these communities (UNDP, 2020)

In 2019, UNDP built UNDP the nation Accelerator Labs (AccLabs) ([acceleratorlabs.undp.org](https://acceleratorlabs.undp.org) site), the world's largest and fastest learning net to advance sustainable development challenges thanks to the Federal Ministry for Economic Cooperation and Development of Germany and the Qatar Fund for Development as founding investors, and support from Italy and UNDP core donors.

AccLabs started with 60 Lab teams covering 78 nations and are presently expanding to 91 Labs covering 115 nations.

AccLabs from ten nations paired and grouped to offer innovative solutions across the boundaries of Zambia-Zimbabwe, Niger-Mali-Burkina Faso, Sudan-South Sudan, and Togo-Ghana-Benin. The innovation challenge themed ‘Improving Livelihoods for Informal Cross-Border traders and Borderlands Trading Communities’ seek to provide solutions to access to finance among borderland trading communities.

The findings revealed common downward trends of trade vibrancy in the wake of the Covid 19 pandemic. For instance, travel restrictions resulted in extremely low levels of economic activity, leaving numerous border communities without a continuous source of income. Informal cross-border traders who attempt to smuggle goods through the illegal routes often suffer harassment from border police; delays in transporting goods affect the quality of goods, especially those that are perishable, and an increase in the overall cost of the goods. In addition, there was generally a low level of access to revised COVID-19 information on cross-border trading and customs regulations.

#### The Sanduk Savings Scheme – Sudan and South Sudan

It is utilized as a communal means of savings and borrowing among the South Sudanese and Sudanese women. Sanduk (or box in Arabic) was established out of necessity by women living in the border provinces to scale up small businesses and help to provide supplementary income. Sanduk is a savings scheme popular with women in Sudan and South Sudan that allows each member to deposit money periodically and the aggregate disperses the pooled savings to one recipient each month. The same exercise is repeated the following month for various group members. It continues until the last person is reached, and then it starts all over again.

This framework has helped women across both nations plan savings as well as raise start-up capital at an interest-free rate.

The AccLabs of Sudan and South Sudan innovation proposal is working to ‘digitize’ this conventional practice of savings into a financial service offering and an avenue to formalize groups into credit cooperatives (SACCOs).

### Digitizing trade and financing for women and youth - Zambia and Zimbabwe

During the pandemic, transporting goods relied on middlemen and runners, which exacerbated insecurity for informal traders. One solution would be to digitize trade and cut out the runners. However, while these communities have limited internet access, low computer education and high data costs for mobile phones, the potential to leverage technology will have a great impact on the trade between the nations.

Initial analysis indicated the need to embrace new technologies to overcome the challenges brought about by Covid-19 movement restrictions and arising episodes of insecurity among informal border traders.

To leverage technology, participants noted that rolling out computer education opportunities for traders it is key to actualizing digitization of trade and exploring platforms that would not require traders to use complex technologies or require constant internet connectivity yet still serve exchangers' needs of tracking goods, making payments and accessing finance.

### Digitizing trade with an eID - Benin, Togo, and Ghana

Similar to the Zambia -Zimbabwe border, the impact of Covid -19 on informal cross border exchange in Ghana, Togo, and Benin boundaries is a challenge to informal traders. The Ghana-Togo-Benin Team proposes a simple electronic identification (eID) framework to ease border crossings for informal traders and offers a trade tracking device.

### Enhancing trade in Small Ruminants - Burkina Faso, Mali, and Niger

A joint exchange platform is proposed to promote informal cross-border trade in small ruminants (sheep and goats) in the Liptako-Gourma cross-border area. The Burkina Faso, Mali and Niger AccLab team believe that an online commerce platform can offer solutions for informal traders in the small ruminant market chain in view of the prevailing insecurity in the sub-region.

Stakeholders consulted support digitization of the commercialization of small ruminants and feel this will strengthen public and private investments to modernize trade and processing infrastructure; advance the management framework of market infrastructures through setting up of management committees; building the capacities of actors on the use of the e-commerce platform on smartphones.

### ***ICBT supports poverty alleviation***

ICBT's economic impact in Africa furthermore confirms the importance of creating a policy, regulatory, institutional, and business environment which enhances the role of informal cross-border traders, legitimizes their activities, and gradually mainstreams them into the formal economy. In view of this, the following recommended actions (Afrika and Ajumbo, 2012):

Strengthen/establish ICBT data collection and analytical capacities at key border points to gauge ICBTs contribution to the economy;

Advance border infrastructure, for example, cross border storage facilities, stalls in key border markets, and checkpoints;

Prioritize a gender founded approach to ICBT which addresses some of the pervasive constraints that afflict women;

Facilitate the setting up of ICBT associations and business linkages between ICBTs and established companies;

Curb corrupt practices at the boundaries and checkpoints by official prizes;

Support licensing of small traders;

Enhance security for people and their goods at border and market points;

Prioritize ICBT in national development plans and aid for trade assistance.

## **Independence era**

In British and Belgian colonies there was more reliance on education in local dialects. Upon colonization, pre-colonial political structures and elites were integrated into the colonial state however retained most of their powers. In French colonies, the emphasis was on French education. The power of pre-colonial elites was reduced leading to extended resistance by the most centralized ethnic groups

The impact and nature of the colonial regimes showed considerable variations. France, Belgium, and Portugal emphasized direct rule while Britain relied on indirect rule often through native authorities (Stein, 2000).

The post-colonial state was largely built on colonial heritage. It has successfully deracialised however at the same time ethicized the state as the political class continues to mobilize the citizenry around ethnic political parties.

African political leaders in the post colonial period only embraced the form and not the essence of independence. Their political, cultural, economic, and even philosophical desperation for independence attests to this fact (Elijah Okon, 2014).

### **African political governance**

Okadigbo (1985) has portrayed the battleground of four contending forces, namely: tradition, Islam, Euro-Christianity, and colonialism. These forces carried along their respective cultures, ideologies, ideals, agencies, theories, religious beliefs, dialects, conceptions, and some other lesser issues.

The first leaders come to power within the window of opportunity in which they have the power to affect the set-up of formal institutions, shape political policies, and thereby affect future economic performance. Yet, as the transition after independence proceeds, new special benefits emerge and anchor the window of opportunity end. Herewith we present five autocratic leaders who, after the first positive period, did not understand that power corrupts. Most of the coming leaders until those days have the same attitude.

## *Leopold Senghor, Senegal*

Senghor tends to define African socialism as just a phase in a complex course beginning with negritude and oriented towards a universal civilization (Senghor, 1964). He emphasizes three major moments: negritude, marxism, and universal civilization.

Negritude is "the warmth" of being, living, and participating in natural, cultural, and spiritual harmony. It furthermore means assuming some fundamental political positions: that colonialism has depersonalized Africans and that therefore the end of colonialism should promote the self-fulfillment of Africans. Thus, negritude is simultaneously an existential thesis and a political enterprise. It furthermore signifies a political choice: among European strategies, culturalism seems the most useful for both cultural reassessment and sociopolitical promotion.

Marxism is, for Senghor, a method. To use it adequately, the Senegalese imagineer dissociates Marxism as humanism from Marxism as a theory of knowledge. The first offers a convincing explanation of the notion of alienation in its theory of capital and value and exposes the scandal of human beings under capitalism becoming mere means of production and strangers' vis-à-vis the product of their work. For this reason, Senghor readily accepts Marxism's conclusions insofar as they indicate recognition of the natural rights of humans, who are and must remain free agents and creators of culture. For Senghor, Marxism as a theory of knowledge nevertheless constitutes a problem. It is one thing to use its schemas for analyzing and understanding the intricacy of cultural formations, and another to accept the idea that cultural complexities universally fit into the concept of the class struggle and express the need to deny religion.

Negritude and Marxist humanism are, according to Senghor, only phases in a dynamic dialectic course toward a universal civilization (Azombo-Menda and Anobo, 1978).

Senghor (Senegal) chose to remove Mamadou Dia, his opponent, whose economic ideas were considered in the 1960s to be a necessary complement to Senghor's metaphysics of negritude. He did this to guarantee security for the African path to culturalism (Kachama-Nkoy, 1963).

Covered with honors, but criticized more and more by the new generation, Senghor struggled to make all his works accessible (1964, 1971, 1977, and 1983).

At the same time, he continued, against all opposition, to define negritude as a value of dialogue and openness and to clarify his humanist choices for culturalist politics and an economy founded on an African perusing of Marx (1976a).

### ***Kwame Nkrumah, Ghana***

Kwame Nkrumah, the first president of independent Ghana, who held an MA in philosophy from the University of Pennsylvania, was a charismatic leader who increasingly followed an autocratic line, however, retained his popularity as a consequence of his Africanization policy and the new roads, new schools, etc. that were being built (Birmingham, 1998).

The year 1954 was a pivotal year during the Nkrumah era. In that year's independence elections, he tallied some of the independence election votes. But, that same year saw the world price of cocoa rise from £150 to £450 per ton. As opposed to allowing cocoa farmers to maintain the windfall, Nkrumah appropriated the increased revenue via federal levies and then invested the capital into various national development projects. This policy alienated one of the major constituencies that helped him come to power.

Nkrumah's advocacy of industrial development at any cost led to the construction of a hydroelectric power plant, the Akosombo Dam on the Volta River in eastern Ghana. American companies agreed to build the dam for Nkrumah, which fueled an aluminum smelter and provided electricity to urban centers and adjacent nations. Nkrumah borrowed money to build the dam and placed Ghana in debt. To finance the debt, he raised taxes on the cocoa farmers in the south. This accentuated regional contrasts and jealousy. The dam was completed and opened by Nkrumah amidst world publicity on January 22, 1966.

Nkrumah wanted Ghana to have modern armed forces, so he acquired aircraft and ships, and introduced conscription. Increasingly, more Russian advisers than those from elsewhere found a warm welcome.

The Gold Coast (Ghana) had been among the wealthiest and most culturally advanced provinces in Africa, with schools, railways, hospitals, cultural security, and an advanced economy. Under Nkrumah's governance, Ghana implemented some culturalistic policies and practices. Nkrumah established a welfare framework, started various local area programs, and established schools. He ordered the construction of roads and bridges to further commerce and communication. To advance public health in villages, tap water frameworks were installed, and concrete drains for latrines were constructed.



Despite his cult status, his rule was over by 1966 when a successful military coup removed him from power after a period of erratic development that left Ghana about as poor as at independence (Encyclopedia Britannica, 2015).

### ***Julius Nyerere, Tanzania***

The teacher and first president of Tanzania, Julius Nyerere, was a fervent believer in culturalism. He was elected president after independence in 1964 and remained in power until 1985. Tanzania developed rapidly in the early years of her presidency, however, stagnated and eventually experienced a long period of decline in the 1970s and 1980s.

Nyerere attempted to initiate a culturalist society founded on cooperative agriculture, known as “Ujamaa” (family hood). The nation emulated Soviet and Chinese ideas by collectivizing village farmlands and forcefully reallocating people, though the program furthermore included an emphasis on free and universal education.

Nyerere’s goal was to achieve a combination of economic cooperation, racial and tribal harmony to achieve economic self-sufficiency, and non-dependence on foreign aid and foreign investments. Yet the reality was far from the aspirations of Nyerere. The peasantry resisted the collectivization and the programme ended as an unmitigated economic disaster. By 1976, when the Ujamaa programme was abandoned, Tanzania had been transformed from the largest exporter to the largest importer of agricultural products in Africa. Upon Nyerere’s resignation in 1985, Tanzania remained one of the poorest nations in the world; agriculture was at the means level, the industrial and transport infrastructures were underdeveloped and a third of the national budget was supplied by foreign aid.

According to Nyerere, the true African socialism does not look on one class of men as his brethren and another as his natural enemies (Duggan and Civile, 1976).

Ujamaa or communalism rejects both capitalism and socialism (Nyerere, 1968a and b). For Nyerere, ujamaa means first of all the production of a new society, a nation, founded on the conventional model of family. Moving beyond the nation, the socialist project would imply a constant development of communalism for all people (Duggan, and Civile, 1976).

The independence of the nation has to be followed by the cooperation with African nations and commitment to the liberation of Africa and her unity, and the development of the conditions of equality and life in the nation.

Unfortunately, looking back at Nkrumah's regime in Ghana, one might imagine that all was just rhetoric. Though a good Marxist theorist, Nkrumah, once in power, became a bad politician and rapidly turned into a dictator.

### *Félix Houphouët-Boigny, Côte d'Ivoire*

In Côte d'Ivoire, the populace experienced a similar degree of political stability and progress during the first decade after independence. Félix Houphouët-Boigny, who had been Minister Delegate of Foreign Power immediately before independence, became the first president of independent Côte d'Ivoire in 1960 and held on to that power until 1993. His rule was for numerous years not especially repressive and contrary to most other African leaders, the medically trained Houphouët-Boigny pursued relatively liberal free enterprise policies. However, the nation was very far from democracy or any other form of comparatively transparent rule. During the first half of his regime, Côte d'Ivoire welcomed foreign investments and quickly became a major exporter of crops, for example, cocoa, and developed into a successful capitalist state with close ties to France.

However, in the 1980s, declining primary product prices slowed down development. In his later years, Houphouët-Boigny became obsessed with developing his hometown with plans that included the construction of a copy of the Vatican Saint Peter's Basilica. It was not until 1990 that a multi-party framework was established, yet Houphouët-Boigny still had enough power to win the election (Encyclopedia Britannica; Kavanagh, 1998).

Côte d'Ivoire did not succeed in maintaining a prosperous state and after the death of Houphouët-Boigny, longstanding ethnic and religious tensions increased. A subsequent government tried to rewrite the constitution to prevent certain challengers from running for president and growing student and industrial unrest, a military coup in 2000, and economic decline culminated in a civil war in 2002 (Encyclopedia Britannica; Seddon, 2005).

### *Sir Seretse Khama, Botswana*

Botswana remains the most noteworthy exception to the average story of African development and decline in Botswana (Acemoglu et al., 2003). The popular story of the remarkable first president of Botswana, Sir Seretse Khama, begins with a love story: it received both African and international attention when Khama – who was born into the royal family and inherited a chieftainship from his father at the age of four – met the white, English Ruth Williams during his education in Britain and chose to marry her. As a consequence of the controversy established by his marriage to Williams and his general popularity, Khama was forced by the colonial authorities to renounce his chieftainship to be allowed to return to Bechuanaland (Botswana). On his return, he entered politics as a private person, helped negotiate the terms of independence, and got elected as the first president.

Khama was ideologically a conservative who sought to diversify and strengthen his nation's economy. While public expenditures were large and included the introduction of free and universal instructive, and the government played a role in the development of the nation, Khama's government respected the de facto independence of the judiciary and painstakingly sought to balance the public budget at most in 10 years (Acemoglu et al., 2003). Immediately after independence, most plans revolved around supporting a rural sector that chiefly consisted of cattle ranching.

This fell in line with the interest of the elite as almost two-thirds of all members of the National Assembly in the early years were substantial cattle owners. Later, private mining companies were encouraged to explore the nation, which led to the discovery of nickel, copper, and diamonds. The diamond industry has since then been responsible for a large share of Botswana's output, and though the government negotiated terms so that they receive 50 % of the profits, it has never tried to nationalize the industry or in other ways interfere with its rights. Furthermore contrary to the condition in most resource-rich nations, Botswana remained fully democratic, a political framework that survived Khama's death in 1980 (Andersen and Aslaksen, 2013). Botswana's success rests on good economic policies that stimulated rapid development, investment, and culturally efficient utilization of resource rents (Acemoglu et al., 2003).

### ***From slavery to brain chains***

Colonialism did not make room for the development of any African language. The understanding here is that with the imposition of at least nine official dialects on the continent, colonialism contributed hugely to the death of numerous African dialects and thereby distorting African facts, history, philosophy, politics, and economy.

The colonial policy made it that Africans received a limited education. Colonialism in Africa affected commerce, landscapes, industries, the populace, culture, religion, science, and technology.

Robert Nesta Marley more popularly known as Bob Marley has seen the condition better when he elucidates that history has taken the slavery chains from the Blackman's feet to his brains (Okafor, 2001).

African leaders have failed to know that it is not the quantity of natural resources of the continent that makes its economically, scientifically, industrially, or strategically important, but the mental quality of its people. His capacity to imagine qualitatively and tackle the problems that emerge out of their living conditions (Igwe, 1994).

In the political sphere, it means the ability to allow democracy to bloom through meaningful political participation and the provision of adequate opportunities for the citizens to choose their leaders. On the cultural and economic fronts, it means ensuring that the framework is equitable and just in the distribution of governmental prizes and punishments.

Sub-Saharan Africa is the home to numerous of the world's longest-ruling heads of state (Felter, 2021). By the turn of the twenty-first century, the trend of entrenched governance had spread across the region, spurring corruption and instability.

### ***Trials to remain in power***

Like the first leaders, the coming ones are more autocratic and try to adapt the democratic principles to their interests.

Five sitting African heads of state had been in power for more than three decades each: Teodoro Obiang Nguema Mbasogo in Equatorial Guinea, Paul Biya in Cameroon, Denis

Sassou Nguesso in the Republic of Congo, Yoweri Museveni in Uganda, and Isaias Afwerki in Eritrea.

Two dozen heads of state have tried to remain in power by tweaking their nations' constitutions or evading term limits. Guinean President Lansana Conte did so in 2001, followed by Gnassingbe Eyadema, president of Togo, in 2002. One year later, the Gabonese parliament voted to remove term limits from its constitution, allowing President Omar Bongo to run for a sixth term. Following these initial instances, attempts to extend terms became fairly regular occurrences, popping up every one to two years on the continent in nations including Angola, Burkina Faso, Burundi, Cameroon, Chad, Djibouti, Guinea, the Ivory Coast, Nigeria, the Republic of Congo, Rwanda, Senegal, Sudan, and Uganda.

Angola's dos Santos and former Senegalese President Abdoulaye Wade, among others, claimed they were eligible to run for additional terms because the constitutions containing term limits were passed during their mandates; they argued the limits should only apply to future presidential terms. Uganda's Museveni paired the elimination of term limits with the introduction of multiparty politics to pass a constitutional amendment in 2005, and his party eliminated the presidential age limit in a 2017 amendment. Ivorian President Alassane Ouattara defied a two-term limit to run in the nation's 2020 election, which was boycotted by Ouattara's main opponents and their supporters.

The businesses that Kabila and his family built in and beyond the DRC have brought them hundreds of millions of dollars. Angola's dos Santos was long accused of funneling government funds to a small group of elites, as well as to his own family. His daughter Isabel, who headed the state oil company from 2016–2017, was considered the wealthiest woman on the continent; following the release of a trove of documents known as the Luanda Leaks in 2020, authorities froze her assets, and state prosecutors have sought to bring her to trial for alleged corruption and mismanagement.

Zambian President Frederick Chiluba's and Malawian President Bakili Muluzi's proposals to raise presidential term limits in 2001 and 2003, respectively, were stopped after opposition and civil society groups formed alliances with lawmakers from the nations' ruling parties. In 2006, Nigeria's senate rejected an amendment put forth by President Olusegun Obasanjo that would have allowed him to serve a third term.

Citizens have often opposed constitutional coup attempts through protest, at times successfully blocking them. In 2012, large protests in Senegal led to an electoral defeat for Wade, who was running for a disputed third term. After weeks of demonstrations in 2014, Burkinabe citizens stopped Blaise Compaoré from repealing the constitutional provision on term limits and forced his resignation.

Even before the pandemic, an increasing number of African heads of state had moved to undermine term limits or rig elections to remain in power. However, COVID-19 has given them greater leverage, providing a further pretext for postponing elections in Somalia and Ethiopia, muzzling opposition figures in Uganda and Tanzania, and imposing restrictions on media across the continent (Campbell and Quinn, 2021).

### ***Leader characteristics and regime transition***

Several longtime leaders have been deposed or otherwise left office in recent years. In 2017, Angolan President Jose Eduardo dos Santos stepped down after thirty-eight years in office, and Zimbabwean President Robert Mugabe was forced from office after thirty-seven years by a military coup. Two years later, Sudan's Omar al-Bashir was ousted after three decades in power. In 2021, Chad's Idriss Deby, who furthermore ruled for thirty years, died following a battlefield clash with rebels.

Military coups were a current means to seize power as both Mbasogo (Equatorial Guinea) and Museveni (Uganda) entered their presidencies this way. They have declined during the last two decades; there were twenty-seven successful coups from 1970 to 1982, however, only twelve from 2000 to 2012. Since 2012, there has been a handful, two of them in Mali within nine months of each other.

Most researchers have either limited their study to leader characteristics and their effects on growth and development (Jones & Olken, 2005; Jorgensen & Bjørnskov, 2015) or regime transitions and their effects on growth and development (Diaz-Serrano & Sackey, 2016; Masaki & van de Walle, 2014). Jorgensen and Bjørnskov (2015) looked at both leader characteristics and ideologies on development.

Africa's development strategy in the 1970s and 1980s largely ignored regime-type variables (Masaki and van de Walle, 2014). During these periods, most African nations were being ruled

by authoritarian leaders who had captured and gained independence from their colonial masters. Apart from Botswana and Mauritius which was democratized in the 1960s, democratization in Africa has been recent as most of these nations became democratized only in the 1990s. However, Africa has witnessed an impressive development during the 1990s, though few have witnessed poor democratization, these two nations were experiencing greater economic development while the rest of Africa was experiencing poor development. These experiences seem to suggest a democratic advantage.

Democracy alone is not enough in ensuring economic development and the presence of democratic government alone will result in less than average growth in the economy unless there is a combination of strong institutions and strategies (McKinlay and Cohan, 1975; Pye, 1966). Addison and Heshmati (2003) observed that both information and communication technology and democracy have positive effects on foreign direct investment (FDI) flows. In addition, Guerin and Manzocchi (2009) found that democracy has a positive effect on FDI from advanced and emerging economies.

Leaders can contribute positively to GDP growth, however, as they stay in office for a relatively long period, the age and ability to contribute positively to GDP growth dwindles (Gyimah Sackey, 2021).

Both democratic and autocratic leaders who were in the military and the law profession prior to assumption of office as the nations' leaders contribute positively to GDP growth while a university professor or research scientist in both regimes brings about a reduction in the growth of GDP.

Regime transitions from an autocratic leader to a democratic leader effects on economic development positively, and democratic leaders are able to attract foreign direct investments that contribute to GDP growth relatively more than an autocratic leader while transition from a democratic leader to an autocratic leader effects negatively on GDP growth.

## **Free and less free nations**

### *Free nations*

Only eight nations in sub-Saharan Africa as free Ghana, Namibia, South Africa, Botswana, Cape Verde, Mauritius, Sao Tome and Principe, and Seychelles (freedomhouse site).

Botswana, enjoy high levels of economic and social development. South Africa under Mandela started a democratization course.

### Mandela period

Mandela did not represent not a religion nor a dominant ethnic but the national struggle against racism and for economic and social development for all. However, he had to take into account the ethnicity by joining effort with Zulu representatives who use their powers for their ethnicity and themselves.

Mandelas' economic legacy is an economy that performs fully from the point of view of ensuring full employment, maximum productivity, and the development of social consciousness (Nelson Mandela infrastructure, 2017)

During Mandela's presidency economic conditions worked. Inflation, which was running at 14% before 1994, fell to 5% within 10 years (Davies, 2013). South Africa's budget deficit, which was 8% in 1997, fell to 1.5% in 2004. Interest rates dropped from 16% to under 9% in the first decade of the ANC government.

South African exports blossomed. Before Mandela took the oath of office, just 10% of the nation's goods was earmarked for export. By the turn of the century, nearly a quarter of them were earmarked for export. In the 14 years after 1996, the proportion of South Africans living on \$2 a day fell from 12% to 5%.

The real tax revenues have effectively doubled since 1994, which has enabled the government to expand social welfare.



However South Africa's official unemployment rate has hovered around 25% for years, and youth unemployment is much higher. By some measures, half of those under 25 are out of work. It's a condition that combined with falling education standards and skills shortage is storing up problems for the future.

The gap between the rich and the poor increased. Corruption was often put forward as a serious hinderer to economic development in South Africa, not just from the corporate sphere, but from organised Work as well.

According to Mandela's economic experience, education, political and cultural building capacity for the young generation could cut unemployment and open the floor to the renewed African elite focused on global positioning and profiting from its populace.

Strong institutions of government are a common feature, acting as a bulwark against self-interested leaders, for example, former South African President Jacob Zuma, who is presently on trial for corruption.

### Ghana and free elections

Since 1992, Ghana has held competitive multiparty elections and undergone peaceful transfers of power between the two main political parties (freedomhouse site Ghana). Although the nation has a relatively strong record of upholding civil liberties and discrimination against women persists. There are some weaknesses in judicial independence and the rule of law, corruption presents challenges to government performance, and political violence is a growing concern.

The administrations of former presidents John Atta Mills (2009–12) and Mahama were implicated in a bribery scheme in January 2020, when European aircraft maker Airbus admitted to bribing people in Ghana and several other nations between 2011 and 2015. President Akufo-Addo referred the matter to the Office of the Special Prosecutor (OSP) in February; it named Mahama's brother a person of interest in March and reported that Mahama himself was directly implicated in July. However, Amidu elected not to open an investigation against Mahama before resigning as special prosecutor. The probe remained active at year's end.

President Nana Akufo-Addo of the New Patriotic Party (NPP) won a second term in December, defeating predecessor John Mahama of the National Democratic Congress (NDC) in an effective rematch. While election observers considered the polls well-managed, Mahama called the results fraudulent and NDC supporters held protests; the immediate post-election period was marred by violence, with police reporting five deaths several days after the polls.

The NPP and NDC ended the concurrent parliamentary elections with a tie, with each party winning 137 seats. An independent legislator agreed to support the NPP later that month, giving it a bare larger part.

### Malawi and court decision

Important democratic progress was reported in Malawi, which held its successful rerun of the flawed 2019 elections (Repucci and Slipowitz, 2022).

Malawi was the sole nation globally whose democracy strengthened during COVID-19 lockdowns after it became the first African nation to overturn a fraudulent election through legal means and conduct a free and fair follow-up election. In February 2020, the Constitutional Court annulled the May 2019 presidential election engineering Peter Mutharika as president because of widespread, systematic irregularities. The court ordered a new presidential election and figured out the threshold for victory to be 50 percent and one vote, instead of the simple plurality that had been used in former elections. Peter Mutharika was President of Malawi from May 2014 to June 2020 (BBC, 2014). In June, Lazarus Chakwera of the Malawi Congress Party (MCP), who led the “Tonse” coalition of nine opposition parties, won the presidential election with 59 percent of the vote. The elections were well-administered, competitive, and credible, and the results were accepted by all stakeholders. In September, President Chakwera operationalized the long-stalled 2017 Access to Information Act. Further, the executive office instituted weekly news conferences, opening the space for journalists to report on government activity.

## *Less free nations*

Meanwhile, the number of African nations that Freedom House rated “not free” has grown from fourteen in 2006 and 2008 to twenty in 2021. These nations usually have low levels of cultural development, underdeveloped civil associations, and weak institutions of government.

Rwanda is an exception: its cultural development indicators rank higher than its human rights standing, and its president, Paul Kagame, is relatively young at sixty-three years of age.

Twenty-two nations are considered “partially free,” in line with the sixteen-year average. However, within this category, increasingly populist governments are suppressing opposition groups, postponing elections, eliminating term limits, and abusing human rights to maintain power. This growing trend is driving democratic backsliding on the continent. Yet, a single defining characteristic for these nations is difficult to pin down. Tanzania and Zambia, for example, have largely avoided the ethnic and religious conflicts that afflict Nigeria and Mozambique Kenya, and the Ivory Coast.

West, East, and Southern Africa, have mostly partially free regimes. However, in Central Africa and the Horn, almost all states are authoritarian. Small island nations make up an outsize share of “free” African nations, and they are freer on average than similarly sized nations on the mainland, for example, Djibouti and Eswatini (Swaziland).

## Last confrontations to insure freedom

Elections in Tanzania and the Central African Republic were characterized by government repression and violence.

The presidential election in Togo was marred by accusations of fraud, with only a small pool of observers allowed to monitor the flawed course that handed President Faure Gnassingbé his fourth term in office. In Côte d'Ivoire, where President Alassane Ouattara furthermore claimed a constitutionally dubious third term after a favorable court ruling on the matter, some citizens were excluded from the election through the closure of polling stations, while others faced intimidation from the police, military, and ruling-party allies. Mali's democratically elected leaders were overthrown in a military coup, and its status declined from Partly Free to Not Free as a result. In Cameroon, the conflict between the government and separatist groups furthermore pushed people out of their communities, with the separatists enforcing their movement restrictions and targeting students and teachers in Anglophone provinces. Violence and forced displacement expanded in Mozambique whose Cabo Delgado Province has been the site of a growing insurgency. Burkina Faso was furthermore under attack by Islamist insurgents, and its populace had to contend with abusive pro-government paramilitaries and disproportionate COVID-19 restrictions as well. Rwanda's public health rules were aggressively implemented, with notches of people arrested and abused in custody.

### Internet and social media

The internet and social media are increasingly empowering Africa's youthful populace to become politically active. This has been seen in Nigeria, where protesters organized online to demand police restructures; in Uganda, where presidential candidate Robert Kyagulanyi Ssentamu, better known as Bobi Wine, used social media to catalyze his people power movement; and in Ghana, where Twitter users instigated a national discussion on illegal small-scale mining.

Yet, these movements have frequently been met with an equal and opposite response. Ugandan President Yoweri Museveni cracked down on activists and implemented a social media ban in Nigeria, protesters were massacred by army and police forces.

More broadly, digital repression has become commonplace, especially around elections, as leaders seek to throttle the opposition and influence popular discourse, frequently through disinformation. In late 2020, democracy in eighty nations was worse off because of the pandemic. Examples can be found across Africa, from Guinea to Somalia to South Africa, democracy ratings slid amid the COVID-19 crisis.

Herewith are some examples of not liberal presidents.

### Ethiopia, Abiy Ahmed

COVID-19 has furthermore dramatically redirected Ethiopia's political landscape deeper into authoritarianism. The central government used the pandemic, to postpone the parliamentary elections calendar for August 2020. For more than two decades the political scene had been dominated by a coalition of four ethnically founded parties - with Tigrayans, who make up around 7% of the populace, holding sway (BBC, 2021).

In the 1970s and 1980s their party, the Tigrayan peoples' Liberation Front (TPLF), fought a war to seize control of the government from a military junta. The party succeeded, which is how it came to be the leading member of the coalition government that took power in 1991.

The coalition gave independence to Ethiopia's provinces, however, retained a tight grip on the central government, with critics accusing it of repressing political opposition.

Abiy dissolved the coalition in 2019, however, the TPLF refused to join his new Prosperity Party. Tigray's decision to hold his election in September 2021, both sides then designated each other as "illegitimate".

Tigray argued at the time that the central government had not been tested in a national election since Mr. Abiy's appointment as prime minister. Polls have since just been held in some parts of the nation.

More than two million of Tigray's six million people have fled their homes since 4 November 2021, when Mr. Abiy ordered an invasion after the TPLF fighters captured federal military bases. Tens of thousands of them have sought refuge in neighbouring Sudan.

## Zimbabwe, Robert Mugabe

Mugabe was born in Kutama, northwest of the then Salisbury (presently Harare), in what was then Rhodesia before the nation was renamed Zimbabwe after independence 39 years ago.

The former guerrilla leader turned politician swept to power in the 1980 elections. He served as prime minister from 1980 to 1987 and then as president from 1987 to 2017.

Mugabe's 37-year rule has been widely criticized for human rights abuses in the nation, election rigging over the years, and destruction of the nation's once-flourishing economy. Over the years, Mugabe's rule culminated in a massive economic demise for the southern African nation, a nation that was once one of Africa's richest nations.

Robert Mugabe died in a Singapore hospital on Friday at the age of 95.

Economic instability and public unrest have continued under Mugabe's successor, Emmerson Mnangagwa: fuel price hikes in 2019 prompted widespread protests, to which security forces responded with a brutal crackdown that killed at least twelve people.

The administration of President Emmerson Mnangagwa failed to take meaningful steps to uphold human rights and ensure justice for serious abuses primarily committed by security forces in 2021 (Human Right Watch, 2022). There has been no accountability for abuses by security forces, including the August 2018 post-election violence, and killings and rape during the January 2019 protests. Abductions, torture, arbitrary arrests, and other abuses against opposition politicians and activists have not been meaningfully investigated. The government has yet to establish an independent complaint framework, as provided for in Zimbabwe's Constitution, to receive and investigate public complaints against the security services. Other human rights concerns include a severe water and sanitation crisis, including during the Covid-19 pandemic, forced evictions, and child marriages.

The European Union on February 19, 2022, renewed its arms embargo and designated an asset freeze against Zimbabwe Defense Industries, a state-owned military company. In March, US President Joe Biden extended for another year the designated sanctions against designated Zimbabwean government officials and other private people. Biden told Congress that "President

Emmerson Mnangagwa has not made the necessary political and economic restructures that would warrant terminating the existing designated sanctions program.

### Sudan, Omar al-Bashir

Omar al-Bashir ruled Sudan since taking power in a 1989 coup and was himself ousted by the military in April 2019, under pressure from a pro-democracy protest movement that began in late 2018 (freedom house sudan site).

After initially attempting to crack down on the protests, the military governance held negotiations with an opposition alliance, the Forces of Freedom and Change (FFC), and reached a power-sharing deal in August of that year. The pact established the 11-member TSC, which was to govern Sudan until elections could be held after a 39-month interim period, with the military and the FFC each naming five members and agreeing on the final member, a civilian. General Abdel Fattah al-Burhan was named as the TSC's chair for a 21-month term, after which a civilian would lead the council for 18 months.

Abdulla Hamdok, a former UN official, was named as prime minister. He presided over a cabinet of technocratic ministers who wielded day-to-day executive power under the transitional agreement. The military, however, retained control of the defense and central ministries.

The October 2020 signing of the Juba Peace Agreement between the TSC and rebel groups led by the Sudan Revolutionary Front (SRF) had the effect of restarting the 39-month transition period before national elections. The peace agreement furthermore reorganized the government's power-sharing allocations so that the armed groups would have three seats on the TSC and hold 25 percent of ministerial posts in the cabinet. The new appointments had yet to be made at the end of the year.

The interim constitutional document that emerged from the 2019 power-sharing deal was amended to incorporate the provisions of the Juba Peace Agreement. Among other changes, a new Article 80 established the Council of Partners for the Transitional Period—comprising the prime minister, the FFC, the military, and the rebel groups that signed the peace agreement—with a mandate to discuss major political issues that arise during the transition. Critics of the new body warned that it could come to supersede the governance of the existing governing structures.

The transitional constitution guarantees the right to form political parties, subject to legal regulation. In practice, the FFC and several separate parties have continued to operate. However, transitional authorities have arrested high-ranking NCP members associated with the former regime, and in November 2019 the TSC disbanded the NCP altogether and established a committee to seize its assets. In June 2020, the government arrested former NCP leader and foreign minister Ibrahim Ghandour.

Divisions among political parties and activists emerged during 2020. In April, the Umma Party froze its participation in the FFC. A faction of the Sudanese Professionals Association (SPA), which played a crucial role in the 2019 protest movement, withdrew from the FFC in June, and the Sudanese Communist Party did so in November.

Sudan whose ongoing restructures worked on academic freedom banned female genital mutilation and repealed a law restricting women's travel abroad (Repucci and Slipowitz, 2022).

On 25 October 2021, the nation's generals deposed the civilian-led cabinet in a coup, abruptly ending the civilian-military power-sharing solution that was to steer the nation to free elections. Under considerable Global pressure, armed forces chief General Abdel Fattah al-Burhan reinstated Prime Minister Abdalla Hamdok on 21 November (Crisis group, 2022).

Hamdok, unable to forge consensus between the street and the generals resigned on 2 January. The generals have taken several steps to strengthen their grip on power. Days after dissolving the cabinet, Burhan reconstituted Sudan's executive branch, the Sovereign Council, replacing its civilian officials with Islamists from the party of long-time dictator President Omar al-Bashir, who was driven from power following massive protests in 2019.

Burhan furthermore added other figures congenial to the armed forces. In December, he delivered an edict giving authorities sweeping powers to clamp down on dissent, including granting security officers immunity from prosecution in carrying out these orders.



## **Case of Zaire (today Democratic Republic of Congo)**

### ***Mobutu Sese-Seko's dictatorial governance***

Post-colonial African states had few of the elements associated with a bureaucracy, which could support modern capitalism. Mobutu Sese-Seko in Zaire in 1965 in a coup began to personalize his rule by making administrative appointments founded not on technical criteria, but on developing patron-client relationships. In 1973, he took it one step further by a wide-scale Zairianization of private property. Between 1,500 and 2,000 enterprises were taken from their non-Zairean owners and simply given to members of the state. The consequences were economically disastrous. While there was some return of businesses to owners in 1975, numerous of the surviving businesses took on their political owners as partners linking themselves systematically into the network of patron-client relationships. GNP per capita fell by 4.7 % per year between 1973 and 1980 and by 2.5% between 1980 and 1987. The result was no significant structural transformation. In 1965 92% of all exports were in minerals and other primary exports. In 1980 and 1987, the figure was 94% (World Bank, 1989). Mobutu, using ethnic support and loyalties was able to construct his framework with comparatively little resistance.

### ***From Kabila's dictatorial governance to Tshisekedi – Kabila failed coalition***

Laurent Kabila overthrew Mobutu in 1997 however was assassinated in 2001; his son, Joseph, succeeded him, amassing a fortune by stealing state funds and effectively disregarding the provision of public services. Kabila stepped down after a December 2018 election, two years after his mandate was set to end, though election observers and numerous opposition leaders questioned the vote's legitimacy.

Since the 2018 election, DRC has been governed by an uneasy coalition built around the elected president Felix Tshisekedi and his predecessor, Joseph Kabila, who ruled the nation for 18 years. In July, the National Assembly—dominated by Kabila's coalition, the Common Front for Congo, or FCC—nominated Ronsard Malonda, a Kabila ally, to head the electoral commission. While Malonda's appointment cannot go ahead without Tshisekedi's signature, the move is typical of Kabila's attempts to maintain influence over national institutions.

The political crisis in the DRC between the two allies worsened when Tshisekedi appointed new judges to the Constitutional Court last July and made new appointments in the army and the judiciary.

In December 2020, Tshisekedi announced the dissolution of the National Assembly, so far held by the camp of former President Joseph Kabila.

## **Case of Tanzania**

### ***The post colonial period***

After independence in 1961, Tanzania attempted to build a mixed economy. Industrialization was to be undertaken by foreign capital using a series of incentives and guarantees against nationalization. The civil service was to be Africanized with carefully defined terms using pay structures more in line with local economic conditions. British judges, civil servants, and schoolteachers were encouraged to stay after independence. The structure of plantations and settler farms was to be continued in parallel with small-scale peasant production. Although retail and entire trade was dominated by Arabs and Asians, commercial ownership and distribution were to remain untouched. All of this began to unravel between 1962 and 1967 when the government nationalized the major foreign businesses in Tanzania.

The production of African elite linked to colonial state institutions led to skepticism about the capacity of relying on the private sector. The skepticism was supported by the large-scale departure of settlers from agriculture taking extensive sums of scarce capital with them and the failure of foreign capital to respond to incentives. In 1964, an army mutiny to demand higher pay and replacement of their British Officers by Tanganyikans put additional pressure on the state. The antipathy toward the continued dominance of trading by Asians and Arabs in the post-independence period led to the expansion of state participation in trading through the formation of the Regional Trading Corporation. The state's monopoly in coffee and cotton was extended into other cash crops.

The government, mostly using a combination of agricultural surplus and foreign aid attempted to expand import-substituting and agriculture processing manufacturing. The result was largely disastrous. Numerous of the projects undertaken used foreign aid tied to the import of capital-intensive technology and the long-term use of imported spare parts and raw materials. Foreign trade for running the industries was neither sufficiently saved nor could the earnings from cash crops could support the industries. Poor state management, political intervention, and expensive management contracts exacerbated the condition when foreign capital was employed leading to

large losses and the collapse of numerous companies. In agriculture, there was little technical transformation with the government relying on acreage expansion to increase output. The result was a deteriorating economy, which led to the crisis of the 1970s and early 80s. There was the little transformation of the economy inherited from the foreign regime.

### ***From Magufuli to Hassan's dictatorial governance***

President John Magufuli repeatedly downplayed the threat posed by COVID-19, claiming that prayer had defeated the disease in his nation. The government criminalized the sharing of “unofficial” data and used the law to restrict news coverage of the outbreak and other matters in the run-up to the October 2020 presidential election, which Magufuli won through intimidation and fraud. In March 2021, Magufuli died—his death was attributed to heart disease however was likely brought on by COVID-19. During the president’s weeks-long public absence prior, at least one man was arrested for questioning his health.

Initial signs following Magufuli’s death are promising for Tanzanian democracy: Samia Suluhu Hassan, the vice president under Magufuli, was sworn in as president as prescribed by the constitution. President Hassan has shifted the nation toward a more evidence-founded approach to COVID-19 and reached out to the opposition. However, some critics remain unconvinced. After signaling an intention to lift all media bans in the nation, Hassan walked back the decision. Opposition figures including Tundu Lissu and Freeman Mbowe have called for a new constitution that limits presidential powers.

### **Case of Kenya**

In 1894 Britain declared a protectorate over Uganda and Kenya, respectively. Kenya’s boundaries were demarcated without consultation (Ogot, 2000). They arbitrarily united over forty formerly independent communities into one regional entity.

### ***The colonial period***

In 1894 Britain declared a protectorate over Uganda and Kenya, respectively. Kenya's boundaries were demarcated without consultation (Ogot, 2000). They arbitrarily united over forty formerly independent communities into one regional entity.

Christian missions preached against African cultures. They were emphatic that the Africans' salvation must be gauged on the extent to which conventional cultural practices were abandoned. Their invocations about obeying the government because it is God who placed it there were meant to make Africans obey the colonial regime. Colonial education, therefore, fostered the emergence of quiescent and obedient elites. They served the colonial state and economy as semi-skilled workers, clerks, and chiefs. The colonial state carefully chose the leaders of the independent regime as it laid the grounds for neo-colonialism.

British colonial economic policy in Kenya included land alienation for European settlers (Sorrenson, 1968), African taxation (Tarus, 2004), and forced labor. Settlers dominated agricultural production and peasant commodity production, export production, rail and road transport and communication, education, and health (Zezeza, 1992).

Income inequality and poverty have become more prevalent since independence (Ndege, 2008). The contradictions that characterized colonial Kenya include contradictions in the cultural relations of production between the international and domestic bourgeoisie, between the peasantries and the bourgeoisie, and between capital and labor (Ake, 1980; Swainson, 1980 Leys, 1996). The local bourgeoisie habitually resorts to high-level corruption to accumulate wealth and power. They furthermore invoke racial and ethnic sentiments to stay in power (Leys, 1975, Atieno Odhiambo, 2004).

### ***The post colonial period***

Kenya gained independence in 1963. The nation has a diverse religious makeup and its populace adheres to a large number of various ethnicities. Historically the nation has suffered from violent elections before, both in 1992 and 1997.

Jomo Kenyatta and the ruling party, the Kenya African National Union (KANU), considered the eradication of "regionalism" or "Majimboism" as their central political goal (Wekesa, 2002). The end of regionalism and the subsequent dissolution of the Kenya African Democratic Union (KADU) were significant political developments within the period between 1963 and 1969.

In addition, a greater part of Kenyatta's energies were directed at trying to overcome the breakaway and rival party, the Kenya Peoples Union (KPU), which had leftist linings and was led by the then vice-president, Oginga Odinga. The political rivalry between Odinga and Kenyatta played a crucial role in resuscitating and heightening ethnic divisions and tensions within the nation. With the assassination in Nairobi on 5th July 1969 of the famous Luo politician and trade unionist Tom Mboya, the alliance between the Kenyatta regime and the Luo local area became a fragile phenomenon.

Politically, the foregoing strategy by Kenyatta proved ineffectual in addressing the major issues affecting the masses, including economic matters. Who profited most both economically and politically from the regime, included Kenyatta's close family members and members of the Gikuyu, Embu, and Meru Association (G.E.M.A). Some of these politicians, especially between 1976 and 1978, played a crucial role in the "change the constitution" controversy that was aimed at preventing Moi from ascending power after Kenyatta. President Moi's transition to power after the passing away of Kenyatta in 1978 was characterised by relative political stability. Problems of ethnicity, power management, and ideology that were evident during the Kenyatta era began to rear their ugly head again, however presently within a changed context and political dispensation. The inability to legitimise his rule in the light of a resurgence of ethnic politics culminated in an attempted coup d'état on August 1, 1982. The failed coup and the concomitant struggle by Moi to re-assert his governance, re-establish political legitimacy, and permit a more open political course.

The Kenyan economy has undergone four phases in terms of development policy. In the first decade of independence official, development policy was termed 'African socialism' (Eklund, 2007). The state not only encouraged domestic and foreign private enterprise but furthermore established large public sector corporations and invested heavily in the physical and social infrastructure. The growth rates were high, averaging 6.6% between 1963 and 1973.

Meanwhile, globally an economic crisis erupted bringing to an end the long post-war boom. It was in this context that Kenya implemented the policy of 'redistribution through development' in the 1970s, which entailed pursuing rapid development through increased investments to meet the fundamental needs of the poor including those in the informal sector.

The 2002 elections were won on an anti-corruption platform. In 2007 Mwai Kibaki won the presidential election with his National Rainbow Coalition party over opposition leader Raila Odinga who led the Orange Democratic Movement.

Reports of vote-rigging unleashed massive protests where 1500 people died in two months' time which led to the UN interfering with talks and a solution was made where Odinga shares power with Kibaki as the Prime minister respectively president. (CIA Factbook: Kenya April 2010). The main form of income for Kenya is tourism and it is one of the most popular safari destinations in Africa. The nation-side is fertile and big tracts of land are cultivated and exports, for example, coffee, tea, and cocoa make up a large part of how Kenya has been able to evolve economically.

## Corruption heritage

Political corruption, patronage, conflict of interests, foreign actors, and land corruption are maintaining high corruption in African nations worsening poverty and aggravating inequality. The origin is in the colonial period, however, today, both local and global colonialism cooperate for their profit against peoples' interests.

Corruption worsens poverty and aggravates inequality as resources meant for the poor and the underprivileged are diverted to line the pockets of the corrupt (Debere, 2012, Duri, 2020).

According to a report by the IMF, sub-Saharan Africa will profit more economically from mitigating corruption than any other region (Hammadi et al. 2019). The report indicated that if governance in the region, which is comparatively poor, is brought to the world average, there could be an increased GDP per capita of about 1% to 2% per year. Hence, stronger governance and reduced corruption are key elements towards the achievement of the desired development in sub-Saharan Africa. The extent of corruption was the lowest ranking region on the 2019 Corruption Perceptions Index (CPI), with a regional average score of 32 out of 100 (Transparency International, 2020). The international average score is 43, and the African average indicates how corrupt the public sector across the region is perceived to be. With a score of 66, Seychelles consistently earns top marks in the region, followed by Botswana (60) and Cabo Verde (58). At the bottom of the index are Sudan (16), Somalia (12), and South Sudan (12).

The African Union report (2019) report looks at some of the corrupt behaviors of service providers in the health and education sectors that can directly impact children and their families and the consumers of public services (patients and students) to access privileged care through paying bribes.

At least 25 million children in primary school are affected by corruption in Africa. There is a strong association between high levels of corruption and poor education and health outcomes for children. Conversely, nations that have been able to reduce corruption tend to have better child health and education indicators.

## **Colonial corruption and traditional leaders**

Using data from the nationally representative Afrobarometer surveys for 9 Francophones and 12 Anglophone nations, examine the empirical relationship between British versus French colonial rule and the corruption of chiefs (Merima et al, 2021). The sample consists of more than 40,000 observations. The first variable measures the prevalence of corruption among chiefs and depends on respondents' perceptions of the extent of corruption by traditional leaders in their local area. The second outcome variable reveals the level of public trust in traditional leaders.

Chiefs under British foreign rule were significantly empowered compared to pre-colonial times and exerted more influence over the central state. A result of this is that chiefs in former British colonies (Anglophone nations) are perceived as more corrupt than their counterparts in former French colonies (francophone nations).

In contemporary Africa, chiefs remain influential on a wide range of governance issues and engage in several governance roles, for example, the administration of justice, collection of taxes, provision of public goods, and the implementation of aid projects. And therefore, the chief's role in local governance is likely to have implications for the quality of governance and economic development in numerous African communities. There is a significantly lower level of public trust in Anglophone chiefs.

## **Fraud Triangle Model**

The fraud triangle delineates the dynamics that cause someone to perpetrate fraudulent activities (Cressey, 1953; Lister, 2007; Kassem and Higson, 2012). It comprises three drivers which include pressure, opportunity and rationalization commonly referred to as the "Fraud Triangle"

### ***Pressure:***

The element of pressure posits that people become included in corruption as a result of pressure. This may comprise occupational goals, unforeseen medical expenses, addiction problems, economic constraints, gambling, and peer pressure (Abdullahi, Mansor, and Nuhu, 2015).

### ***Opportunity:***



Opportunity is a course whereby a person chooses to commit fraudulent practices, often driven by the notion that he/she won't get caught. It is normally formed by poor services oversights, weak internal controls, and misuse of power.

***Rationalization:***

Rationalization is where the perpetrator has justification and some excuses for becoming included in conducting a crime (Rae and Subramaniam, 2008). Some of the reasons may include “some people did it why not me too”, “I was borrowing the money”, moreover, “I was entitled to the money because my employer is not paying me enough to sustain myself and family” or “I had to steal to provide for my family” (Abdullahi, Mansor, and Nuhu, 2015). It is very difficult to notice such people because it is not possible to peruse someone's mindset. Most of the people partaking in fraudulent activities don't see themselves as offenders but rather normal, honest people who are just victims of adverse conditions.

**Nature of corruption**

***Political corruption***

The capture of state institutions by private persons to influence state policies and decisions for their private profits has become a significant concern in Africa (Lodge 2018).

In DRC the office of the president or prime minister (82%) and parliamentarians (79%) are perceived as the most corrupt institutions.

The late Mobutu Sese Soko's fortune was projected to be US\$ 4 billion in 1984, most of it stashed in offshore bank accounts. In 1997, a year when he was forced out of power, it was estimated that his wealth was about US\$ 8 billion (Hope, 2000).

Yahya Abdul-Aziz Jemus Junkung Jammeh, who was in power in the Gambia from 1994 until 2017, has been accused of looting millions of dollars from Gambia's treasury department for his gain. The associated capital is estimated to be at least US\$ 50 million (McAllister and Farge, 2017).

After almost forty decades in power, former Angolan president, Jose Eduardo dos Santos, and his family were leading players in the nation's economy. He used the oil wealth of Angola to enrich

himself and his family, and some government, and military officials. His son was linked to corruption allegations which found that he transferred US\$500 million from Angola's central bank to the United Kingdom (UK). The dos Santos family's alleged state capture included the abuse of executive power to award government contracts, telecom permits, and diamond-mining rights for the profit of Isabel and her family (Global Consortium of Investigative Journalists 2020). What is more, the Luanda Leaks revealed economic enablers, including economic institutions, law firms, and accountants, who established and facilitated channels for grand corruption by the dos Santos family.

In Gabon, the late El Hadj Omar Bongo Ondimba is known to have owned more than 33 properties valued at £125 million in France including a luxury collection of cars. He used Gabon's 2.5 billion barrels of oil to enrich himself, his family, and his Bateke tribe thus becoming one of Africa's richest heads of state (The Telegraph, 2009).

In Nigeria, a period from 2010 to 2015, millions of US\$ in oil revenue went missing via money laundering and bribery when Madueke was Minister (Bojang, 2017). In a period spanning five decades (1960 to 2010) almost US\$ 500 million-plus has been lost because of corruption in Nigeria.

Former Nigerian Minister of Aviation Miss Stella Oduah-Ogiemwonyi utilized the Ministry's finances to purchase vehicles that were bulletproof for her private use.

Former Minister of Petroleum Resources Mrs. Diezani Alison-Madueke has had charges brought against her for corruption under Goodluck Jonathan's Presidency (Uwak and Udofia, 2016).

In Uganda, the Entebbe Expressway, furthermore known as Kampala-Entebbe Highway, is a multimillion-dollar road project that the government of Uganda undertook with the assistance of a loan of \$476 million from China's Exim Bank (Wesonga, 2016). In November 2016, the Parliament of Uganda ordered investigations to establish facts of bribery allegations; and a Parliamentary committee discovered that the cost of the road was inflated by over \$16 million. The auditor general's office furthermore confirmed that the cost for this project was inflated. The average cost for one kilometer of the Entebbe Expressway was originally \$2 million, however, was inflated to \$9.2 million. No transparency and no control result in corruption costs.

## *Patronage*

Networks government reliance on extensive patronage networks is a common feature in some African nations. These patronage networks are part of informal power structures which figure out who gets access to public resources. The patronage practices include the three Cs, namely cooptation, control, and camouflage (Camargo and Koechlin 2018) Cooptation, Control, and Camouflage.

Cooptation includes the recruitment or strategic appointments of associates and potential opponents in trade for mobilizing support and maintaining loyalty to the regime. Control mechanisms are unwritten management devices for clashes of hidden benefits, to safeguard elite cohesion, and to impose discipline among allies. Camouflage involves the concealment of the realities of cooptation and control behind formal facades and policies consistent with a commitment to good governance and democratic accountability.

Empirical evidence has shown the existence of such informal governance or power networks in Rwanda, Tanzania, and Uganda (Camargo and Koechlin 2018).

In DRC, patronage-client relationships characterized the presidency of Joseph Kabila as allegations were raised of corrupt cabinet ministers and government elites channeling illicit gains to the president in trade for keeping their positions and getting protection from prosecution (Titeka & Thamani 2018). As a result, the president and his family amassed wealth at the expense of the public. The family of the former president is alleged to own more than 80 companies, had active benefits in farming, mining, banking, real estate, airlines, and telecoms, and held over 71,000 hectares of land (Congo Research Group 2017).

In Nigeria, powerful patron-client networks in the electricity sector create opportunities for rent capture (Roy et al. 2020).

The six privatized generation plants and the eleven distribution companies were acquired by politically connected businessmen. In at least a few cases the generation companies (GenCos) and distribution companies (DisCos) were owned by the same politically connected investor. For instance, Integrated Energy – which acquired the Ibadan and Yola DisCos – was promoted by General Abdulsalami Abubakar, a former military head of state.

Colonel Sani Bello, who is the chairman of Mainstream Energy, the company that acquired the Kainji and Jebba hydel power plants, is a former military administrator of Kano state.

Yusuf Hamisu Abubakar, the managing director of Sahelian Power bought Kano Electricity Distribution Company, was a commissioner at the Nigerian communications commission, the government agency regulating the telecom sector.

Before the removal of President Compaoré in Burkina Faso, the executive had a massive influence on most appointments of public officials and controlled the payment and transfer of resources to local governments (Hagberg et al. 2017). Such strategic recruitment practices and control over local government financing were key electoral tactics employed by Compaoré to remain in power (Hilgers and Loada 2013).

### ***Conflict of interests***

Some political and government leaders find themselves in conditions where they stand to acquire private profits from decisions made in their official capacity. During al-Bashir's presidency in Sudan, government officials, members of the ruling National Congress Party and senior security members often had vested benefits in state-owned enterprises, resulting in conflicts of interest and lucrative opportunities for corruption (US Department of State, 2015).

Members of the ruling party and senior security officials owned private entities which profited from favoritism from the government in the awarding of public contracts.

### ***Opaque political financing***

Another challenge to political integrity is the generally opaque funding of political parties. According to a report by the International Institute for Democracy and Electoral Assistance, there is insufficient regulation of political funding and election campaigns in numerous African nations, making it easier for corrupt activities associated with political financing to continue unchecked (Check et al. 2019).

Burkina Faso does not regulate private political funding, which increases the vulnerability of political parties to corruption risks.

In Somalia, there have been accusations that the United Arab Emirates, Qatar, Turkey, and Saudi Arabia are all financing the campaigns of preferred candidates, thereby, fueling corruption (Burke 2017).

In DRC's last elections, the campaign finance team for presidential candidate Emmanuel Ramazani Shadary consisted of Albert Yuma, the CEO of Gécamines, which is DRC's largest state-owned corporation, and Moïse Ekanga Lushyma, the director of Sino-Congolese cooperation programme (Global Witness 2018, globalwitness site). Both had been implicated in corruption scandals involving the looting of public funds.

### *Role of foreign actors*

Political corruption is aggravated by multi-national companies who bribe public officials and senior politicians to win lucrative contracts or for other unlawful private gains.

In 2017 the US Department of the Treasury (US Department of the Treasury, 2017) sanctioned Israeli billionaire Dan Gertler founded on allegations of him amassing fortunes through corrupt mining and oil deals in DRC. Gertler was in a partnership with Glencore, a British-Swiss multi-national commodity trading and mining company, in their mining activities in DRC. It is alleged that Gertler acted as a middleman for multi-national companies to acquire mining rights in the nation because of his close relationship with former President Joseph Kabila. The US Treasury claimed that between 2010 and 2012 alone, over US\$1.36 billion in revenues was lost through underpricing of mining assets sold to offshore companies linked to Gertler.

Illegal exploitation and the trade of natural resources were identified by the UN as fueling ongoing conflicts in DRC (UN Security Council 2017).

The security sector in DRC is heavily included in the mining industry, and the report noted the involvement of Major General Gabriel Amisi Kumba, who was the commander of the first defense zone, in illegal gold exploitation (UN Security Council 2017). On the other side, several rebels and Mai-Mai groups control their mines (Matthysen et al. 2019). This provides them with economic resources to sustain their violent activities. The UN reported that gold from conflict-affected provinces is still smuggled and traded on international markets (UN Security Council 2017).

Another high-profile case involves the US indictment of three Mozambican public officials and five business leaders over allegations of a US\$2 billion fraud and money laundering scheme (US Department of Justice 2019, site). It was alleged that the indicted persons conspired in a

fraudulent loan scheme with a global investment company which included US\$200 million in alleged bribes and kickbacks.

In 2019, three Credit Suisse bankers pleaded guilty and attested to their roles in the bribery scandal (Ljubas 2019). Nations with multi-national companies included in corruption scandals in sub-Saharan Africa are judged not to be doing enough to prevent or sanction foreign bribery.

Transparency International's 2018 report, *Exporting Corruption*, revealed that the larger part of exporting nations has little or no law enforcement against bribery of foreign public officials (transparency site; Dell and McDevitt, 2018). This means that the larger part of foreign bribery cases remains unchecked, posing a challenge to sub-Saharan Africa as one of the major target markets for multi-national companies.

Foreign nations furthermore play a role in hiding the proceeds of political corruption from sub-Saharan Africa. It is estimated that Africa loses at least US\$50 billion per year through illicit economic flows (UNECA 2015). At least 5% of the illicit outflows are attributed to corruption, which amounts to about US\$2.5 billion a year lost by African nations through corruption (UNECA 2015).

Illicit funds are then stashed in offshore or foreign jurisdictions with assistance from financial institutions, bankers, or lawyers (Economic Action Duty Force, 2011). The Financial Secrecy Index 2020 indicates the destination of proceeds of corruption from Africa, with the top five secrecy jurisdictions consisting of the Cayman Islands, USA, Switzerland, Hong Kong, and Singapore (Tax Justice Network 2020).

Corruption creates the conditions for criminality to thrive, including illicit mining, arms trading, and narcotics. According to the Global Initiative against Transnational Organized Crime, criminal Communities in Mali use a combination of the threat of violence and networks of corruption to protect the illicit flow of arms, cigarettes, and narcotics (Reitano and Shaw 2015).

In South Sudan, a recent UN report singled out corruption as a hallmark of conflict in the nation as millions of dollars have been looted from public coffers (UN Commission on Human Rights 2020).

### ***Land corruption***

One in every two people in five encounters corruption during land administration courses in Africa, compared to one in five persons in the rest of the world (Transparency International 2013).

Land corruption in Liberia, Zambia, and Sierra Leone pointed out that sexual extortion, bribery, fraud, patronage, and kickbacks are common structures of corruption in land administration (Wadström & Tetka 2019). The problem is aggravated by structural flaws in the laws and administrative frameworks dealing with land governance. For instance, the surveyed nations lacked standardized customary tenure frameworks, had fragmented land policies or regulations, or their land administrative offices lacked transparency and accountability (Wadström & Tetka 2019). All these factors create numerous opportunities for corruption to thrive. Women are affected the most by land corruption because of their strong reliance on land (Transparency International, 2018a).

Transparency International's Land and Corruption in Africa programme conducted a baseline survey on women and land corruption together with eight national chapters: Cameroon, Ghana, Kenya, Liberia, Madagascar, Sierra Leone, Uganda, and Zimbabwe. It reported women's experiences and everyday challenges in accessing land, and their constant exposure to bribery by local area leaders and land officials (Transparency International 2018b).

In Zimbabwe, at least 40% of rural women and 64% of urban women surveyed indicated their vulnerability to land dispossession (Transparency International 2018b).

In Kenya, 39% of women surveyed had been asked to pay bribes in land-related matters in the former year (Transparency International 2018b).

In Liberia research showed that corporations pay kickbacks to Liberian authorities for obtaining hectares of land without any surveys or demarcations being undertaken (Wadström and Tetka 2019).

At least 4% of women surveyed had either been exposed to sex extortion to resolve a land issue or they realized other women who had (Transparency International 2018b). Women remain vulnerable to land dispossession, particularly in nations with land-grabbing exercises. In Chisumbanje, local area land was grabbed by an ethanol company, Green Fuel, which allegedly obtained the land through bribery of senior politicians.

The company destroyed crops from the fields and people were forced to accept half-hectare plots, which were smaller than the land lost. An interview with the displaced local area highlighted how women from the displaced communities traded sex for land, and any refusal of sexual development resulted in a loss of land (Transparency International 2018b). Private investors are engaging in corrupt deals to access land and bypass consultations with the affected communities.

In Zambia, chiefs are bribed to use their traditional powers for the conversion of customary land into state property and long leaseholds without any input from village heads or the affected local area (Wadström and Tetka 2019).

### ***Gender-founded corruption***

Transparency International Rwanda (2018a) conducted a survey on gender-founded corruption in public workplaces in the nation. It was revealed that at least 1 in 10 respondents had personally or realized someone who had experienced gender-founded corruption at their workplace during the former 12 months. It furthermore indicated that gender-founded corruption cases are rarely reported to superiors because of fear of retaliation or other consequences. The few respondents willing to share their experiences indicated that turning down gender-founded corruption was usually met by a hostile work environment, including denial of annual leave and threats of termination of their employment contract. Even after reporting the cases to superiors, some respondents were subjected to humiliation and harassment.

### **South Africa case**

#### ***Colonial period***

Corruption in South Africa dates back to colonization in 1652. Jan van Riebeeck, the Dutch East India company employee who was sent to colonize the Cape, got the job because he was given a second opportunity after he was fired for ignoring the company ban on using his office to pursue personal Economic benefits (The conversation, 2020).

The period of Dutch rule lasted until 1795 and was marked by tax evasion and corruption by public officials. Under British rule, which followed that of the Dutch, public spending was directed to serve private benefits.



The most prominent colonialist of the time, Cecil John Rhodes, was forced to resign after he gave a friend an 18-year monopoly catering contract for the government-run railways (McCracken, 1967). Paul Kruger's Transvaal Republic, the Afrikaner-governed state against which the British fought at the turn of the century, was riddled with nepotism and economic favors for the connected. The British administration which replaced it served the benefits of mine owners on whom it bestowed special privileges.

### *Apartheid and post-apartheid period*

Black people were apartheid chief victims, since they had no rights and so no way of protecting themselves against abuse. However, they were not the only ones, as politicians and officials used government power for personal gain.

The most corrupt period in the nation's history was the last few years of apartheid when the attempt to combat the successful international sanctions campaign made corruption, protected by government secrecy, the core government strategy. This was often done with the collusion of private businesses.

By the time the larger part of the rule was achieved in 1994, corruption had become deeply embedded in the way the government operated and in how business related to the government. This directly affected the way South Africa was governed after 1994, despite the efforts of Nelson Mandela and his deputy, Thabo Mbeki.

A particular feature of the last years of apartheid was a blurring of the public and private which was continued into the new order in at least two ways.

The illicit networks which operated during the last years of apartheid recruited people in the new government: former enemies quickly became business partners.

When businesses realized they would need black business partners, the only candidates they realized were the political activists with whom they negotiated. So, it was to them that they offered the shares and seats on boards which were principal if the business was to adapt to new political realities.

The seeds of post-1994 corruption were, therefore, deeply planted in the nation's past. Reformers, for example, President Cyril Ramaphosa confront a widespread reality which, because it reflects patterns that go back numerous years from the exclusion of numerous from the profits that democracy was meant to bring, is tenacious and can survive shocks.

Removing a few high-profile people will not change much because the Communities will survive, as they have done since the departure of former president Jacob Zuma and the Gupta family, who were meant to be the cause of all the problems.

### **Mozambique case**

Mozambique's pattern of northern insurgency dates back to the struggle for independence from Portugal. The ruling Frente de Libertação de Moçambique (Frelimo) led the struggle for liberation from Rovuma in the north to the southern capital Maputo in the early 1970s. After independence in 1975, resistance in northern and central provinces to southern domination continued. That heritage of division has yet to be fully overcome.

The violence in Cabo Delgado originates from a profound sense of neglect of the local populace by the central government. The insurgency by the Islamic militant group Ahlu Sunnah Wal Jammah (ASWJ) in the northern Cabo Delgado province has displaced an estimated 670,000 people since it began in 2017. In March, Total reduced the staff at its Afungi site to a minimum as the nearby town of Palma came under heavy attack.

Total and ExxonMobil have separate onshore LNG development projects on the northern Afungi Peninsula (Feller, 2021). The developments combined are planned to have a total investment of \$50bn, though ExxonMobil has delayed its final investment decision. Italian oil major Eni furthermore has a floating LNG facility offshore which is not directly affected by the insurgency.

The external impetus comes from the recruitment and presence of jihadists from as far as the Central African Republic and Somalia. Internal factors include anger with corruption, smuggling and banditry, and oppression of the local populace which feels that they are left out of the development and the potential wealth, which only profits a corrupted political-economic elite.

The Cabo Delgado gas projects depend in great measure on the ability of the Mozambican state to address the social, political, and economic sources of conflict in Cabo Delgado and beyond.

## **Capital flight from Africa**

Capital flight from Africa is a modern-day reincarnation of the colonial state-led plunder of the continent's natural resources. Multinational corporations capture Africa's resources for cheap and repatriate profits, leaving behind an impoverished populace and a devastated environment.

Modern-day plunder of African resources operates along a complex criminal enterprise value chain (Ayogu 2020),

From the predicate crime (origins of the illicit funds) to the illicit cross-border transfer of funds, all the way to the concealment of the proceeds in the poisoned paradises called tax havens (Ajayi and Ndikumana, 2015). The plunder of Africa's wealth is aided by an intricate transnational takers network that takes advantage of structural flaws in the global regulatory framework. The wealth of corporations and politicians was channeled through safe havens with the help of custodian banks and the industry of enablers comprising law firms, accounting firms, audit firms, and other deal makers. Thus, the origins of the wealth are disguised, and the true beneficial owners are made 'invisible'. Hence, Economic crime is separated from the criminals, and impunity prevails.

While Africa has emerged as one of the fastest-growing region since the turn of the century, capital flight has, ironically, accelerated in a period marked by development in political and macroeconomic stability (Ndikumana, 2021). Capital flight became furthermore the case the political setting up extended to family and personal relations. The continent loses more than US\$50 billion per year through capital flight.

### ***Nigeria***

African resource-rich nations are particularly exposed to capital flight through embezzlement of export proceeds and export misinvoicing.

Those nations lose large amounts of tax revenue through manipulation of transfer pricing by multinational corporations that take advantage of tax havens. Oil-rich African nations account for over 55 percent of total capital flight from the continent (Ndikumana and Boyce 2018). Nigeria, on the top of the list, lost a staggering \$467 billion through capital flight between 1970 and 2018 (Ndikumana and Boyce, 2021a).

The key channels of capital flight are leakages through the Balance of Payments, money that enters the nation but cannot be traced in the recorded uses of funds, trade misinvoicing, under-invoicing of exports, and over-invoicing of imports. Money borrowed by governments or raised through resource exports often goes missing; public infrastructure projects are executed at inflated costs, with the difference being pocketed by politicians and channelled abroad as capital flight.

### *Angola*

In Angola, following the end of the nation's war in the early 2000s, rising oil prices and Chinese demand did create opportunities for illicit asset gathering and capital flight (Ferreira and Soares de Oliveira, 2018)

However, there were furthermore incentives to invest domestically because of oil-fuelled expectations of rising middle-income consumption; and high oil prices furthermore sustained the government's ability to spend on urban housing and infrastructure projects as part of its strategy for post-war reconstruction and political consolidation (Cramer et al, 2020). The infrastructure and housing boom had clear linkage effects, leading to the emergence of a building materials and cement production industry (and associated employment) within Angola. Rising Angolan middle-class incomes in the wake of rising export earnings prompted investment in, for example, the brewing and beverages sector.

This in turn led to linkages to bottling and canning facilities in Angola, some of which grew large enough to export to other African economies (Wolf, 2017; 2018b). As of the end of 2018, Angola lost as much as \$103 billion through capital flight (Ndikumana, L. and Boyce J.K., 2021b).

A key mechanism of capital flight is embezzlement of the proceeds of oil extraction and tax evasion to the profit of multinational corporations and the Angolan elite.

The former President's daughter, Isabel dos Santos has amassed massive wealth and established a global business empire by exploiting her influence in state enterprises, for example, Sonangol. The January 2020 'Luanda Leaks' report by the Global Consortium of Investigative Journalists (ICIJ) identified more than 400 companies in Isabel dos Santos' business empire, including 94 in recognized tax havens (Shaxson 2021). Thus, Angola's wealth has served to lubricate financial systems in the West, not only in the usual offshore financial centres but furthermore in the 'supposedly onshore nations' like Portugal (Shaxson 2021).

### *Côte d'Ivoire*

As of the end of 2018, the nation had lost \$55 billion through capital flight since 1970. Côte d'Ivoire is the world's top cocoa producer, accounting for 40 percent of the international supply. Yet the nation receives only 5-7 percent of the profit generated globally by cocoa (Merckaert, 2020).

Under the Houphouët-Boigny regime (1960-1993), through the management of the nation's Agricultural Product Stabilization and Support Fund, the president had full control over the cocoa sector and used it to enrich himself and his associates. He and his successor Bédié (1993-1999) colluded with exporting companies in which Ivorian political leaders were shareholders. Under Gbagbo (2000-2010), the cocoa rent was the main source of funding for the civil war. The techniques of the Forces Nouvelles in the North and government forces in the South were similar: taxing cocoa production and exports, and illegally exporting part of the output to neighboring Burkina Faso and Ghana.

Under the Ouattara regime (2011-2022), despite a series of restructures aimed at good governance, the cocoa sector has remained highly concentrated in the hands of a few corporate giants and plagued with favoritism, while predation in other sectors too persisted. The persistence of capital flight suggests the political economy of cocoa remains deeply rooted in the foreign scheme. Be it state-led or market-led, dominated by foreign or domestic players, the Ivorian cocoa sector has remained the place for wealth extraction for the profit of a handful of members of the elite.

Cocoa farmers get little reward for their hard labor. Most of the value of cocoa accrues to local intermediaries, international export, processing corporations, and powerful politicians. This framework has been preserved by successive political regimes for everyone that matters gets their cut. The Ivorian people lose, however they have no means to change the framework.

### *South Africa*

South Africa has suffered from capital flight orchestrated by an intricate network of players and enablers connected to both the domestic political framework and the international financial system (Ndikumana, et al, 2020).

The baseline measure of capital flight is the Balance of Payments (BoP) residual, which is calculated as the discrepancy between recorded foreign trade inflows and recorded uses of foreign trade. The sources include export earnings, external borrowing and private capital inflows. The uses include payments for imports and recorded capital outflows, including debt amortization. In principle, changes in the stock of official reserves should correspond to the difference between inflows and outflows, deference the ‘balance’ in the BoP. In practice, there is often a residual, particularly when the BoP statistics on external borrowing are replaced with more complete data from other official sources.

In South Africa, as in most developing nations, the residual often indicates that recorded inflows exceeded recorded outflows. The ‘missing money’ – systematic discrepancies between sources and uses of foreign trade – is taken as a measure of capital flight. In the case of South Africa, capital flight thus measured has increased dramatically since 1995. This period witnessed a rapid increase in foreign trade inflows, mostly through external borrowing and portfolio inflows.

Total resource inflows increased from \$34.8 billion over the 1995-99 period to \$167 billion over 2010-14. Between these two periods, total uses of resources increased from \$22.7 billion to \$96.5 billion. The result was an increase in capital flight from \$14.6 billion in 1995-99 to \$75.8 billion in 2010-14. The corresponding cumulative amounts from 1995 to 2017 are \$441.1 billion for sources, \$261.5 billion for uses, and \$179.6 for capital flight.

From 1970 to 2017, South Africa lost over \$300 billion through capital flight, including through over-invoicing of imports and under-invoicing of exports (Ndikumana et al, 2020). Net trademis-

invoicing amounted to \$146 billion over the 1998-2017 period alone. Export under-invoicing appears to be especially rampant in the case of mineral resources, for example, gold, silver, platinum, and diamonds.

Ndikumana and Boyce (2019) present the cases of silver, platinum, and gold over the period 2000-2017. In the case of silver, the results show especially high discrepancies in trade with India, with export under-invoicing amounting to \$78.7 billion. For platinum, exports to China were under invoiced by as much as \$14.2 billion out of a total of \$16.4 billion of imports from South Africa. For gold, the analysis is focused on the non-economic gold category, which is reported on Comtrade. Non-economic gold is gold that is not held as reserve assets (are referred to as economic gold) by the national authorities (the central bank). The results show particularly large contrasts between the values of gold exports declared by South Africa and the value of gold imports reported by its trading partners. Over the 2000-2017 period, while India recorded \$47 billion in gold imports from South Africa, the latter's data show only \$200 million of gold exports to the former. The United Kingdom (UK) reported a total of \$28 billion of gold imports from South Africa, while the latter recorded only \$300 million of gold exports to the UK. In the case of China, its records show \$31 billion of gold imports from South Africa while the latter's data show virtually no gold exports to China.

## **Anti-corruption initiatives**

### ***The AU Convention on Preventing and Combating Corruption (AUCPCC)***

Corruption is a significant barrier to democratic governance, human rights protection, and sustainable development across Africa. The AUCPCC was implemented in Maputo, Mozambique

on 11 July 2003 and came into force in 2006. The AU has established an Advisory Board on Corruption, which is an organ, tasked to advise on, and addresses the problem of corruption on the continent. The Convention has been ratified by 44 out of the 55 AU Member States, which explains the slow pace of fighting the vice on the continent.

As required by the Convention, nations have established national anti-corruption laws and institutions. The AUCPCC requires the nations that have ratified the convention to report annually on their progress in executing anti-corruption measures.

Transparency International recently conducted a comparative review on the implementation and enforcement of the AUCPCC. The findings indicate that most African nations do not report on their implementation as required. Furthermore, only a few exceptions, like Ghana and Rwanda, have established dedicated courses to involve civil society in their reporting measures.

### ***National anti-corruption strategy***

Herewith are the main headlines proposed by the South African government for a National anti-corruption strategy (South Africa government, 2021):

Promote and encourage active citizenry; Advance the professionalization of employees; Enhance governance; strengthen the resourcing, coordination, transnational cooperation, performance, accountability, and independence of dedicated anti-corruption agencies; Protect vulnerable sectors.

### ***Anti-Money Laundering Risks***

Angola has furthermore seen a flurry of recent investigative enforcement activity focused on alleged corruption and money laundering by family members and associates of former President José Eduardo dos Santos (Covington Aler, 2021). As with the State Capture investigations in South Africa, the so-called “Luanda Leaks” scandal in Angola has drawn scrutiny from numerous foreign law enforcement authorities, including authorities.



## US Department of Justice (DOJ) anti-money laundering (“AML”)

In recent years, US DOJ increasingly has used anti-money laundering (“AML”) statutes to target people included in cross-border corruption schemes. Between 2012 and 2019, DOJ brought enforcement actions against 57 people for money laundering connected to bribery, including several cases targeting people allegedly included in corruption schemes in Africa. Moreover, while the Foreign Corrupt Practices Act (FCPA)’s jurisdictional reach is undoubtedly long, U.S. criminal AML statutes may in some respects reach even further than the FCPA, including transactions that touch the U.S. banking framework and “promote” the violation of foreign anti-corruption laws.

Recent court decisions have affirmed the extensive extra- regional reach of the U.S. AML laws, concluding that illicit wire transfers from one foreign jurisdiction to another are within the reach of the U.S. AML laws if they pass through the U.S. correspondent banking framework.

Moreover, recent amendments to the U.S. AML laws establish a new criminal offense for, under certain conditions, concealing, falsifying, or misrepresenting that senior foreign political figures or their family members or associates are the sources of funds in a transaction.

## UK’s Proceeds of Crime Act

With the UK’s Proceeds of Crime Act furthermore having extra-territorial reach, companies operating in Africa with exposure to the U.S. or UK financial systems increasingly need to be focused on AML risks in addition to anti-corruption risks.

In the context of investment transactions, while the rules of successor liability may limit an acquiring company’s liability under anti-corruption laws for pre-acquisition bribery, if the company receives financial profits from such bribery going forward it may be dealing in the proceeds of crime. Understanding the reach of applicable AML laws is critical in such cases to enable the company to assess the risk of enforcement action and craft appropriate remedial measures.

## ***Fighting corruption within World Bank Group***

### Proactive policy

The World Bank Group's approach to fighting corruption combines a proactive policy of anticipating and managing risks in its projects. The Bank Group subjects all potential projects to rigorous scrutiny and works with clients to reduce possible corruption risks that have been identified. The Bank Group's independent Sanctions Framework includes the Integrity Vice Presidency, which is responsible for investigating allegations of fraud and corruption in World Bank-funded projects. Public complaint mechanisms are built into projects to encourage and empower oversight, and projects are actively supervised during implementation.

In the fiscal year 2020, the World Bank Group debarred or otherwise sanctioned 49 firms and people and recognized 72 cross-debarments from other multilateral development banks. At the end of the fiscal year 2020, 372 entities have been sanctioned with conditional release, a course by which firms are allowed to advance their internal compliance programs as part of their sanction.

Recognizing that attempts to control corruption have brought important lessons, the World Bank Group released in September 2020 a global report drawing on case studies of various devices and approaches.

In Kenya, a World Bank judicial project helped establish an advanced data analytics framework that is being used to monitor the performance of courts, judges, and court personnel. Operating as part of an explicit anti-corruption effort, the performance management framework is being used in combination with surveys of court users to identify and address corruption risks.

In Somalia, the World Bank in collaboration with the IMF and other partners has supported the production of a joint Somalia Government - Global donor advisory group that has been reviewing all substantial government contracts that have not been appropriately awarded, leading to those contracts being halted and reset. In one case, the restructuring and competitive tendering of the largest goods contracts that the state had - for military food supplies – save over 40%.

## Regional and international initiatives

The World Bank Group creates International transparency standards and support for the implementation of open government, assists in the implementation of transparency and accountability efforts, and supports Global alliances and regional anti-corruption forums.

### ***The AfDB Anti-Bribery Policy and Compliance Guidance***

The Guidance helps companies to draw up a corporate anti-bribery policy and related compliance measures (AfDB, 2021a). It furthermore provides insight and ideas on how to put them into practice. Strong anti-corruption corporate compliance frameworks ultimately profit all firms – foreign and domestic, large and small. The Guidance draws on best practices from the OECD, the AfDB, the African Union, the UN, Joint Initiative member nations, Global business associations, and civil society.

The OECD-AfDB Joint Initiative to Support Business Integrity and Anti-Bribery Efforts in Africa (Joint Initiative) supports efforts by Africa's private sector to advance corporate integrity and accountability and ultimately prevent bribery from occurring. The Guidance profits from the private sector's involvement in programmes that are funded by the African Development Bank (AfDB) and other multilateral development banks. The AfDB puts the development of integrity compliance programmes at the heart of its operations.

This Guidance assists companies that want to contract with the AfDB to put programmes in place that are aligned to the standards set by the AfDB's Integrity Compliance Guidelines.

## **Africanization of education**

The intercultural component is meant to integrate local cultural values and lifeways into the curriculum, linking learners' experiences and knowledge to new knowledge. Mother tongue first improves the confrontation with the colonial culture related to the foreign-global language introduced later.

### **Education and culture**

#### ***Language and education***

Vygotsky's sociocultural theory (1978, 1981, 1986, 1987) depends on the concept that human activities take place in cultural contexts, are mediated by language and other symbol frameworks, and can best be understood when investigated in their historical development (John-Steiner and Mahn 1996). According to Vygotsky, all human endeavours occur in cultural spaces and cannot be comprehended without these spaces (Asante 1988). Language, as a socio-cultural product, thus becomes a critical component of human learning because it is through language that people can acquire the deepest cognitive development possible. For Vygotsky, thinking, reasoning and problem-solving are underpinned by language in a specific context (Turuk 2008).

Vygotsky's views are thus apt when one attempts to establish whether adequate learning takes place for black students if they are taught in a language that is foreign to them and their cultural context.

Before fully embracing foreign education, Africans were developing knowledge related to natural resources and their feeding and other fundamental needs (Barbosa, 2010). They were good sculptors, carvers, hunters, cloth weavers, and blacksmiths.

Education in Africa is given in a foreign language, while children and teachers alike speak African dialects (Bgranite, 2014)

The foreign language, in most nations the language of the former colonial master, and in Africa often called the 'national' language, is a language neither pupils nor teachers master well and do not normally speak outside school.

### ***An Africanized instructive framework***

African students end up memorizing the content of their subjects with little understanding of the subject matter (Alexander, 1999; Bamgbose, 1999).

Knowledge relevant to the African context must be made available in a language the larger part of African people understand. Learning in one's mother tongue, at whatever level, increases the opportunities for success (Bamgbose 2004).

An Africanized instructive framework maintains African awareness of the cultural order and rules facilitates a critical emancipatory approach to solve the problems of their lives and produces the capacities for Africans to figure out their future.

Mswazie and Muddyahoto (2013) have summarized the rationale for the Africanization of education in three key areas. The first is the compelling curriculum seeing that the cost of ignorance about one's society has become far too great for Africa and the Diaspora to bear. The second is that Euro-centric models of development have failed to emancipate Africa from its grinding poverty. The third relates to globalization which is spreading models of relationships that have their base in western culture.

### ***African Academy of Dialects (ACALAN)***

On December 19th, 2000, the then President of the Republic of Mali, His Excellency Alpha Oumar Konare, established the Mission for the African Academy of Dialects (MACALAN), by Presidential Decree N°00-630/PRM (acalan site)

The Mission became the African Academy of Dialects (ACALAN) in January 2006.

ACALAN objective is to promote functional multilingualism, especially in the education sector, and to ensure the development of African dialects as a factor of African integration and development.

ACALAN partners are UNESCO, The Organisation Globale de la Francophonie (OIF), The Global Union of Academies (UAI), The World Congress of African Linguistics (WOCAL), The Association for the Development of Education in Africa (ADEA), Instructive Research Network for West and Central Africa (ERNWACA), The Swiss Cooperation, and The Summer Institute of Linguistics (SIL Global).

The regional Vehicular Cross-border Language is as follows:

In Southern Africa, Chichewa/Chinyanja and Setswana

In West Africa, Fulfulde, Hausa, Mandenkan, Yoruba and Wolof

In East Africa, Kiswahili, Somali, Malagasy, Kinyarwanda /Kirundi/Kihangaza/Giha/Rufumbira and Luganda/Lusoga/Lugwere

In Central Africa, Beti-fang, Kikongo and Lingala

The main dialects are as follows:

Swahili: Spoken principally in Kenya and Tanzania, Swahili furthermore serves as a regional lingua franca throughout Eastern and Central Africa.

Wolof: The main lingua franca of Senegal and The Gambia, it is spoken as a first or second language by the larger part of populaces in those two nations in most cultural contexts. It is furthermore spoken by a significant minority in Mauritania.

Zulu: The dominant language in KwaZulu-Natal, the largest province in South Africa, Zulu is the language with the largest number of speakers in the nation, and is furthermore spoken in Malawi, southern Swaziland, and Lesotho.

Pulaar: The most geographically widespread language of Africa, Pulaar is spoken in various provinces from the westernmost point of the African continent (Senegal) southward to Sierra Leone, and eastward across Mali to Sudan. The prominent role played by Pulaar people in West African history is reflected through their rich composed and recorded heritage.

Yoruba: The Yoruba language (natively èdè Yorùbá) is a Niger-Congo language spoken in West Africa. The number of speakers of Yoruba was estimated at around 20 million in the 1990s. The native tongue of the Yoruba people is spoken, among other dialects, in Nigeria, Benin, and Togo and communities in other parts of Africa, Europe, and the Americas.

ACALAN's core projects are:

Linguistic Atlas for Africa (LAA), Pan-African Masters and Ph.D. Programme in African Dialects and Applied Linguistics (PANMAPAL), Pan-African School for Translation and Interpretation (PASTI), Terminology and Lexicography (TLP).

### ***Cultural barriers to foreign-global language***

Implementing English as a medium of education from lower levels of education as a strategy to offer learners access to proficiency in English has been found problematic and ineffective. This strategy seems to bypass local concerns because, in the current state of affairs, English or French or Portuguese or Spanish cannot suffice to cater to internal communication among citizens. This is because these dialects are only spoken by very few people in these nations. For instance, only 7% of the Rwandan populace self-reported being literate in English in 2012 and this education rate was self-reported and was “not verified through an education test or similar means” (NISR, 2014). This remark suggests that the number of actual literate people in English may be even lower.

In Namibia, only 1% of the populace spoke English in 2000 while this language was an official language and a medium of education in numerous schools in this nation (Bgranite-Utne, 2000). There are daily newspapers and an abundance of magazines, however hardly any newspaper or magazines are published in Namibian dialects (Bgranite-Utne, 2000). This condition means that very few people, usually the elite, have access to the information published in these newspapers while others are kept under-informed of what is happening in their nation. In 2000, less than 5% of the populace had some knowledge of English in Tanzania (Bgranite-Utne, 2000). In addition to the limited number of people who can use English in African nations, the quality of English that numerous Africans have access to is not good as is the case in South Africa (Foley, 2002), Tanzania (Bgranite-Utne, 2000), and Rwanda (Pearson, 2013). This suggests that even the global concerns may not be addressed effectively for these people and that leaving African dialects to embrace English may result in not being able to use either language fluently.

Skutnabb-Kangas (2008) points out that numerous studies have shown that the longer the mother tongue remains the main medium of education, the better minority children learn the dominant language, English in this case. Thus, using learners’ mother tongues will not only enable learners to profit a great deal from the curriculum but will furthermore contribute to them accessing the much-needed proficiency in English, which will enhance the nations’ human resources and economic development. Local dialects and related cultures will furthermore be preserved, and the respect for children’s linguistic rights and the right to quality education will be enhanced.

### ***Mother tongue first***

In African nations with historical ties to France, the term *pédagogie convergence*, or convergent pedagogy, refers to a program that values the mother tongue for giving structure to the learner's thought and personality and aims for functional bilingualism (Traoré, 2001).

The intercultural component is meant to integrate local cultural values and lifeways into the curriculum, linking learners' experiences to new knowledge.

This explicit valuing of learners' cultures should not only support learning but furthermore raise learners' self-esteem and empower them to address power contrasts between dominant cultural values and their own (López, 2006).

Prah and Bgranite-Utne (2009) have criticized western theories on bilingualism when applied to Africa.

Research conducted by the research group LOITASA (Dialects of Education in Tanzania and South Africa) has shown that if extra resources are given to the Kiswahili-medium government schools in Tanzania, the pupils do even better than in the expensive private English medium schools (Babaci-Wilhite 2010; Bakahwemama 2010).

### ***Single national language***

The use of a single national language throughout the primary school is rehearsed in Tanzania with Kiswahili, in Somalia with Somali, and in Madagascar with Malagasy, though in the latter case the policy has swung back and forth between Malagasy and French ((Heugh, 2011; Dahl, 2011). This model has been criticized in several contexts for excluding speakers of other national dialects (Nyati-Ramahobo, 1999).

The Six-Year Yoruba Medium Primary Project in Nigeria uses Yoruba as a medium of education for L1 speakers in what is considered a late-exit transitional model, where English would become the medium only after six years of primary education. Learners participate actively in their classes. The L1 facilitated education and learning and did not prevent learners from gaining proficiency in the dominant language (Bamgbose, 1991, 2000; Fafunwa et al., 1989).



Quality teacher preparation and materials development was able to provide results that showed the effectiveness of this mode (Heugh, 201).

### ***Multilingual in African dialects***

In a study undertaken in Katutura (Namibia) and in Nima (Ghana), Prah (2009) found that Africans who are presently increasingly moving within and between nations are becoming more and more multilingual in African dialects. In Nima, Ghana, 69% of those interviewed spoke four dialects or more and 41% spoke five dialects or more. Only about 5% of the populace master French in the so-called francophone nations, and about 5% master English in the so-called Anglophone nations. Yet there is no nation in Africa where teaching at the post-primary level is going on in an African language (Bgranite-Utne, 2012).

### ***Updating of local dialects for education***

#### **Natural Language Processing (NLP)**

NLP is developing matched lists of words and sentences that allow a computer to connect and correlate meanings in two or more dialects (Kago and Cissé, Ghana, 2020). In January 2021, NLP developed a parallel bilingual machine translation education corpus for English and Akuapem Twi, spanning 25,421 sentence pairs in total (Azunre et al., 2021a; Azunre et al., 2021b). The social enterprise Zindi regularly hosts competitions to generate data sets that can be used to train computers to translate African dialects. They have received education data set contributions from African data scientists that cover the Wolof (Senegal), Hausa, Igbo, Yoruba (Nigeria), Fongbe, Ewe, Kabiye (Benin and Togo), Tunisian Arabic (Tunisia), Kiswahili (Kenya and Tanzania), and Chichewa (Malawi) dialects (Zindi, 2020).

The pan-African Open Access platform AfricArxiv recently announced a “Decolonize Science” project in collaboration with the NLP research organization Masakhane. In this project, they aim to translate original research papers into six diverse African dialects that include isiZulu, Northern Sotho, Yoruba, Hausa, Luganda, and Amharic (Obanda, 2021; Wild, 2021). Translating technical subject matter in various dialects is furthermore underway at the FAO (Food and Agriculture Organization) of the United Nations (AGROVOC, 2021).

### Private professional contribution

Dr. Thembla Dlodlo has laid out a comprehensive template for how to devise new words to describe Physics concepts in the Nguni language (Dlodlo, 1999), and Dr. Christopher Chetsanga published, a Science–English dictionary in the Shona language (Chetsanga, 2014). Nanjala Nyabola from Kenya, along with a team of linguists has established translation cards to communicate digital rights and data education vocabulary in various dialects of the Kiswahili language. Nyabola and the efforts of her team are timely and relevant especially considering the recent efforts of Kenya to digitize populace biometric data (Betteridge-Moes, 2021; Nyabola, 2021).

### The Centre for Advanced Studies of African Society (CASAS)

CASA (casa site) has been able to bring almost to a conclusion the harmonization of the dialects of Namibia and the cross-border dialects (Angola, Zambia, Botswana, and South Africa).

Two groups of dialects have been harmonized. They are the Bantu dialects and the Khoekhoe and San dialects. The Bantu dialects include, Oshiwambo, Rukwangali, Runumerouso, Thimbukushu, Oshierero, Diriku, Few, Kwambi, Kwanyama, Lozi, Mashi, Mbalanhu, Ndonga, Subiya, Totela, Tswana and Yeyi. The Khoekhoe and San dialects include, Khoekhoegowab, Khwedam, and Ju!’Hoansi, Damara. This work has and is being done by a continental network of African mother tongue linguistics, professors, and lecturers

CASAS is currently engaged in various phases in the production of primary school graders for all levels of primary education in Uganda, Zambia, and Zimbabwe. For these three nations, indeed, the work is almost completed. The governments in all three nations are entering into agreements with CASAS for the production of primary school books for all grades.

Education in the foreign language refers to education for  $\pm 10\%$  of our populaces (Prah, 2009). On that statistical basis, it is impossible to move a society forward. What CASAS’ research has revealed is that over 80-85 percent of Africans, as first, second and third language-speakers, speak no more than 15-17 “core dialects”, founded on our clustering based on mutual intelligibility.

The total populace of Black Africa is between 700 and 800 million, (as first, second, and third language speakers) the Fula, Pulaar, Peul, Tuculor, Fulful, Fulbe, Fulani cluster, Hausa and its varieties, Oromo, Igbo, Mandeng, Amharic, KiSwahili, Yoruba, the Gbe, would produce about 50 million in each instance; the Nguni dialects, the Sotho-Tswana, the Akan, the Eastern and the Western inter-lacustrine Bantu (Kitara) dialects, Luganda/Lusoga/Lugishu and Luo, Gur, Lingala, Kikongo are between 30-40 million per set. Other dialects, of much smaller size, however which enjoy preponderance within existing states include Fang, Sango, Nyanja-Cewa, Wolof, Ovambo-Herero, and Somali-Samburu.

### Local dialects in Arabic

In much of Sahelian Africa, varieties of Ajami (local dialects composed with the Arabic script) were used to write African dialects as a result of the Arabo-Islamic expansion which followed after the death of the prophet Mohammed and the entry of Arabs into Africa from the middle of the seventh century AD (Phra, 2008). The central legacy of this Ajami heritage lies preeminently with the Timbuktu heritage tradition. In the Horn area of Somalia, the Arabic script was first introduced in the 13th century by Sheikh Yusuf al-Kowneyn to aid Koranic teaching. In the 19th century, Sheikh Uways al-Barawi worked on the literature of Somali with the Arabic script and found it in the Maay dialect of Southern Somalia. In South Africa, the first composed version of Afrikaans was produced in Ajami by the Muslim Malay slaves who were brought to the Cape by their Dutch masters. In both cases, that is Ajami and Ge'ez; the cultural bases of the education traditions were narrow and were largely driven by religious castes and orders.

Africa has some native examples of composed structures (Prah 2008). The Akan of the Ivory Coast and Ghana developed the Adinkra framework of ideograms. Until 1972, when the Latin script was implemented by the Siad Barre administration pre-eminently the Somali language was unofficially but popularly rendered in the Osmania script devised by Osman Yusuf Keenadiid. While it was in form a good part Ethiopic, it had furthermore significant Arabic and Italian influences.

The Vai script, strictly speaking, a syllabary or a catalogue of characters, each of which denotes a syllable as opposed to a single sound, was established in the 1830s by Momadu Bukele. It remains popular in Liberia, particularly among the Vai, where it is mostly used in informal correspondence.

## **Education in selected nations**

### ***Ethiopia***

Ethiopia appears to have the strongest model of Multi-Lingual Education (MLE) to date, founded on its language-in-education policy of 1994 calling for a full eight-year primary cycle of L1-founded education and education, along with the teaching of national language (L2) Amharic beginning in Grades 3 or 5 (for the 73 percent of students who do not have Amharic as L1) and international language (L3). The policy is bilingual for L1 speakers of Amharic and trilingual for speakers of other dialects (L1 + Amharic + English). Founded on nationwide research in 2006–07 on the variable implementation of the policy, with updates in 2011, our combined Ethiopian and International team showed with national Grade 8 assessment score averages from 2000, 2004, and 2008 that students taught and assessed in their L1 for eight years outperformed those taught and assessed in English (L3) (Heugh et al., 2012).

The highest performers on national assessments were those learners who had the full eight years of L1-founded education, contrasted with those who had fewer years of L1 study. Any switch to English (L3) as a medium of education after four or after six years of L1 did not result in working on English skills. The Ethiopian case demonstrates that where the political will is present, L1-founded MLE can be implemented effectively in challenging, resource-scarce conditions, and can enhance school results for all learners (SkutnabbKangas & Heugh, 2012).

Learners were not adequately prepared for a switch to English as a medium of education at Grade 6, given low teacher proficiency, lack of materials, and lack of exposure to English (Walter and Davis, 2005). Unfortunately, according to UNICEF (2016), it is still common for schools to shift to English before the end of the eight years, which would mean that the model is late-exit transitional in numerous cases.

### ***Zimbabwe***

In 1987 the Education Act stipulated that the main dialects of Zimbabwe, namely Shona, Ndebele, shall be taught in all grade schools from the first grade (Nhongo, 2013).

Before the fourth grade, the medium of education language is the more commonly spoken and better understood by the pupils. From the fourth grade, English is the medium of education provided that Shona or Ndebele shall be taught as subjects on an equal-time allocation as the English language.

In Binga and Gokwe North, the dominant minority language is Tonga. In November 2008, the primary school books called the Bwacha Lino Series were launched. Non-governmental associations supported grade school teaching in Tonga with numerous difficulties because of inadequate staff with knowledge of the Tonga language.

In Hwange, Nambya is the dominant language. The Nambya people do not have non-governmental associations promoting the teaching of their language in grade schools.

Kalanga, a language which is found chiefly in Plumtree and some provinces around Tsholotsho and Kezi is furthermore taught in just a few selected grade schools. Kalanga has furthermore not received any support from the government and the non-governmental associations.

Tapfumaneyi's 2013 survey of the condition has concluded that the various curricula in the nation 'are too dependent on Western knowledge frameworks well after the colonizing governance relinquished power to the black political elite (Tapfumaneyi, 2013). A look at the Zimbabwe national Report to UNESCO supports Tapfumaneyi's conclusions. In a forty-one-page policy document Africanization is not mentioned (UNESCO, 2001).

## ***Nigeria***

The English language has come into Nigeria around the 15<sup>th</sup> century after some English men, named Nicholas Lambert and Thomas Wyndham, came into Nigeria and English 1554 landed in old Calabar.

In the Trans Atlantic slave trade between the period of 1450-1850 and Lagos Badagry had a major part to play in that effect because it was through Badagry that these slaves were being transported. English was used as a means of communication between the traders (Olagunju, 2016).

In later years, some British Christians took interest in Nigeria and came to the awareness of the slave trade in Lagos and its notorious identity as a slave depot.

This, however, did not sit well with them and the British decided to put an end to the slave-trading in Britain in 1772 by a movement from the then chief justice of England, Lord Mansfield. So, slave trade around the world was declared illegal by 1807 and then in 1852, England and Badagry chiefs signed a treaty that put an end to human trafficking in that region. After this abolishment in Lagos because of its annexation by the British in the 1860s, a British Christian society called the Buxton's society for the extinction of slave trade and the civilisation of Africa, declared its unanimous opinion that the only complete cure of all the evils that slave trade had caused in Nigeria and then Africa, was the "introduction of Christianity".

After Nigeria gained independence in 1960, the English language continued to enjoy a prominent status it represents a symbol of modernization and has a wider geographical spread than any of the native dialects in Nigeria (Amakiri, 2006, Kachru, 1986, Oluniyi and Olajumuke 2013).

Nigeria is home to 526 dialects (Trudell, 2018). The three major language families found in Africa (Afro-Asiatic, Nilo-Saharan, and Niger-Congo) are all represented among Nigerian dialects.

English is used in Nigeria's government and education framework however is uncommon among rural and less affluent families and classrooms (Dikwa and Dikwa, 2016; Anota and Onyeke, 2016).

In the 1999 Constitution, they are expressed as follows: Section 55: The business of the National Assembly shall be conducted in English and Hausa, Ibo and Yoruba when adequate solutions have been made.

Several large education initiatives have been implemented in the last two decades, led by international development agencies in collaboration with the Nigerian government, and with funding from international donors. Three of these initiatives have language and perusing components, and are portrayed below.

#### Perusing and Numeracy Activity (RANA), 2015–20 (fhi site)

Location: Katsina and Zamfara states (expansion to Kebbi and Niger states in 2018–19); international implementer: FHI 360; Funders: DFID and UNICEF; Language: Hausa.

RANA project is providing education in P1–P3 in both public schools and integrated Koranic schools, with the ultimate goal of increasing educational outcomes for learners – and girls in particular. Project activities include Hausa-language materials development in P1–P3, teacher education, local area mobilization, and early-grade perusing policy work. Sixty coaches have been trained to monitor lesson fidelity and student engagement and to provide pedagogical support in 200 schools. In addition to Hausa-language perusing education for P1–P3, RANA has developed a series of more than 50 Hausa peruse-aloud stories with numeracy themes, using them to teach numeracy to 50,000 students in 199 schools.

Northern Education Initiative Plus (NEI Plus), 2015–20 (nei site)

Location: Bauchi and Sokoto state international implementer: Creative Associates Funder: USAID; Language: Hausa, English.

NEI Plus aims to strengthen the ability of Bauchi and Sokoto states to provide greater access to fundamental education, especially for girls and out-of-school children. The project aims to advance perusing outcomes among more than one million children in schools, as well as more than 400,000 out-of-school children in approximately 11,000 learning centres.

The project’s Hausa- and English-language Mu Karanta! And Let’s Peruse! Programme has been planned as a mother-tongue-founded early perusing programme for P1–P3 (Mu Karanta!), with the transition to English-language perusing in P2 and P3 (Let’s Peruse!). The programme follows global best practices in learning to peruse in mother tongue and early-exit transition to English-medium learning.

The project will gather evidence to figure out whether the transition to English in P4 is an effective strategy, and then help to develop a policy on the transition to English founded on international and local evidence.

Teacher Development Programme (TDP), 2013–18 (tdpnigeria site)

Location: Jigawa, Kaduna, Kano, Katsina, and Zamfara states; international implementer: Mott MacDonald; Funder: DFID; Dialects: Hausa, English.

The goal of the TDP is to advance the quality of teaching in grade schools and junior secondary schools and in colleges of education at the state level in northern Nigeria.

The programme began in Jigawa, Katsina, and Zamfara states, and was later extended to Kaduna and Kano states. The TDP aims to advance the skills of 66,000 teachers, including their language-teaching skills. The TDP's scope covers key subjects, for example, English, mathematics, and science.

The Strengthening Teachers' English Proficiency in Northern Nigeria (STEPIN) programme, planned by the British Council, was implemented from December 2015 to July 2018 as a component of the TDP. STEPIN was planned to meet the need of teachers in Northern Nigeria who have to provide English-medium education from P4 onwards, but who do not have adequate English language proficiency to do so. The programme was intended to advance the English language proficiency, classroom English and teaching methodology of 62,000 teachers.

The present National Policy on Education advocates the use of the mother tongue in passing on education at the lower levels of the grade schools (Asikiya and Boma, 2015). The Federal Government stated that every child shall learn the language of the immediate environment. Furthermore, in the interest of national unity, it is expedient that every child is required to learn one of the three Nigerian dialects: Hausa, Igbo, and Yoruba. For smooth interaction with the speaking French neighbors, French is the second official language in Nigeria and is compulsory in schools.

### ***Botswana and Swaziland***

In Botswana, the Africanization of education took the form of what was locally known as Education for Kagisano which simplistically, is concerned with Africanization thought (Kangueehi, 1995). Kagisano is a Setswana word that originates from the word Kagiso, which means peace (Department of Curriculum Development and Evaluation, 1988).

Kagisano meant a combination of four national principles: democracy, unity, development and self-reliance. Today Kagisano means five national principles, the original four and a new one called Botho (Respect). The philosophy of Kagisano was introduced into the education framework of Botswana as a recommendation of the National Commission on Education (NCE) of 1977 in a report entitled Education for Kagisano.



This was characterized by a rejection of foreign day practices in education, the setting up of the national university of Botswana and Swaziland, development, and localization of school activities through the indigenization of contents and instructive management. Africanization seemed to have achieved a great deal in Botswana under the Kagisano ideology except for the medium of education which is still in English.

seTswana in Botswana is spoken by the ethnic baTswana forming about 80%, as the first language. The Kalanga who count for about 11% furthermore invariably speak seTswana as a second dialect, and a good proportion of the other minorities furthermore can effectively acquit themselves in seTswana. Education in seTswana can be coordinated with Namibia, South Africa, Lesotho, Zambia, and Angola, Africa will be marching forward in this region to modernity sure-footedly.

### ***Tanzania***

Tanzania under Julius Nyerere, Education for Self-Reliance (Nyerere, 1968c) brought Swahili, a widely spoken lingua franca, into the schools to unify the nation with a language other than a foreign one (Obanya, 2002).

The education for self-reliance (ESR) in Tanzania started in 1967 and was inspired by the need to develop curriculum and school frameworks to meet the needs of the larger part of Tanzanians who were living in rural provinces.

Swahili is the national language of Tanzania, which is home to 59.7 million people (Russon, 2020). There are over a hundred dialects spoken in Tanzania, however, Swahili is spoken by 90% of the nation and is what unites the nation's 130 ethnic groups.

In 2017, Tanzania became the first nation in sub-Saharan Africa to have an African language as the sole language of education in its schools, replacing English.

In Tanzanian government schools, education is in Swahili, the national language, however in secondary schools, classroom education and testing change to English. Thus, numerous children in government-grade schools are poorly prepared for their next level of education,

## ***Kenya***

Kenya is a highly multilingual nation with 42 various tribes speaking various dialects (Sibomana, 2015, Bunyi, 2005; Njeru, 2013), English and Kiswahili are the only official dialects. Numerous citizens whose first dialects are not officially recognized use them in the most important spheres of life in the nation (Khejeri, 2014).

### Africanization

In Kenya efforts at Africanization were fixed in the nation's four-year development plans started by Jomo Kenyatta in 1963. It was characterised by the removal of western and Christian hold on the instructive framework and the focus of the curriculum to render students economically useful within their environment.

This did not however lead to curriculum transformation as the teaching of history and literature remained predominantly European despite the introduction of a few local texts. While the primary school curriculum saw some degree of Africanization, the Kenyan secondary school curriculum is still being criticized for neglect of African history and literature and its Euro-centric bias (Woolman, 2001).

### English use

Regarding learners' readiness and confidence to use English as a medium of education in Kenyan schools, indicates that the Standard 6 learners who were interviewed admitted to having problems in following education in English, (Bunyi, 2005). More than 50% of the children who enter Standard 1 in Kenya descent out of school before finishing Standard 8.

In 1998, 35% of Kenyan Standard 6 children failed to achieve the minimum English perusing mastery or the ability to recognize the alphabet and simple English words (Bunyi, 2005).

Furthermore, 77% of Standard 6 pupils in Kenya have not achieved the desired level of mastery defined as the mastery necessary for successful learning in Standard 7 (UNESCO, 2001, in Bunyi, 2005).

### Maasai programme

In 2011, a local language early grade perusing programme called Opportunity Schools was begun in 20 of the poorest-performing grade schools in the Maasai area of Kenya (Trudell, 2013). However, in the early phases of programme development, it became clear that the current Maasai orthography is so difficult to peruse (because of its underrepresentation of vowel sounds and tone) that mother tongue Maasai speakers do not purchase or peruse the available composed materials in the language. To address this problem, well-known Maasai writers and leaders were engaged in a discussion about making the literature framework easier to peruse. Freely admitting the extreme difficulty of perusing the current orthography, these leaders permitted the discussion of possible alternatives. Subsequently, Maasai linguists and education staff from NGOs and the Ministry of Education's Department of Adult and Continuing Education figured out that two-tone markings could be added to the Maasai orthography used in the Opportunity Schools programme: the acute accent [ ´ ] for high tone, and the circumflex [ ^ ] for falling tone. Other suggestions, for example, non-Latin characters and additional diacritics were ruled out. Though this ruling was not the 'ideal' option desired by linguists in the language, the programme materials were printed using the two-tone marks. The results were impressive. Teachers reported their pupils learning to peruse Maasai in a fraction of the time expected because of the disambiguation provided by the two-tone marks, local area-founded literature development (Trudell & Ndunde, 2015).

### Kikamba-speaking programme

In 2013 World Vision contracted SIL Africa to implement its local area-founded literature development Community-based Literature and Internationalized Education (CBLD) programme in one of their Kikamba-speaking programme provinces of Kenya. The CBLD programme combines highly local development of leveled readers (including choice of story themes, original authorship, and control over the illustrations) with careful editing and printing. The resulting books are of a quality that could be sold in national bookshops, yet they bear the names and the knowledge of local citizens of the local area. Sixty such stories, in 38 volumes, were developed and distributed for use in the Education Boost perusing camps and clubs in the Ukambani region, run by World Vision Kenya in conjunction with Save the Children. A number of the titles furthermore made their way into formal classrooms in the area, even up to Grades 5 and 6.

The positive responses of teachers and parents to these books were surprisingly strong, indicating their belief that the local knowledge expressed in the stories, in Kikamba, represented the successful entry of local area knowledge and education into the formal primary curriculum (Trudell and Ndunde, 2015).

### 18 language programmes

In 2018 the Kenya Institute of Curriculum Development (KICD) approved the development of mother tongue learning materials for four communities namely, Gikuyu, Kikamba, Dholuo, and Ekegusii. This promoted the development of language activities in these provinces (Nyariki, 2020).

The new curriculum framework recognizes Kenya as a multi-ethnic local area. It further affirms that learning in a language the learners are familiar with will make it easier for them to construct their understanding and look for meaning in their daily experiences, thus reinforcing their unique strengths.

Under the new curriculum, mother tongue is taught at the pre-primary level, that is, from nursery to grade 3. To this end, KICD organized workshops in November 2019 that united experts on native dialects.

18 local dialects are being developed fully such that learners can choose to study their dialects up to the university level. The 18 dialects include Abasuba, Turkana, Somali, Pokomo, Maragoli, Kitubheta, Kidigo, Kiitharaka, Giriama, Bukusu, Borana, Kamba, Dholuo, Gikuyu, Kalenjin, Ekegusi, Chiduruma and Maa. Texts are developed in these dialects for use in the classrooms, financed by the government through purchases from local publishers.

### ***Cameroon***

Following the end of World War I, the newly established League of Nations transferred control of the territory of today's Cameroon from the German Empire, which had claimed Kamerun as its colony since 1884, to two of the victorious Allied powers: France and the United Kingdom (Fallwickl et al, 2021).

For the next 40 years, the trajectories of the two mandated territories, known as French Cameroun and British Cameroons, diverged sharply. Within the territories under their control, French and British colonial administrators established political and social institutions modeled on the very various institutions of their home nations. They furthermore favored and promoted the spread of their native dialects in political administration and, although to various degrees, in the slowly expanding formal education sector.

Colonial administrators furthermore took various approaches to economic development in their two mandates. The French made significant investments in agriculture, industry, and infrastructure aimed at increasing exports of primary products, for example, cacao, coffee, and bananas, to Metropolitan France. The British largely neglected their new colony, focusing their attention instead on its far larger northern neighbor, the Colony, and Protectorate of Nigeria.

The diverging trajectories of the two mandates began to converge in the early 1960s. In 1960, French Cameroun declared its independence, followed by British Cameroons a year later. In a 1961 plebiscite held in British Cameroons, voters opted to federate with what had been French Cameroun, creating the Federal Republic of Cameroon. The Federal Republic's 1961 constitution divided Cameroon into two states, Anglophone West Cameroon and Francophone East Cameroon, each retaining significant political power and possessing its prime minister and legislature. It furthermore guaranteed the cultural independence of each region.

Cameroon's first leader, President Ahmadou Ahidjo, who ruled from 1960 to 1982, ended the federation in 1972, replacing it with a unitary state. The move concentrated power in the Francophone capital, Yaoundé, politically sidelining minority Anglophone Cameroonians. His successor, Paul Biya (1982 to present), in 1984, changed the name of the nation to that used by independent French Cameroun before unification, the Republic of Cameroon, and removed from the nation's flag one of its two stars, which together had symbolized the equal union of Anglophone and Francophone Cameroon. The combined impact of growing political exclusion and cultural erasure sparked outrage and prompted the first call, however not the last, for the production of an autonomous Anglophone state, the Republic of Ambazonia.

Tensions between Anglophone and Francophone provinces have simmered ever since. In 2016, they boiled over, as demonstrations, led in large part by students and scholars protesting political underrepresentation, cultural repression, and government favoritism toward French speakers, erupted in the Northwest and Southwest provinces before being violently suppressed by government forces. In late 2017, the government declared war on Ambazonia nationalists.

Education has proved a flashpoint in the conflict. The Anglophone-founded Cameroon Teachers Trade Union (CATTU) presented the central government with a list of grievances, including higher rates of admission of Francophone students into professional and technical schools, accusations of doctoring admissions conducted in Yaoundé for Francophone students applying to the Anglophone region's two main universities, and the appointment of Francophone teachers lacking command of English to Anglophone schools. CATTU even requested that the 1998 Law on the Orientation of Education, the guiding legal framework for education in Cameroon, be eliminated.

In Cameroon, authorities implemented ruralization as the instructive philosophy of the 1961 federal government similar to Nyerere's Education for Self Reliance however its implementation did not pass the experimental phase of the 1970s (Loveline, 2019; Ndille, 2015)

Its curriculum prepared by the Institute of Rurally Applied Pedagogy (IPAR), was never tested and its teacher education programme brought massive confusion within the teaching corps (Tosam, 1988).

Southern Cameroon was administered as part of British territory in Nigeria, and the instructive policies instituted in Nigeria were imposed on the Cameroons. Britain assumed responsibility for the administration of the Southern Cameroons (Aka, 2002).

As pointed out by Tambo (2003) the following categories of schools emerged in British Cameroon: Government schools, Native governance schools, Assisted Mission schools, Unassisted Mission schools, and Post-grade schools.

A Presidential order of 10th October, 1974, established four sections at The Institut de Pédagogie Appliquée à vocation Rurale (IPAR) Buea. They included: Environmental Studies, (Agricultural and Cultural Aspects), English Language, Mathematics, and Village Technology (Intermediate Technology).

IPAR was supposed to train teachers in Nursery and Primary to use the new materials that would have been produced in the Second Phase of the project. This never happened chiefly because at the time that IPAR was advocating for teacher education, teacher education was suspended in the Cameroon education framework. This was a clear indication of the government's lack of support for the project.

Elementary education is the division into three levels, each of which lasts for two years (Fallwickl et al, 2021). In the Anglophone framework, each year is referred to as a class, from the first year, class one, to the final year class 6. The terminology is more complicated in the Francophone framework. The first level, cycle des initiations, comprises the section d'initiation au langage (SIL) and the cours préparatoire (CP) ; the second level, the cycle des apprentissages fondamentaux, comprises the Cours Élémentaire Première Année (CE1) and Cours Élémentaire Deuxième Année (CE2) ; and the third level, the cycle des approfondissements, comprises the Cours Moyen Première Année (CM1) and Cours Moyen Deuxième Année (CM2). At the end of the third, and final, level in both frameworks, students are expected to have acquired seven core skills, including the ability to communicate in both English, and French, and, introduced in the 2018/19 curricula, one local language.

Most Anglophone students attend public institutions, known as government secondary schools that teach only the English curriculum, although there are small however growing numbers of public and private bilingual secondary schools.

### *Senegal*

As early as 1847, Jean Dard, who established the first Western school in Senegal, brought up the question of what language should be used in Senegal's education framework (Chilton, 2016; Naida, 2016). He opted to use native dialects, however, these first schools faced heavy competition from Islamic and missionary schools in the latter half of the 19th century (Vandewiele, 2015).

## The “Four Communes St. Louis, Rufisque, Gorée, and Dakar”

During this period, three types of schools were in operation: Trading-post schools opened by Governor-General Faidherbe and conducted in Arabic; Missionary schools, some of which were conducted in native dialects; and the School of Hophases, an elitist secular school for the sons of high-ranking Africans in St. Louis, furthermore established by Faidherbe. In 1899, early French missionary schools, which had been established by the Ploërmel Brothers, had been aligned with the French curriculum, and by 1900 most students in the “Four Communes” formed the centers of French influence in the nation, and were educated in French language and culture.

1909 marked a turning point in the structure of Senegalese education with the setting up of village and urban grade schools, all of which were run in French (Vandewiele 508-10). After this 1909 expansion in access to education, schools were inspected regularly, more teachers were trained, and more students became enrolled at least through primary education. Secondary education, in the form of French Lycées, began with the setting up of the Faidherbe Lycée in 1860. Further Lycées were not established until much later, between 1925 and 1948. Higher education began in 1918 with the setting up of a medical school. Nearly all of the education offered after the turn of the 20th century was given in French and founded on French curricular models, a legacy that continues until the present.

Since the days of Senghor, education policy had identified three focal points derived from the three heritages of the nation; conventional African heritage founded on Woloff and Camara language, Islamic heritage founded on the Arabic language (95 percent of the Senegalese populace), and French colonial heritage (Chilton, 2016).

French is best’ continues to pervade the contemporary Senegalese society.

Few restructures have been implemented, in part because of the Senegalese government’s bureaucratic approach to “evolutionary” education reform and the continued support from numerous officials for French education, a framework by which those officials, like the Senegalese colonial elite, have greatly profited.

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## SIL Senegal

SIL is a global, faith-founded nonprofit that works with local communities around the world to develop language solutions that expand possibilities for a better life (SIL site). As of 2020, SIL is included in approximately 1,350 active language projects in 104 nations. These projects impact more than 1.1 billion people within 1,600 local communities.

Senegal has an organization called SIL Senegal, which has been present since 1982 (SIL, 2016). SIL Senegal has truly been the most efficacious organization included in developing teaching and learning materials for the various “linguistic minority communities” (SIL, 2016) present in Senegal and it has been a driving force in changing the education framework through its work in small village communities. As a testament to this, they have reached an impressive number of fourteen native dialects with which they work. SIL has been performing linguistic research, translation, and forming education programs for all of these fourteen dialects since 2013. SIL works with local speakers to develop these materials and because of this, the learning materials are not only helpful for increasing education in native dialects and the French language, they are furthermore culturally appropriate for the children that will receive the education.

## Association pour le développement de la langue Saafi (ADLAS)

ADLAS began Saafi language adult education classes in the early 2000s (Trudell & Klaas, 2010; Trudell, 2008). The Saafi education office was called Kiyaa-ki (basket of treasure), referring to keeping the language so that it would not be lost. The adult education learners’ desire to give their children the opportunity to learn to peruse as easily as they did lead to the setting up of a preschool, where pupils were taught a bit of French, using Saafi as the medium of education.

Saafi language education classes were offered to upper primary students in the government school, on a nonformal basis, after school hours. Eventually, a Saafi language bilingual primary school initiative began, however it could not be administratively sustained for very long.

SIL hired a Saafi-Saafi speaker, Alioune Dione, to teach education courses in a Saafi village using the Saafi-Saafi language as the medium of education (Albaugh, 2014). SIL gave Dione everything he needed to succeed, including teaching seminars which Dione was able to prepare the teachers in the village to instruct the education courses because, without trained teachers, this education framework cannot exist (Albaugh, 2014).

This program was a success as Albaugh's surveys showed that virtually every respondent preferred that children begin education in their mother tongue. In this example, SIL was able to aid a small local area in becoming literate and the success of the program was able to convince the villagers that the mother tongue program is better than the framework that they have known all their lives.

The French language as a medium of education is outdated, and unsupported by the people. Shortly after SIL Senegal was formed, an organization called the Association for the Development of Education and Education in Africa (ADEF) surfaced in 1992 and became the most significant NGO to influence the education framework. Ndoye was foreign to this organization who, as the leader of the Teachers' Union of Senegal, could form ADEF to push the mother tongue language program in schools (Albaugh, 2014). This organization formed the Local area Infrastructure Schools (Écoles Communautaires de Base or ECBs) where the mother tongue language program was tested (Albaugh, 2014). Implementation included using the mother tongue language as the medium of education in all subjects for two years and in the third year; French was slowly phased in as the medium of education (Albaugh, 2014).

Ndoye not only started ADEF, but he also pushed its agenda to the government.

The success of the ECBs was met with global attention and because of this, the Senegalese government decided to fund NGOs to implement programs in non-formal education. Ndoye went even further in the government and was appointed the position of Minister for Education and National Dialects and through this position, elevated the importance of the bilingual education program from nonformal schooling to formal schooling (Albaugh, 2014). This change in outlook by the government eventually lent to the production in about 1994 of the Directorate for the Promotion of National Dialects (DPLN) internal the Ministry of Education which was the decisive turn in Senegal, as presently there is an institution for executing the mother tongue policy. This made the program a legitimate method of education.

### Jola Kwatay language

The Jola Kwatay language local area is a small group, approximately 3,000 in number, located in the far southwest corner of Senegal (with an additional 2,000 speakers elsewhere in the region) (Trudell & Klaas, 2010; Trudell, 2008). A non-formal adult education programme in the language was organized by local churches in the 1990s; however, local interest was limited.

In 2002, two teachers in the only primary school in the area began to repurpose the Kwatay adult education materials for use in their classrooms. By 2007, education and mathematics were being taught in the Kwatay language in the first two grades, with a gradual transition into French by Year 3; in the later grades, oral Kwatay remained in use to help explain difficult concepts. This small programme was very well received, and, by 2007, the national government had implemented it as one of its experimental bilingual education programmes. Local support for it was captured in the remark of one of the teachers that ‘the ancestors like this programme’ because it gave such high status to the local language and culture (Trudell, 2008).

### ***Burkina Faso***

In Burkina Faso’s “centres à passerelle”, called ‘speed schools’ in English, aim at providing classroom-founded learning, using local dialects as the medium of education, for out-of-school children who are too old to enroll in the formal primary school (usually nine to 12 years old) 2010 (Coleman, 2017; Trudell, 2012).

The programme is nine months long and focuses on teaching the pupils principal skills in perusing, maths and French. Graduates of the programme then take entrance examinations at the local grade schools and are generally able to enter those schools at Grade 4. As of 2010, six Burkinabè NGOs were running “centres à passerelle”, funded by the Norway-founded Strømme Infrastructure. Classrooms are provided by the local area, with teachers and materials provided by the donor and executing NGOs.

Those Écoles communautaires represent a non-formal education alternative to formal schools in communities where there is no government school. The schools are sponsored by the Fondation pour le Développement Communautaire/ Burkina Faso, formerly linked to Save the Children USA. The four-year curriculum aims to ‘provide fundamental education to the greatest number of children aged nine to 14, through the use of the local language as a medium of education and focused attention on perusing, maths and oral French language acquisition. The schools are run by local area-staffed school management committees, and teachers are economically supported by the local area. Up to 30 percent of the graduates of these local area schools enter the government schools in Grades 5 or 6.

## ***Guinea-Conakry***

Guinea-Conakry was one of the only nations of sub-Saharan Africa to reject the colonial language along with colonial rule, at least in fundamental education.

Seikou Touré implemented primary education in eight major national dialects – Soso, Mandinka, Pulaar, Kissié, Kpele, Loma, Wameym, and Oneyan –to de-colonize Guinean minds (Camara, 2006).

Education in national dialects did not survive past Touré's administration however died with him in 1984. Since then, the entire schooling framework has depended solely on French, a language that very few Guineans speak at home. National dialects have continued to play a role in other regions, and in current instructive, linguistic, and political orbits there is talk of bringing these dialects back into formal education experimental schooling in Soso, one of Guinea's three most widely spoken dialects.

There have been and still are strong advocates for L1-founded MLE in multilingual African contexts (Bamgbose, 1991, 2000; Djité, 2008; ADEA, 2010; Ouane & Glanz, 2011) and others around the world (García et al., 2006; Kosonen, 2017).

## ***Guinea-Bissau***

Guinea-Bissau's populace of 1.7 million, are speakers of 18 native dialects. Nearly half of the populace speaks Kiriol (Guinean Creole) as a first or second language, while only 11 percent claim to speak Portuguese, the former colonial language (Eberhard et al., 2020).

Kiriol, a lingua franca and second language for most learners, could function as if it were the first language to teach education and other curricular content in a bilingual education model where Portuguese, the official language, would be taught as if it were the second language. In reality, learners in the rural north, south, and west of the nation chosen for the experiment were speakers of Manjako, Balanta, and Bijagó, respectively.

Consumer Energy Education Foundation (CEEF) (ceef site) is a non-profit organization focused on developing instructive support materials for various programs and instructive associations. CEEF functioned between 1986 and 1994 in Guinea Bissau and implemented what would presently be known as an early-exit transitional model of bilingual education, where Kiriol was

used during primary Grades 1 to 3, after which there was a relatively abrupt switch to Portuguese as the medium of education. All materials were developed by the project to be culturally relevant. Executing this model in three rural parts of the nation, the Guinean project implementers believed, would demonstrate whether a widely spoken lingua franca could facilitate learning even for children beginning school with only or chiefly first language proficiency. The research conducted with Guinean researchers during the 1992–93 school year included observations, interviews, family language surveys, oral and composed language assessment, and assessment in mathematics and other content provinces. Two Portuguese-medium ‘control’ groups were included for comparison purposes: students in conventional classes and students receiving intensive Portuguese language exposure. The families of 950 students were interviewed and were assessed 1,012 students in Kiriol and Portuguese (Benson, 1994). The results of the research were highly favorable to CEEF. Students learning in Kiriol participated actively in their classrooms, even correcting teachers if there was a mistake on the board, while students in Portuguese medium classrooms were silent or chorused ‘sim’ or ‘não’ (‘yes’ or ‘no’) in response to closed questions. CEEF learners were happy, liked school, and appeared to have high self-esteem. CEEF parents were unafraid to approach the teachers with questions about their children’s learning. Girls over-represented among those failing and dropping out of conventional classes, stayed and were successful in CEEF classes, challenging the stereotype of their being less able than boys (Benson, 2005). Finally, communities were pleased to see their dialects peruse and composed, and to see local area values respected.

### ***Rwanda***

The native language is Kinyarwanda, which is spoken all over the nation by all people (Mukama, 2007). In addition to Kinyarwanda, English and French are recognized by the constitution as the official dialects. According to the education policy, Kinyarwanda was the language of education in the lower primary school; this is the first three years of elementary level.

In 2008 both the national languages Kinyarwanda and French were ousted from all levels of education and replaced by English (Rosendal 2010). The decision to use English as the language of education from the very first grade of primary school was implemented at the end of 2008, in violation of recommendations by UNESCO and the African Union. The sudden change in language-in-education policy was not foreseen in any education sector documents.

However, on October 8, 2008, the government of Rwanda requested the Minister of Education to put in place an intensive programme for using English in all public and Government-sponsored primary and secondary schools and higher learning institutions and to the Minister of Public Service and Labor to put in place a programme to help government employees at all levels learn English, starting with Top Ranking Officials.

From the first year of the upper primary school, pupils are expected to choose either English or French as a language of education. From then on, Kinyarwanda and one of the two foreign dialects become subjects to be taught.

From the secondary school level, students are supposed to be bilingual in English and French, however, the reality on the ground is various. Teachers do not have the same characteristics as being bilingual. The school environment is not conducive to practicing foreign dialects. Outside the classroom, Kinyarwanda is almost exclusively the only language of oral communication. If Kinyarwanda is spoken by the larger part of Rwandan people, not more than 10% of the populace can peruse and speak fluently English or French. 90% of the populace can only speak Kinyarwanda. Only around 50% of Rwandan people can peruse and write.

Rwanda is seeking to make Kiswahili compulsory in schools and has requested neighboring Tanzania to offer Kiswahili teachers that will help in further teaching of the language (Viral Nigeria, 2021). Currently, the Ministry of Education is still setting up all requirements for introducing the Kiswahili language as a principal subject in schools.

The move comes after the Rwandan Parliament passed, in February 2017, the organic law establishing Kiswahili as the fourth official language alongside Kinyarwanda, English, and French in Rwanda.

The language is used for cultural interaction and trade in numerous urban centres in the member states. It is spoken by nearly 50 and 70 percent of the general public in Rwanda and Burundi respectively, according to official estimates.

## *South Africa*

After the demise of apartheid, the new government declared the 11 dialects as the official language including Sepedi, Sesotho, Setswana, siSwati, Tshivenda, Xitsonga, Afrikaans, English, isiNdebele, isiXhosa, and isiZulu (Nugraha, 2018). However, in effect English remains the dominant language.

African students learn native dialects in their first few years. They mostly change to learn Afrikaans or English in their subsequent level of school. This mostly happens to Afrikaans students who learn their native language without any enforcement to learn the native language (Leibowitz and Deventer, 2007; Granville et al, 1998)

Although it is mandated in the Constitution to introduce native language in schools, the schools seem to have assumed the native language to be less important and undervalued. One example is the case of the Zulu language, the most widely used language. With limited language and human resources, it is less possible to make it as the language of education, let alone the language of science and mathematics (Finlayson and M. Madiba, 202; Beukes, 2009; Reagan, 2007).

In several provinces, numerous students just skipped their schooling time learning their native language and jumped into learning English. This is caused by parents' perspectives assuming that mastering English will be more beneficial than that of the native language. Numerous parents want to make sure their children have a better opportunity in their future culture and careers (Deacon et al, 2010; Lombard, 2017).

The prominent status of English as a international language provides learners with the confidence in opportunities in a globalized era (Carter and Sealey, 2007).

However, recently, there is a move to lift the status of African dialects by encouraging African students to use their native language in addition to English or Afrikaans.

The larger part of pupils in grades 4 and 5 receiving education in English, when English is not their mother tongue, face grave challenges in education (Drummond, 2016; Howie et al, 2008). The move towards using a foreign language such as LOI at grade 4 may do symbolic violence (Bourdieu 1989) to the learner's mother tongue and constitutes a severe rupture in the field of their learning. This linguistic field rupture is sadly not rectified as the years of education in English accrue. In 2003, matric passes constituted 28% of the 19-year-old cohort among blacks and 68% among whites (Van der Berg, 2007).

42% of South Africans speak a Nguni language (Statistics South Africa 2011) as their first or home language, and the percentage of isiZulu, isiXhosa, and Siswati speakers enrolled at university in 2000 was a mere 23% (DHET 2002). Van der Berg, 2007) 852) compares levels of achievement at the tertiary level within white and black communities and finds a disturbing disparity. 70% of whites above age 26 had completed matric and almost 15% had a degree. In comparison, only 19% of blacks over 26 years had completed matric or more and only 1.4% had graduated (Van der Berg, 2007).

### ***Zambia***

Since 1996, the education language policy appears to favor the use of mother tongue (MT) from Grade 1 to 4 (Tambulukani, 2015). English had been and was the medium of education for all subjects, save the *Zambian Dialects*, from the day a child entered Grade 1, and in some cases, pre-school. For instructive and other official purposes, seven *Zambian dialects*: Chinyanja, Chitonga, Icibemba, Kiikaonde, Lunda, Luvale, and Silozi were given official status. These furthermore serve as *lingua franca* in certain provinces and communities in the nation.

These *Zambian dialects* are taught as subjects in grade schools. All grade schools are supposed to teach a *Zambian language* chosen from the seven official dialects depending on the region the school is located in. In big cities like Lusaka the *Zambian dialects* are considered by all schools as passing subjects in the Grade 7 examination, which is a promotion examination for entry into Grade 8 despite the agreement by the ministry that these subjects must be treated as passing subjects, do not teach them.

In the secondary schools, however, *Zambian dialects* are taught as optional subjects and usually paired with French, in schools where French is offered. Usually, pupils who are weak in other subjects are encouraged to take a *Zambian language* as these are considered to be easier. Quite often, teachers who teach *Zambian dialects* prefer to be called “Language teachers” as opposed to “*Zambian Language teachers*” because of the falling status of *Zambian dialects* not only in the education framework but at the national level of debate. The “lucky ones” who train in both, English and *Zambian Dialects*, a very common subject combination in teacher education colleges and at the University of Zambia, just called themselves “Teachers of English” or “English teachers” (Banda 2002).



This state of affairs made the Primary Perusing Programme (PRP) with its three components: New Break Through to Education (NBTL); Step In To English (SITE) and Peruse On Course (ROC).

### **African universities**

African nations still use the dialects of the foreign language for teaching and learning. It becomes a big burden for African students because they are expected to compete with speakers of foreign dialects (English, French, and Portuguese) in the nations of their birth, especially in South Africa. This disadvantages chiefly black African students and creates what is called a kind of neo-apartheid (Wolff, 2018).

It is one of the main reasons why African nations are not achieving their developmental goals as quickly as they would like as the quality of education that students receive plays a major role in the economic development of their nations (Coughlan 2015).

### ***South Africa***

African dialects are presently taught officially in institutions of higher learning (Nkosi, 2019). The Language Policy for Higher Education (2002) stipulates that universities should promote African dialects that are dominant in those provinces. IsiZulu has the largest number of speakers in the Province of KwaZulu-Natal (about 80%), isiXhosa in the Eastern and Western Cape (about 80%), Tsonga in Limpopo, and seSwati in Mpumalanga Province (Language Policy for Higher Education, 2002). About 23%, or nearly 11.6 million people, in South Africa, speak isiZulu (Statistics South Africa, 2011). Other dialects that are spoken in the Province of KwaZulu-Natal are those spoken by the minority, which includes English and Afrikaans.

All universities in South Africa use English as a language of teaching and learning (Madadzhe, 2019). However, some universities furthermore accommodate Afrikaans, especially historically Afrikaans universities, for example, the universities of Pretoria, Stellenbosch, and North-West; and offer African dialects in a few programmes.

IsiZulu is a mandatory first-year course at the University of KwaZulu-Natal (Kaschula, 2015). Journalism students at Rhodes University must pass an isiXhosa subject.

A programme called Multilingual Studies at the University of Limpopo is offered in both Northern Sotho and English.

UNISA has in the past few years started to offer all its African language programmes at the undergraduate and postgraduate levels either in English or an African language.

Both Stellenbosch University and the Cape Peninsula University of Technology offer multilingual glossaries in English, isiXhosa, and Afrikaans for various faculties (Wolff, 2018).

Furthermore, at the Universities of Limpopo, Pretoria, South Africa, and Venda, students are afforded the choice to conduct their studies in African dialects in either English or an African language of their choice at Masters's and Doctoral level. The Constitution of the Republic of South Africa (1996) bestows official status upon eleven dialects, namely Afrikaans, English, isiNdebele, isiXhosa, isiZulu, Sepedi, Sesotho, Setswana, SiSwati, Tshivenda, and Xitsonga (Madadzhe, 2019). The University of KwaZulu-Natal (South Africa) has incorporated the promotion of these dialects in its strategic policy frameworks (Kaya et al, 2017).

### ***Zambia***

The University of Zambia played a significant role in the production of Zamnet, the largest internet provider in the nation of Zambia (Dickson, 2005). ZAMNET Communication Frameworks Limited, fully owned by the University of Zambia (UNZA), was established in 1994 as Zambia's first Internet Service Company and one of the first in the Sub-Saharan Region.

Mark Bennett, the founder of ZAMNET, left England in the 1980s for a university of Zambia job to introduce computers to Zambia (Lusaka times, 2015). At the University of Zambia, he redeveloped all administrative frameworks, moved into early electronic communication in Africa, and founded ZAMNET (a campus company), one of the first ISPs on the Continent. Mr. Bennett worked for 12 years at the University of Zambia.

Over the years, ZAMNET has gained a vast amount of experience in delivering quality service to its ever-growing customer base in English and local dialects in each region. ZAMNET currently has five full Points of Presence (PoPs) in Lusaka, Kitwe, Livingstone, Ndola, and Solwezi, and eight virtual PoPs, in Kalomo, Mazabuka, Choma, Lumwana, Luanshya, Chingola, Chipata, Kalulushi and Chililabombwe.

In 2010 Bennett moved on to create a school. He believed that change needs to start right at the beginning of the education framework – in grade schools. It needs to happen in an African way using local dialects; context and examples from the towns and villages where children come from.

Mwabu education platform is aligned with the Zambian primary school curriculum (ischool site). There are thousands of lessons covering the entire syllabus from Grade 1 to Grade 7, with the early grades in eight local dialects. All lessons are multi-media, with sound and symbolism, voiced in English and, for the early grades, 8 local dialects, Chinyanja, Chitonga, Ibibemba, Kiikaonde, Lunda, Luvale, Silozi, and English.

## **Monetary and financial issues**

The currency figures out the character and nature of the development of the African economy and political administration. The CFA franc privileges international trade with the eurozone. Capital flight from Africa is the reincarnation of the colonial state-led plunder of the continent's natural resources supported by local elites.

Since the African economy was principally founded on a barter framework, there was a need to monetize the economy to be in line with the European market and the international trade standard.

Specific developments include the increased importance of the international financial system that have limited the capacity of national governments to pursue independent economic policies (Maundu, 2017).

The ability of re-invested profit to bring out new profit referred to as the multiplier effect was absent in the African economy during colonialism. This is because the foreigners did not re-invest profits appropriated from the African economy rather they transferred the profits abroad for the development of their home economy. Africa was compelled or forced to accept the international division of labor which assigned her the compulsory role of production of agricultural and others raw materials required by the industries in Europe.

In response to pressure from their traders, the European powers began systematically to interfere with the sovereignty of African states and intrude upon their internal affairs (Chinweizu, 1978).

Since the currency used in the African colonial territories was controlled by the colonial forces, they figure out the character and nature of development of the African economy and political administration. Monetization of the African economy and introduction of currency institutions was an effective instrument used to maintain effective control and domination of African territories

### **The Colonies Françaises d'Afrique (CFA) franc**

The CFA franc was officially established on 26 December 1945 by a decree of General de Gaulle (Ndongo Samba, 2017).

It is a currency managed by The Bank of West Africa (BAO), born of France's need to foster economic integration among the colonies under its administration, and thus control their resources, economic structures, and political frameworks.

The BAO was originally established by the expansion of the Banque du Sénégal, itself established by the French on 21 December 1853, BAO later expanded to include French Equatorial Africa to administer the common currency of the French West Africa. Although it was a private investment bank, the French government authorized it to print currency, and its board always included foreign officials. It received special concessions and financial stabilization from the government, and in essence, became an arm of the French colonial administration. Between 1941 and 1958, the Institut d'Emission de l'Afrique Occidentale Française et du Togo was spun off from BAO to administer the Franc des colonies françaises d'Afrique (FCFA) (25 December 1945) ([web.archive.org/web/20070929122358](http://web.archive.org/web/20070929122358) site).

### *Two various CFA Franc users*

The Bank of West Africa was replaced in 1955 by two public issuing institutions that four years later became the Central Bank of West African States (BCEAO) and the Central Bank of Equatorial African States and Cameroon, renamed the Bank of Central African States (BEAC) (Ndongo Samba, 2021). These two central banks each separately issue a currency whose acronym is the CFA franc: the franc of the African Economic local area in the first case; the franc of Economic cooperation in Central Africa in the second.

Eight nations comprise the West African Economic Union (WAMU), Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal, and Togo. Its Dakar-founded issuing governance is the Central Bank of the West African States (CBWAS).

Six others are in the Central African Economic and Economic Union (CAEMU): Cameroon, the Central African Republic, Chad, Equatorial Guinea, Gabon, and the Republic of Congo. Its issuing governance is the Cameroon-founded Bank of the Central African States (BCAS).

In the mid-1970s their headquarters were moved to Dakar (Senegal) and Yaounde (Cameroon) respectively. Their staff was 'Africanised' in the same course.

The ‘Africanisation’ of the management of the BCEAO and the BEAC did not put an end to the foreign character of the economic framework.

### *Function principles*

The CFA franc still functions according to the same principles and purpose established during the foreign period. Its rigid peg to the French currency (franc then euro, from 1999) and the freedom of transfers between France and nations using the CFA franc were not abolished after independence. The French government’s direct control over economic and exchange rate policy is still exercised through its representation in the organs of the two central banks with a veto power that has become implicit over time.

In 2020 France ratifies the law officially ending 75 years of West Africa CFA (Africa News, 2020). The text validates the transition of the CFA franc – used by eight French West African nations – to become the newly mooted Eco, a currency to be implemented by the entire West African bloc, ECOWAS. It furthermore marks the end of the centralization of foreign exchange reserves of the eight West African states with the French Treasury.

In concrete terms, the BCEAO will no longer have to deposit half of its foreign exchange reserves with the Bank of France. France will furthermore have to withdraw its presence from the governance bodies.

The fixed parity of the future Eco currency with the euro is maintained. Eight nations concerned are Benin, Burkina Faso, Côte d’Ivoire, Guinea-Bissau, Mali, Niger, Senegal, and Togo.

Critics of the CFA franc perceive it as one of the last vestiges of France’s foreign domination. The Central African version of the currency, XAF, however; continues to be used in six nations across the region.

The CFA franc privileged international trade with the eurozone and allowed inflation to be pegged at a rate considerably lower than the African average. The counterpart of this low inflation rate is weak economic development and the production of fewer jobs.

The CFA franc is a good currency for those who profit from it: the major French and overseas corporations, the executives of the zone's central banks, the elites wishing to repatriate wealth acquired legally or otherwise, and heads of state unwilling to upset France. However, for those hoping to export competitive products, obtain affordable credit, find work, work for the integration of continental trade, or fight for an Africa free from foreign relics, the CFA franc is an anachronism demanding orderly and methodical elimination.

### **Great Britain is West Africa**

The West African Currency Board (WACB) managed the production and design of a common currency for the British possessions in West Africa, namely, The Gambia, Sierra Leone, and The Gold Coast (Ghana) (Fuller, 2009), Northern and Southern Nigeria. However, the Board faced numerous challenges in maintaining its economic monopoly on West Africa before and after the First World War.

The coming of coinage to British West Africa in the first quarter of the 20th century was occasioned by several coinciding factors. There were economic considerations, including the reduction of economic transaction costs, between Britain and its colonies and within its colonies; better macro-economic management, and the extraction of seigniorage profits by the foreign governments. These reasons were especially fuelled by the increasing circulation of British currency in West Africa and the fear that unfavorable economic conditions there would cause the repatriation of coins to Britain, which could destabilize the home economy.

Hopkins (1990) furthermore rightly claims that the WACB was established to settle expatriate commercial rivalries in West Africa, among the banking, shipping, and other trading benefits competing for the spoils of the Scramble for Africa.

Ideological and politically, monetization represented the last two projects of what missionary and explorer David Livingstone identified as the three C's of British colonialism in Africa, namely, Christianity, Civilization, and Commerce.

Foreign authorities demonetized a variety of local monies (manilas, cowry shells, gold dust, etc.) and foreign currencies (French, American, Latin Union, etc.) that circulated concurrently with the pound sterling.

Foreign money was thought to be superior to African currency, and the incorporation of Africans into the world of taxation and waged labor was vital to the success of the foreign machinery. The convergence of British colonialism and the WACB's monopolization of currency in the Gold Coast in 1912 signaled the loss of political and economic sovereignty for the native populace.

The demonetization of pre-foreign currencies produced significant losses for Africans, especially those who held much of their fortune in these structures of money. Without a formal economic role, cowry shells could only presently be sold for their lime content at very low values. It furthermore forced Africans into foreign enterprises, for example, the production of cash crops, much of the proceeds of which went into paying taxes and other expenses that were only accepted in foreign currency.

Notwithstanding this loss of politico-economic independence, Gold Coasters, through passive and active strategies resisted the foreign economic regime throughout the entire period. These subversive measures included the continued use of native and foreign currencies, counterfeiting foreign coins and banknotes, defacing currency, melting down money to make jewelry, and refusing to use bank notes. According to Mwangi (2003), through the medium of conflicting currencies, the Africans without resorting to heroic political action defied and resisted through their daily lives the ambitions of the foreign state.

Political action came in 1957 when Ghana achieved independence from Britain. Prime Minister Kwame Nkrumah sought to establish Ghana's status as an independent nation-state by breaking from the WACB foreign common currency and establishing the Ghana pound in 1958 and cedi and pesewa currency in 1965 – embellished with nationalistic symbols and iconography.

### ***Belgium in Central Africa***

Banque du Congo Belge (BCB - Bank of the Belgian Congo), later Belgolaise, survived almost 100 years before a Fortis and BNP-Paribas chose to dismantle it (bportugal site). Overseas bank incorporated 11 January 1909 w/ head office in Brussels.

From 1911 BCB acts as a commercial and central bank and for 25-year was a note issue monopoly until 1952 with the production of the Banque Centrale du Congo Belge and Ruanda-Urundi (BCCBRU). BCB absorbs Banque Commercial de Congo (BCC) and establishes branches in Matadi, Elizabethville, and Leopoldville.



Between 1960 – 1990 Bank Belgo-Congolaise (BBC) holds European assets of BCB, owns 75% of BCC; government owns 25%, Banque de Kigali (40%); Banque de Crédit de Bujumbura, Banque Commerciale Zaïroise (BCZ) and become the banque belgo-zaïroise (Belgolaise) in 1990 with a presence in DRC, Rwanda, Burundi, Kenya, Tanzania, Uganda, South Africa, Ghana, Nigeria, Togo, Chad, Guinea, Ivory Coast, Mauretania, Niger, CAR, and Burkina Faso . In 1998 – 2000 Fortis acquires Belgolaise.

In 2005 Fortis announces a desire to sell however was unable to find a buyer. Fortis closes London & Paris branches in 2006 and starts selling the operations piecemeal. In 2009 BNP–Paribas takes Fortis over and continues to dismantle Belgolaise.

### ***Portugal in East Africa***

The Banco Nacional Ultramarino (BNU) has established in Lisbon, Portugal, in 1864 as a bank of issue for Portuguese overseas territories.

The next year it opened branches in Luanda, Angola and Praia, Cabo Verde. Three years after that, in 1868, BNU opened branches in São Tomé and Príncipe, Goa, and Lourenço Marques, Mozambique.

In 1901 BNU lost its banking monopoly, however, retained its note-issuing monopoly in the nations in which BNU operated. The next year, BNU opened branches in Macau and Bolama, Portuguese Guinea (present-day Guinea-Bissau). In 1926 - BNU lost its note-issuing monopoly in Angola with the production of Banco de Angola. BNU transferred its branch in Stanleyville to Banco de Angola (Mambu ma Khenzu, 2006).

In Portugal, the Escudo Economic Zone (EMZ) was established in 1961 as a currency area and included mainland Portugal (with the Atlantic islands of Madeira and Azores and the Portuguese Empire, composed of five territories in Africa, Cape Verde, Guinea, S. Tome, and Principe, Angola, and Mozambique, and two in Asia, Macao, and Timo (Mata et al, 2021). The Portuguese political regime headed by Oliveira Salazar implemented the EMZ as a national economic union, founded on the use of a shared currency unit, the gold-escudo, with each territory having its local escudo currency, exchangeable at a 1:1 parity rate. EMZ came into effect on 1 March 1963.

A dedicated working group was set up to study the role of Banco de Portugal as the central bank of the EMZ, in charge of the management and supervision of all relevant economic agents. To manage the EMZ, a complex accounting framework was established ensuring the settlement of all the inter- regional payments.

Resembling the procedures used in the European Payments Union (EPU), the clearing amongst the various territories at the official parity rate between escudos was a key feature of the framework. Coordinated by the central bank of the EMZ, three issuing banks, Banco de Portugal, Banco Nacional Ultramarino (BNU), and Banco de Angola (BA) established reciprocal bilateral accounts as agents of the Foreign Trade Funds (Fundos Cambiais) that existed for each of the territories.

Automatic loans were allowed up to an amount of one-third of the EMZ Fund's capital and were automatically granted whenever a territory had a net debt balance greater than the escudo reserve of that territory.

The evolution of cumulative net positions of all EMZ partners toward the mainland, between the implementation of the EMZ in March 1963 and the reform of the framework in December 1971, behaved variously. Angola and Mozambique started drawing more and more resources from the EMZ Fund to settle payments, resulting in high cumulative net debit positions. All other territories exhibited, in comparison low cumulative net positions that oscillated between net credit and net debt toward the mainland (Mata 2020),

In 1965 BNU, Banco Português do Atlântico, Banco de Angola, and the South African company, General Mining, and Finance founded the Bank of Lisbon and South Africa. This was later renamed Mercantile Lisbon Bank.

In 1974 the Portuguese government nationalized BNU, following the Carnation Revolution. In 1975, local governments nationalized BNU's benefits in Mozambique, which became Banco de Moçambique, and in São Tomé and Príncipe, which became National Bank of São Tomé and Príncipe. In 1993, the government division National Bank into a central bank, Central Bank of São Tomé and Príncipe, and a commercial bank, Banco Internacional de Sao Tome e Principe. In Cape Verde, BNU's benefits became Bank of Cape Verde. In 1993, the government spun-off the commercial banking operations into a new bank, Banco Comercial do Atlantico.

Gains from integration were not observed in the EMZ, with partners drifting apart. This condition would be consistent with arguments of scholars criticizing the OCA theory: in the end, the EMZ failed to fulfil the requirements to be an Optimal Currency Provinces (OCA).

This case delineates that economic unions are fragile and unsustainable undertakings, even in the presence of substantial transfers from the surplus economy. Queuing transfers required long-run credit from the mainland to overseas territories, which explains the introduction of reform in the EMZ in 1971. The EMZ Fund could no longer fund the prevailing borrowing needs, given its limited capital. The reform could not solve the existing problems, and the continuation of the same imbalances in subsequent years contributed to a military revolution that led to decolonization. The failure of the Portuguese escudo zone liberated the last partners of a European foreign empire.

### **ECO, a single currency in 2027**

Formed in 2000, the West African Economic Zone (WAMZ) is a group of six nations within ECOWAS that plan to introduce a common currency called the Eco. The six-member states of WAMZ are Gambia, Ghana, Guinea, Nigeria, and Sierra Leone who founded the organization together in 2000, and Liberia which joined on 16 February 2010. Apart from Guinea, which is francophone, they are all English-speaking nations. Along with Mauritania, Guinea opted out of the CFA franc currency shared by all other former French colonies in West and Central Africa.

The Eco is the proposed name for the common currency that the West African Economic Zone (WAMZ) plans to introduce in the framework ECOWAS. This objective is to create a common currency for all West African states. This will furthermore serve to enable the French-speaking West African region to abandon the CFA franc for the Eco, as part of a course to gain complete fiscal and economic independence from France.

The fifteen nations of ECOWAS have implemented a new road map to launch a single currency in 2027 after its former plans were derailed by the coronavirus pandemic (Sanogo, 2021), Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal, and Togo.

The Eco has to be indexed to the economic development of Africa and not of Europe to advance the terms of the international trade of Africa.

### **Loans from international finance institutions**

IMF, World Bank, and all other institutions make African nations jump through hoops.

In the US, when they borrow money, they are getting it at a 1.5, 1.9% interest rate. Africans, when they get the same amount of money, they are paying 9, 10%.

Loan terms are founded on a nation's income status and not on populace needs (Ng'ethe, 2020).

The International Bank for Reconstruction and Development (IBRD) lends to middle-income nations, those with a per capita gross national income (GNI) of between \$US1,006 and \$12,235, and qualifying poorer nations.

The International Development Association (IDA) supports the poorest nations, 75 of which currently qualify with a per capita GNI of less than \$1,175.

Most nations in Africa only qualify for loans from the IDA. They are low-income nations and “get highly concessional financing in grant and interest rate free loans which only charge a 0.75% service charge”. However, the rate of interest is higher, between 1.25 % for blend loans and 1.83% for hard term lending (thedocs.worldbank.org site).

As of April 2020, 68 nations were eligible only for IBRD loans and 14 of those were in Africa. Another 59 nations qualified only for IDA loans, 33 of them African. Of 17 “blend” nations that could borrow from both units six were from the region.

According to historical data on IBRD loans, several nations, including Nigeria, the Republic of the Congo, Ivory Coast, and Zimbabwe historically took loans with interest rates up to 12%, particularly in the 1980s.

Several African nations that had advanced or “graduated” from the IDA to the IBRD are presently back in the IDA, a course called “reverse graduation”. These are Nigeria, Ivory Coast, the Republic of the Congo, Cameroon, and Zimbabwe.

Egypt returned to the IDA in 1991, however, graduated up again to the IBRD in 1999.

As the loans have to be repaid in foreign currency, their cost increases when local currencies lose value. This is another huge source of cost, and the net cost of devalued currency might be much higher than open market interest rates.

The World Bank loans interest to African nations are today higher than South America East Asia of European nations, between 4% and 6% ([finances.worldbank.org](https://finances.worldbank.org) site)

### **Micro-credit**

Existing literature has explored financial inclusion and poverty reduction nexus (Yaw et al, 2021). Economic inclusion reduces poverty (Umaru and Chibuzo, 2018). A similar assertion has been made by some authors (Churchill & Marisetty, 2020; Le et al., 2019; Park & Mercado, 2015).

However, the financial inclusion agenda has not yet yielded the expected outcome since the various financial products are not purposefully planned for the poor and marginalized (Triki and Faye, 2013).

There is no clear evidence that financial services are improving the lives of poor people (Daryl and Amolo, 2018). The existing rate of financial inclusiveness and economic growth only affects a few rich people, since the rate of poverty has only dropped marginally from 52.75% in 1981 to 46.85% in 2011.

### ***Nigeria***

Umaru and Chibuzo (2018) investigated the relationship that exists between financial inclusion and poverty reduction considering the moderating effects of microfinance in Nigeria. Using a simple random sampling technique, a self-administered questionnaire was used to elicit data from 384 customers of microfinance banks from the three senatorial districts in Kebbi State Nigeria. The results from the Partial Least Square (PLS)-Structural Equation Modeling (SEM) show a significant positive effect of financial inclusion on poverty reduction.

## ***Ghana***

Koomson et al. (2020) examined the relationship between financial inclusion and how vulnerable Ghanaian households are to poverty. The data for the study was obtained from the Ghana Living Standards Survey of 2016/17. The multiple correspondence methods were used to produce an Economic inclusion index, using a three-phase feasible least squares to estimate households' vulnerability to poverty, through the probit technique. The results revealed that an improvement in financial inclusion has the tendency to reduce the likelihood of households being poor by 27% and can therefore avert how households are exposed to future poverty by 28%.

The authors furthermore indicated that financial inclusion tends to reduce poverty and can reduce vulnerability to becoming poor in rural provinces than in urban provinces in Ghana

The results indicate that when the financial inclusion index is less than or equal to the threshold value of 0.356, financial inclusion has a negative impact on household consumption expenditure at the 10% level of significance. The magnitude of the coefficient indicates that a unit increase in the financial inclusion index reduces household consumption expenditure per capita growth by 0.381%, indicating an increase in poverty. However, when the financial inclusion index is beyond the threshold value of 0.356, the results show that inclusive finance has a positive significant effect on household consumption expenditure per capita at a 1% level of significance.

## ***Rwanda***

The results of the Hanga Umurimo program supporting SMEs in Rwanda are typical (business.cornell.edu/hanga-ahazaza, site). The idea was to identify people with the right aptitude and expose them to IFC-backed entrepreneurship education, thereby nurturing good business ideas. The reality was that hardly any wage employment was established. Numerous beneficiaries thought the loans were grants, resulting in low repayment rates. Furthermore, the vast larger part of micro-credit loans (84 percent) intended to support entrepreneurial activity in Rwanda are taken to smooth consumption, which is in line with wider evidence globally.

Hanga Umurimo programme recorded about 16,000 projects and about 12, 407 youth trained in various practical skills were awarded start-up kits through leasing facilities negotiated with BPR (Ange De La Victoire, 2013).

Only 261 projects were approved and about 61 projects were financed and generated 1,435 jobs.

The Government's annual job production target is about 200,000 jobs per year as pledged in President Kagame's 7-year plan which should see a total of about 1.5 million jobs established by end of his term.

### ***Tanzania***

Nakano and Magezi (2019) analyzed the impact of microcredit provided by the BRAC credit program on technology implementation and productivity of rice. They found weak or even null evidence of an increase in chemical fertilizer and did not observe any significant increase in yield, profit, or household income. The borrowers on average use 78.0 kg of fertilizer per hectare while non-eligible farmers use 53.2 kg. The borrowers do not achieve, however, higher paddy yield or revenue than non-eligible farmers. The paddy yield for the borrowers is 3.2 tons per hectare while that of non-eligible farmers is 3.1 tons per hectare. As a result, there is no statistically significant difference in profit and income between these two groups.

They conducted a sub-sample to examine and compare borrowers and non-borrowers in irrigation schemes with and without good access to irrigation water. They furthermore compare borrowers and non-borrowers who were trained before the intervention and those who were not. The results show that those who were in the irrigation scheme with good access to water have applied a relatively high amount of chemical fertilizer, which is near to the recommended level, even without credit use. Thus, even after they receive credit, they did not increase the use of chemical fertilizer. Furthermore, those who were trained before the credit intervention applies a relatively large amount of chemical fertilizer and do not increase it even if they join the credit program. On the other hand, farmers with relatively unfavorable access to irrigation water or non-trained farmers significantly increase their chemical fertilizer use by using credit. The increased fertilizer use, however, did not result in an increase in yield or profit for these farmers.

### ***Micro credit low efficiency***

Very few micro credits in sub-Saharan Africa show any signs of achieving operational sustainability.

In South Africa, where the micro-credit bubble expanded at quite an extraordinary rate, the National Income Dynamics Survey panel data from 2008 to 2015 suggest that access to micro and informal loans by the poorest rural women hurts their quality of life (Bateman et al, 2019).

Case studies in Tanzania and Kenya, for example, where panel data furthermore suggest that both rice yields and household income have failed to increase with credit use (Nakano and Magezi, 2019). Giné and Yang (2009) and Karlan et al. (2014) examine the impact of microcredit with and without microinsurance. Ashraf et al. (2009) furthermore examine the impact of a package of export promotion services with and without credit on the production of export crops and income in Kenya. The credit increases the participation in the program however does not translate into higher income.

The only two studies that examine the direct impact of microcredit on agricultural technology by using RCT are Hossain et al. (2018) and Beaman et al. (2014).

Hossain et al. (2018) found that access to credit has positive effects on the implementation of MVs of rice as well as paddy yield, yet does not increase household income or expenditure. Beaman et al. (2014) observed that access to credit increases the input use however does not result in higher net revenue from the crop.

Nakano and Magezi (2019) examine the impact of microcredit not only on input use however furthermore the implementation of work on agronomic practices, which are important to increase the productivity and profitability of rice cultivation.

They found statistically weak or even null evidence that the BRAC program increases the use of chemical fertilizer. Furthermore, credit use does not result in an increase in paddy yield or profit for borrowers. The increased use of chemical fertilizer does not result in a higher yield for them. They furthermore observed a similar phenomenon comparing trained and non-trained borrowers before the intervention.

Credit furthermore did not increase total household income or income from other sources, for example, other crop income, livestock income and business income. This is consistent with former experimental studies that found no or little positive impact of agricultural microcredit or microcredit in general on the welfare of the households (Angelucci et al. 2015; Attanasio et al. 2015; Beaman 2014; Hossain et al. 2018; Tarozzi et al. 2015). The results cast doubt on the positive impact of microcredit, even after considering the fungibility, under conditions without exclusive economic activities.



***Micro credit higher efficiency***

Facilitating access to credit will be effective to increase the agriculture productivity as well as the welfare of small-scale farmers if it will be monitored by experts in the relevant domain of agriculture with updated knowledge, and by experimented specialists in management and marketing.

## **Economic reliance**

Numerous African nations borrowed heavily to finance infrastructure on the back of expectations of higher revenues from export commodities. A significant descent in commodity prices, combined with a international economic slowdown towards the end of 2019, limited fiscal space, and mounting costs to counter the pandemic, placed governments and lenders on alert.

### **Introduction**

The total of energy that went into the expansion of inter-African trade was extremely small in comparison with a trade that was export-oriented. Since this inter-African trade did not bring profits to Europeans, it was not encouraged by them, and up to the latter part of the foreign period, only 10 percent of Africa's trade was internal.

The roads in Africa led to the seaports and the sea lanes led to Western Europe and North America.

A colonial town in Africa was principally a center of services as opposed to industry. Towns did attract large numbers of Africans, however only to offer them a very unstable life founded on unskilled and irregular employment.

Instead of speeding up growth, colonial activities, for example, mining and cash-crop farming sped up the decay of traditional African life. In numerous parts of the continent, vital aspects of culture were adversely affected, nothing better was substituted, and only a lifeless shell was left.

Growth related to exports of raw materials, without investment in the economy, delineate the colonial and post colonial period. More rubber and coffee were exported, more vehicles imported, and more gasoline stations built to service the vehicles. However the profit of both exports and imports goes abroad and the local economy becomes more and more reliant on the metropolis.

Every farming people has a staple food, plus a variety of other supplements. Numerous crops were domesticated within the African continent, for example, several wild fruits. Diversified agriculture was within the African tradition. Monoculture was a colonialist initiative. This condition prevents economic growth founded on the local demand.

In Africa, concentration on one or two cash crops for sale abroad had numerous harmful effects. Sometimes, cash crops were grown to the exclusion of staple foods—thus causing famines. In the Gambia, rice farming was popular before the foreign era; however, so much of the best land was transferred to groundnuts that rice had to be imported on a large scale to try to counter the fact that famine was becoming endemic. In Asante, concentration on cocoa raised, fears of famine in a region formerly famous for yams and other foodstuffs.

### **Discrimination by international finance institutions**

International financial institutions instead of supporting local economic forces to advance the development of African nations requested to open the market to unfair competition from abroad and increased the debt of those nations by loans which profited Global MNC's building local infrastructure.

### ***International trade forced practices***

Further complicating matters, some international trade practices discriminate against developing nations seeking to export manufactured goods (Mutume, 2004). One of these practices is "tariff escalation," in which customs duties may be very low or absent for primary goods but then rise as the product undergoes processing. Because the practice protects domestic markets from imported processed goods, it inhibits international trade in such products.

The US Department of Agriculture reports that in North America the tariff rate is about 25 percent for raw tobacco, however, rises to 112 for tobacco products. The European Union (EU), another major market for African products, charges average tariffs of 21 percent for fresh fruit, however, raises the rate to about 37 percent for fruit juice.

Despite attempts at the WTO to lower them, tariff rates remain high on some products in which developing nations are competitive.

Some trade solutions planned to assist developing nations furthermore reinforce over-reliance on primary exports. By offering preferential duty-free or quota-free access to European and North American markets to primary products, however not manufactured goods, they tend to encourage greater production and export of raw materials, critics point out.

One such treaty was the Lomé Convention (presently known as the Cotonou Convention), a series of international aid and trade solutions first negotiated in 1975 between the EU and former colonies in Africa, the Caribbean, and the Pacific (ACP) provinces. While its architects had noble intentions to guarantee market access to bananas, sugar, beef, and other goods produced in ACP nations and foster sustainable development, the agreement's accomplishments were modest.

### ***"Free competition policy" - Ghana rice case***

Rice farming communities in the northern parts of Ghana used to be prosperous and the government of Ghana used to give those rice-producing farmers some farming subsidies to enable them to produce rice on a large scale to help feed the nation (africaw site).

The World Bank and the IMF stood in and told the Ghanaian government that, they would not give Ghana any more loans unless the Ghanaian government cut the farming subsidies the government was giving to the poor rice farmers. The result of this "free competition policy" was that Ghana had to import rice from western nations.

Presently Ghana imports most of its rice from abroad at huge prices every year. So at the end of the day, Ghana owes the World Bank and the IMF huge amounts of money. However, the money did not remain in the Ghanaian economy because Ghana had to use the loan to import food from abroad. Meanwhile, the rice-producing communities in Ghana could have helped produce enough rice to feed the nation. Presently the northern communities in Ghana remain the poorest in the nation with no better jobs and no opportunities at all in most parts.

### *"Free competition policy" - Mozambique cashew kernels case*

The tendency to greatly overstate the systematic evidence in favor of trade openness has had a substantial influence on policy around the world. It was this attitude of blind faith that, in the 1990s, prompted the World Bank to pressure Mozambique into executing a radical trade liberalization policy. World Bank economists called for the removal of barriers to exporting unprocessed cashew kernels, as well as the lifting of state protection for local factories processing raw cashew nuts. Mozambique had been the largest cashew nut producer in the world and had a substantial processing industry. However, after years of warfare and the exodus of most of the business class, the cashew sector was, by 1992, in crisis. The government's continued protection of the processing industry, through a ban and then a high tariff on raw nut exports, had failed to generate a regular supply of high-quality processed cashew exports.

To World Bank officials advocating trade liberalization, this was a classic case of the dangers of state support for factories in Africa, as well as of the costs of breaking the comparative advantage principle. While World Bank economists expected the domestic processing industry to suffer, they did not seem worried about the consequences for large numbers of female factory workers. Any short-run shock would, they believed, be outweighed by the large gains that were expected to flow later through 'getting prices right' (Hilmarsson, 1995).

A custom tax on export distorts prices and processors in Mozambique could buy raw cashew kernels at an artificially low price. Removing tariff protection would allow cashew traders acting for international buyers to 'find' the 'right' price for unprocessed, raw cashews. In a liberalized market, traders would compete to offer poor farmers a competitive price; farmers would respond with an increased supply, and about a million rural households would earn a substantial income by redirecting their unprocessed cashew output away from inefficient local processing factories to meet buoyant demand chiefly from India. The export tax 'almost certainly subtracts from, as opposed to adds to, the nation's low income' (Krugman, 2000). 10,000 female employees in Mozambique's processing factories lost their jobs (Hilmarsson, 1995; Penvenne, 2015).

The fundamental problem with the sector remains the low level of output, the poor quality of the cashews produced and low productivity. Unshelled cashew export volumes have never recovered from a post-war peak in 2001 and revenues have been very volatile (FAOSTAT, 2019).

### ***"Free competition policy" - Ivory Coast Cocoa Case***

Cocoa liberalization has increased the presence of multinational cocoa firms and the slavery of children (food empowerment project).

Most cocoa farmers earn less than \$1 per day, an income below the extreme poverty line (Yu, 2018; Fair World Project).

A journalist who visited cocoa farms in Ghana during the making of the documentary *Invisible Hands* said that they found incidents of trafficked children on all of the farms they visited (Tandon, 2021).

Both children and adults are enslaved on cocoa farms in the Ivory Coast and Ghana (de Buhr Dr and Gordon, 2018).

A study found that in Ghana, 23% of surveyed cocoa laborers reported having performed work without compensation (Le Baron, 2018).

As a result, they often resort to the use of child labor to keep their prices competitive (Nestlé USA, 2021).

There has been a huge increase in the past decade in the number of children exposed to agricultural chemicals on Ghana and the Ivory Coast's cocoa farms, from 15% of children to approximately 50% of children (Sadu et al, 2020).

Any children trafficked into Western African cocoa farms are coerced to work without pay (Shaddy chocolate, 2012; McKenzie and Brent, 2021; Tandon, 2021)

August 1999 saw the dismantling of the price stabilizing Caisse framework and farmers' former economic security disappeared as prices became figured out by the ebb and flow of the international market. Multinational companies control close to 90% of the internal market for cocoa and coffee, displacing local Ivorians in their rise to power (Losch, 2002).

The six multinationals are Barry Callebaut and Ecom of Switzerland; Olam of Singapore; the US giant Cargill; and the French groups Sucden and Touton. Together, they purchase nearly all of the Ivory Coast's cacao harvest, more than 80 percent of which is then shipped to Europe.

Ivory Coast accounts for 40 percent of world cocoa production. The sector accounts for 40 percent of the nation's export income, and 10 percent of its gross domestic product (GDP), according to the World Bank. It produces around two million tons of cocoa per year, however, less than a quarter of this is processed locally. Around one in five of the Ivorian populace depends on the cocoa sector. Numerous live in poverty despite the booming world demand for chocolate.

## **Mining**

Mines concessionaires transfer to the nation's government fiscal revenues. The fiscal revenues are not shared with the provinces and the foreign habits continue to exist: low salaries by the use of subcontractors and purchasing of products and services chiefly from abroad.

Mining contracts signed by African governments with multinationals are founded on multinational professional expertise. They have in their hand technical knowledge and business experience that governments don't have. This is why the local populace doesn't profit from the revenues generated by mines. The second reason is corruption at various levels.

For the region, the mines can be a potential pole of economic development because mines employ workers, and buy products and services from foodstuff products and clean water to transportation, maintenance construction, and health services.

### ***Workers employed via a subcontractor***

Tenke Fungurume Mine (TFM) is situated in DRC's cobalt southern mining belt. Cobalt is one of the world's most sought-after minerals, and a key ingredient in the batteries that power most electric transports (EVs) (The Guardian, 2021). Workers earn \$3.50 a day only. The lunch is just two small bread rolls and a carton of juice.

Almost 70% of the employees at TFM which is 80% owned by the Chinese company China Molybdenum (CMOC) are hired through sub-contractors.

The investigation by the Guardian (2021) has found that some workers employed through subcontractors allege they are victims of severe exploitation, including wages as low as 30p an hour, and precarious employment with no contracts. In several mines run by Chinese companies, workers made allegations of discrimination and racism reminiscent of the foreign era.

The Guardian has tracked the cobalt supply chain from TFM and other industrial mines through several refiners and battery makers to some of the world's leading electric car manufacturers, including Tesla, VW, Volvo, Renault, and Mercedes-Benz.

In the last 15 years, Chinese companies have begun to enter the mining business, buying out North American and European companies so that they presently control the larger part of the cobalt and copper mines in southern DRC. And with this change, Congolese workers say, has come abuse, discrimination, and racism. They say they are insulted, in some cases beaten, and claim they are paid less than Chinese workers who do the same job. They allege that Chinese supervisors disregard their experience and put production before safety.

Kolwezi in the DRC's cobalt capital is mining on a massive scale, highly mechanized, and dependent on cutting-edge technology however powered by thousands of workers – more than 10,000 at TFM who are employed as mineral processors, drivers, mechanics, welders, security guards, and general workers.

Josué Kashal, a lawyer for Centre d'Aide Juridico-Judiciaire, a local organization that represents miners, says the use of subcontractors can lead to the big mines being able to avoid accountability.

In his small office in Kolwezi, Kashal shows the Guardian a list of what he claims are more than 50 subcontractors that have been used by the Kamoto Copper Company (KCC) mine, which is owned by the Swiss exports and mining giant Glencore.

Glencore is using numerous subcontracted workers, so employees depend on the subcontractor, not Glencore.

### ***Local content policy***

A mandatory requirement is to determine the capacity of local suppliers and get a good understanding of the needs of the mining industry (IISD, 2019).



The business climate has to be conducive to investments and private sector development and fundamental soft and hard infrastructure are available. The purpose is to provide local firms with dedicated market access and sufficient time so they can develop and become competitive.

The concessionaire contract condition of local content can fulfill mandatory quantitative and qualitative requirements.

Mandatory quantitative requirements: Demand-side, mandated percentage of local sourcing of goods and services from domestic businesses; Supply sides: Preference premium price exclusively for local firms.

Mandatory qualitative requirements: Demand-side Local area development agreements with provisions on local procurement (without targets); Supply-side, technology transfer requirements.

Ghana has put in place a combination of demand- and supply-side policy options (Nickerson and Geipel, 2018). They include preferential procurement of local goods and services when bids are within 2 percent of each other on price, submission of a procurement plan that covers five years, and specific enforcement mechanisms, for example, annual reports regarding compliance and Economic penalties that will be applied if the local procurement plan or a semi-annual report on the implementation of the procurement plan is not provided. Additionally, a list is maintained of which goods is to be procured in Ghana; failure to buy these goods locally will result in penalties and payment of the full customs duty for the imported goods.

#### Supplier development, Mozambique

Supplier development is aimed at serving diversified clients (Dolo et al, 2018).

Mozlink II (2007–2010). The USD 1.3 billion Mozal aluminum smelter investment was awarded in 1997 to a consortium composed of BHP Billiton (47 percent), Mitsubishi (25 percent), and the Industrial Development Corporation of South Africa (24 percent), and the Government of Mozambique (4 percent). The IFC provided some financing, and the government provided a range of tax incentives and beneficial electricity tariffs.

Having identified private sector weakness and its inability to meet international trade standards as the main constraints, Mozal established the Small and Medium Enterprise Empowerment and Linkages Program (SMEELP) in 2001 to enable local businesses to compete for contracts during construction. Following its success, the Mozlink I linkages program was jointly established by IFC and Mozal when the plant became operational in 2003. Then in 2007, Mozlink II was

launched and the program was expanded to include Sasol (gas), SABMiller, and Coca-Cola. To profit from technology transfer, Mozambique's government furthermore established the Export Processing Zone (EPZ), known as Beluluane Industrial Park (BIP) in Maputo in 2005, to improve competitiveness through sharing information and industrial knowledge. By 2007, the BIP had 16 free zone projects, one of which was the Mozal aluminum smelter.

The approach in Mozlink II, which was developed with the same methodology established by prior programs, consisted of five phases:

**Preparation:** A strategy covering the principal components of the program was planned, SMEs were selected, and company employees as well as business mentors, who would coach and guide the SMEs through the program, were identified, recruited, and trained.

**Assessment I and Workshop I:** Education and mentoring sessions were held, and a six-month development plan for each SME was developed

**Assessment II and Workshop II:** Data was collected and compared with baseline data with a focus on development.

**Evaluation:** Changes in the procurement patterns of the lead company were measured.

With a budget of USD 1 million, of which close to USD 700,000 was spent by the program, Mozlink II organized 51 workshops/education events attended by a total of more than 550 people. 77 entities received education and 45 received mentorship. The key outcomes of the program were: 36 entities implemented the recommended changes; USD 53 million in incremental sales was generated for local SMEs.

### ***The breakdown of economic contributions***

The breakdown of economic contributions by Teranga Gold in 2019 for its mines in Senegal shows the significance of local procurement compared to other economic contributions (Geipel and Wilhelm, 2021). Senegal Teranga gold mine's total economic contributions were Million USD 202.

Local procurement was the largest spending category in Senegal (Million USD 132) and exceeds Payments to the government (Million USD 58) and taxes (Million USD 46). The lowest spending category was Local area investment (Million USD 1).

In Burkina Faso, total economic contributions were Million USD 96.

Local procurement was furthermore the largest spending category (Million USD 75) and exceeded Payments to the government (Million USD 14) and taxes (Million USD 7.3). The lowest spending category is Local area investment (Million USD 0.3).

Teranga Gold	Senegal	Burkina Faso
Total economic contributions:	Million USD 202	Million USD 96
Payments to government	58	14
Local payroll	11	6
Local area investment	1	0.3
Local procurement	132	75
Direct Taxes	29	6
Other payments	11	6
Indirect Taxes	17	1.3
Advance royalties	0.15	NA
Institutional Support	0.3	0.3

In another example from Ghana, Golden Star Resources procurement spending in 2019 at its two sites exceeded salaries paid (Million USD 29 for the Bogoso/Prestea site and Million USD 36 for Wassu), payments to governments (Million USD 14 for Bogoso/Prestea and Million USD 30 for Wassu), and local area investments (Million USD 0.13 for Bogoso/Prestea, Million USD 0.35 for Wassu).

*The African Minerals and Geo-sciences Centre (AMGC)*

Formerly known as Southern and Eastern African Mineral Centre (SEAMIC) was established in 1977 principally to carry out regional geological surveying and to provide minerals exploration and consulting services for programs of its founding member states, Ethiopia, Tanzania and Mozambique, later joined by Uganda, Angola and the Comoros. Kenya became a member in 2006 and the Sudan joined in 2010. In 2007, the ministerial meeting in Maputo decided that membership is open to all African states. To reflect this expansion of the scope, the name of the Centre changed to African Minerals and Geosciences Centre (AMGC) starting from July 2015 (seamic site).

AMGC is supporting the mineral sector to benefit the African nation prosper; Improving the capacity of African nations to enable developing their mineral resources; Availing up-to-date technology to the African mineral resources sector; Advocate increased partnership among African nations to lift up each other Support for the under-privileged sectors of the community in the mineral resources sector to improve their benefits from their activities.

## *Angola*

Angola Restructures open the door for private-sector investment when João Lourenço, former defense minister, was chosen to succeed José Eduardo dos Santos in September 2017 (Global Business Reports & Mining Indaba, 2020).

2018 was marked by an anti-corruption campaign and efforts to regain control of the nation's dire forex condition. 2019 has been a concerted push for transparency and the subsequent opening up of a formerly-closed business environment for private investment.

The share capital held wholly or partially by the Angolan state in 195 various companies will be sold between 2019 and 2022 under the privatization program published in the Diário da República official bulletin. The most well-known companies included in this course, are the state oil company Sonangol, airline TAAG and diamond company Endiama.

Endiama is one of the main shareholders of Sociedade Mineira de Catoca (Catoca), the Angolan mining company that produces around 80% of all Angolan diamonds by volume.

Already within the top six diamond producers in the world, Catoca's internal restructures administered since the new management team took charge in August 2018, in addition to

governmental restructures to create a more transparent business environment, combine to make an attractive proposition for the private sector investment.

Several companies had acquired prospecting licences in Angola, including Atabamaik, which plans to explore copper; Chinese General Mining, which is seeking out rare-earth; and Vig World, in partnership with Spanish company Tolsa in search of lithium. Even within Angola's mining sector, greater diversity in the nation's portfolio of mining projects in an industry conventionally dominated by diamonds is part of the government's agenda.

Diamond mining remains the most significant mining operation in Angola. The nation has become one of the largest diamond exporters in the world. Most diamond mines are found in the provinces of Lunda Norte and Lunda Sul.

Before the civil war, copper mining was a significant contributor to the Angolan economy and opportunities remain in this field for investors. Copper mining has occurred largely in the Mavoio region.

### ***Botswana***

Mines and Minerals Act passed in 1999 is geared to ensure stability, deregulation, and government transparency

Mining contributes over one-third of the nation's Gross Domestic Product. Botswana has become a leading producer of diamonds founded upon the quality and grade of its diamonds. Mining has grown significantly in Botswana since independence. This is attributed to significant development opportunities that have arisen with discoveries. Mining industry-known minerals include diamonds, copper, nickel, cobalt, gold, soda ash, and coal.

There are three types of licences:

Retention Licence: This licence provides retention for prospectors who deem a project economically unviable in the short term. The first three-year licence remains exclusive while a second three-year licence provides limited rights for third parties to reassess a prospect.

Mining Licence: This licence is initially valid for a period of up to 25 years, as is reasonably required to carry out the mining programme. The holder of a licence may apply for unlimited

reviews for a period of up to 25 years. Additionally, mineral rights holders may be required to permit the government to hold up to a 15% minority interest in undertakings.

Minerals Permits: This permit allows companies to conduct small-scale mining operations for any mineral other than diamonds over an area not exceeding a half square kilometer. It is for five years, with unlimited renewals of up to five years. Royalties rate varies depending on the resource type mined – precious stones (10%), precious metals (5%), and other minerals (3%).

Foreign investment is welcomed in Botswana and recent legislative amendments have been planned to further increase opportunities for foreign investors. There are no restrictions on foreign ownership although the payment of royalties will be required.

The rate of income tax is higher by either 25% or a rate derived by a formula. developments Smelters, refineries, and other downstream processes classified as “manufacturing” will attract low and negotiated tax rates of 0–15%.

### ***DR Congo***

The Congolese legislature changed the national mining code (Global Crisis Group, 2020). The amended code, approved in 2018 under Kabila, significantly raised the level of tax for companies mining strategic minerals – including cobalt – and placed several additional demands and restrictions on companies.

The measures received backing from both national and international civil society associations monitoring extractive activities however incurred mining companies’ displeasure.

The code contains key provisions that have the potential to shape relations among mining companies, artisanal miners, and local communities.

The companies pay 0.3 percent of their revenues to “local area development projects”. The code requires artisanal miners to be members of a cooperative and allows industrial miners to subcontract mining activities to cooperatives. Artisanal miners can subcontract to mine legally on land under an industrial licence and deal directly with mining companies. Subcontracting generally allows them to charge companies higher prices for the ore they extract than they could if selling through buying houses.

Not all DRC artisanal mining cooperatives represent their members' benefits. Some are owned by representatives of the political elite and demand unofficial payments from their members that can amount to 20 percent of their production.

In November 2019 two decrees foreshadow both further complications and some opportunities for helping artisanal miners share in the nation's mineral wealth. One creates a new body – Autorité de Régulation et de Contrôle des Marchés des Matériaux Minéraux Stratégiques (ARECOMS) – intended to oversee cooperatives and ensure that they function precisely. This body could help counter the predatory activity by owners of artisanal cooperatives portrayed above.

The other decree authorizes Gécamines to set up a subsidiary, Entreprise Générale du Cobalt, which will have a monopoly on purchases of artisanal cobalt. Artisanal production constitutes over 20 percent of the national production of this mineral. According to the latter decree, the subsidiary was to start operations in early 2020, however, in practice; Gécamines is still looking for ways to finance its activities. Despite both Gécamines' and the authorities' lack of financial resources, the mining minister announced in June 2020 that the state-controlled buying of artisanal cobalt by Entreprise Générale du Cobalt would start in September 2020.

Although the production of Entreprise Générale du Cobalt is aimed at ensuring artisanal miners a fair price, there are reasons to fear that not all of them will get one. The measure prohibits industrial miners from buying directly from artisanal cooperatives, which would seem to directly undermine the new provisions in the 2018 mining code enabling companies to subcontract to artisanal miners.

DRC's government is reviewing its \$6 billion "infrastructure-for-minerals" deal with Chinese investors as part of a broader examination of mining contracts (Ross and Strohecker, 2021). The reason is that some mining contracts could be reviewed because of concerns they are not sufficiently profiting Congo.

The government had formed a commission to reassess the reserves and resources at China Molybdenum's Tenke Fungurume copper and cobalt mine.

The 2007 deal agreed with Chinese state-owned firms Sinohydro Corp (SINO.HK) and China Railway Group Limited was furthermore being reviewed.

Sinohydro and China Railway did not immediately respond to a request for comment. Under the deal struck with the government of Tshisekedi's predecessor, Joseph Kabila, Sinohydro and China Railway agreed to build roads and hospitals in exchange for a 68% stake in the Sicominex venture.

The deal formed a key part of Kabila's development plan for the nation, however, critics say few of the promised infrastructure projects have been fully realized and have complained about a lack of transparency.

Chinese investors control about 70% of Congo's mining sector, according to Congo's chamber of mines, after snapping up lucrative projects from Western companies in recent years.

### ***Zimbabwe***

Fiscal flows in mining lead to greater corruption as opposed to increased public goods provision. When the Marange alluvial diamond mine in Zimbabwe was discovered in 2006, huge numbers flocked there to work as artisanal miners.

However, the state security services soon moved in, launching a series of violent attacks in Chikorokoza Chapera (Operation End Illegal Trading). By 2008, the remaining artisanal miners had been brutally evicted and the Marange diamond field was absorbed by a regulated sector dominated by security and political elites (Towriss, 2013; Rutherford, 2018).

These mines do cause terrible pollution, which might be expected to reduce agricultural yields and negatively affect infant mortality in surrounding provinces. However, survey evidence shows there have instead been rapid declines in infant mortality, possibly linked to women's employment and worked on access to health care (Benshaul-Tolonen, 2018).

The mining sector is expected to be one of the major drivers of development in 2022 and beyond through ramping up production of existing mines, expansion, and opening of new mines (Ncube, 2022). This is in line with the target of achieving the US\$12 billion mining industry by 2023. The mining sector is projected to increase by 8.4% in 2022, largely driven by anticipated developments in the output of key minerals.



Herewith is the production in 2018 and projected for 2022.

	2018	2022
Gold \kg	35054	23500
Iridium \t	586	1025
Nickel \t	17810	16500
Paladium \kg	12094	13072
Phosphate \t	51393	28000
Platinum \kg	14703	15200
Rhodium \kg	1334	1462
Ruthenium \kg	1155	973
Diamonds/kg	3252	3200

### ***Burundi***

In 2021 Burundi's government suspended the operations of several international mining companies, arguing that it was not receiving its fair share of income from the nation's mineral wealth (Tasamba, 2021).

British, Chinese, and Russian companies are among the seven firms affected by the decision. The key company among them is the British-listed Rainbow Rare Earths, which runs the Gakara project, Africa's only rare earth element production in western Burundi. This followed a report by an evaluation commission on rare earth element deposits in Gakara, which Rainbow Rare Earths says has numerous and extensive blood vessels containing nearly pure bastnaesite and monazite minerals. These minerals are used in numerous hi-tech products.

Other companies whose operations have been suspended are engaged in gold and coltan mining.

Under the nation's controversial mining code, the firm that signs an agreement holds 51% of shares in the project, while 39% are held by other shareholders and 10% by the Burundian state.

Rare earth minerals are major components used in manufacturing magnets in such industries as wind turbines, robots, and electric vehicles, as well as consumer goods, for example, smartphones, computer screens, and telescope lenses.

## ***South Africa***

Richards Bay Minerals (RBM) belonging to Rio Tinto, an Anglo Australian multinational, is South Africa's largest mineral producer. RBM was formed in 1976 to mine the vast mineral-rich sands of the northern KwaZulu-Natal province of South Africa. The mine produces predominantly rutile, zircon, titania slag, titanium dioxide feedstock, and high purity iron.

RBM currently operates four mines in the Zulti North lease area, in addition to a mineral partition plant and smelting facility. Blue Horizon, a BBBEE consortium consisting of lead investors and the four host communities, holds a 24% interest in the RBM while an employee trust owns the remaining 2% stake.

Work at the Zulti South project, which expands the lease area of RBM, has remained on full suspension since 2019 because of security and local area issues.

Rio Tinto - RBM has suspended mining and smelting operations in South Africa amid an escalation in local area violence (Mining Technology, 2021).

Rio Tinto - RBM has furthermore declared force majeure on customer contracts at RBM operations in KwaZulu-Natal province. The latest move comes after RBM general manager Nico Swart was reportedly murdered.

## ***Worked on contract with MNCs***

Harsh and problematic working conditions endured have to be prevented in the contracts signed with the MNCs. Salary, local area investment, and local procurement have to be planned according to a program approved between national and local authorities, local businesses, workers representation, and MNCs.

A mandatory requirement is to determine the capacity of local suppliers and get a good understanding of the needs of the mining industry. The business climate has to be conducive to investments and private sector development and fundamental soft and hard infrastructure are available. The purpose is to provide local firms with dedicated market access and sufficient time so they can develop and become competitive.

## Coffee

According to the International Coffee Organization (ICO), it is furthermore one of the most traded agricultural exports in the world and a source of income for millions of smallholder farmers, mostly in middle- and low-income nations (Utrilla-Catalan et al, 2022).

### *Weak African positioning*

Brazil and Columbia are the world-leading producers of coffee in Arabica and Uganda and Kenya are the leading African producers. Vietnam and Brazil are the world's leading producers of coffee Robusta and Uganda and Cote d'Ivoire are the leading African producers.

Brazil and Vietnam are the world's leading exporters and in Africa, Uganda and Ethiopia are the leading exporters. (FAS, 2021).

#### Arabica Production (Thousand 60-Kilogram Bags)

	2017/18	2020/21
Brazil	39,500	49,700
Colombia	13,825	13,400
Uganda	1,200	925
Kenya	720	700
Total	95,249	101,968

#### Robusta Production (Thousand 60-Kilogram Bags)

	2017/18	2020/21
Vietnam	28,274	28,050
Brazil	12,600	20,200
Uganda	3,400	5,075
Cote d'Ivoire	1,250	1,060
Total	64,590	73,984

At the end of the 20th century, the share of Arabica coffee decreased from 80% of world production in the 1960s to approximately 60%, because of the growth of Robusta coffee production in Brazil and some African nations, as well as the emergence of the Asian continent as the main Robusta coffee-producing region in the world (Sette, 2010).

It should be noted that North and Central America maintained their export level at the beginning and end of the period, even though their share of trade has been reduced concerning total trade, however, Africa has lost much of its export value compared to the level which began in 1995.

### *Unequal revenues sharing*

Between the 1970s and 1980s, Talbot (1997) showed a substantial transfer of resources from producing to consuming nations, irrespectively of price levels. He estimates that, in the 1970s, an average of 20% of total income was retained by producers, while the average proportion retained in consuming nations was almost 53%. In the 1980s, there was no great change; producers still controlled almost 20% of total income and consuming nations the 55%. However, after the collapse of ICA in 1989, the condition changed radically. Between the periods 1989–1990 and 1994–1995, the share of total income gained by producers dropped to 13% while it increased to 78% in consuming nations.

Price volatility in futures markets (New York, Arabica and London, Robusta) occurs because of certain trigger signals that may or may not have to do with the expected supply and demand of coffee. For example, uncertainty in the US economy encourages investors to flee from US currency and invest in the commodity market to hedge against inflation, which forces commodity prices up. This highlights the disjoint between prices and real supply and demand fundamentals. Since investment funds have increasingly traded in commodity 36 markets and perform based on trend following, price swings in exports have been magnified, having the greatest effect on those who do not have access to hedging instruments – the rural farmer (Farnworth and Goodman, 2006).

The world coffee market is dominated by four multinational corporations: Kraft General Foods, owner of Maxwell House, Nestle, Proctor and Gamble owner of Folgers, and Sara Lee (owner of Chock Full O'Nuts and Hills Brothers).

International markets have seen intense pressure because of the subsidies provided by the USA and the EU to their farmers (Weis, 2007). The agro-founded subsidy regimes in these nations have a destabilizing effect on the unsubsidized Third World smallholders, who cannot possibly compete with underpriced agriculture from abroad.

### ***Destructive Structural Adjustment Programs***

In the 1990s and 2000s, the introduction of Structural Adjustment Programs (SAPs) pushed for by the IMF and the World Bank saw a transformation in the policy landscape surrounding coffee production. The international market regime was liberalized however price volatility increased in the aftermath of liberalization policies and SAPs. The result was the weakening of governance structures at the production end the intensification of vertical integration, and the consolidation of power and profits in the retail segment (German et al, 2020) with a rapid reduction in the producers' shares of the final retail price (Ponte, 2002; Gilbert, 1996; Bacon, 2005). While farmers lost decision-making capacity over farm activities, intermediary actors (entiresalers, roasters, traders) and major multinational food and beverage companies increased concentration and vertical consolidation, for example, the US's Starbucks and Stump town, Germany's Neumann, Swiss' Nestle, Kraft, Sara Lee, and Procter and Gamble to take advantage of the coffee farmers by ruling the world market and determining the farmer prices, by paying as little as six percent of a cup price (Kaplinsky, 2004; Lee et al, 2012).

### ***Kenya***

Kenya coffee total production is exported as green coffee beans up to 98%. The biggest of these exports are made to Germany which removes the taxes on the imported unprocessed coffee beans but passes the heavy tax on the processed coffee. This means that Kenya is forever dependent on the developed nations for refining unprocessed into processed coffee.

About 60-70% of Kenyan coffee is produced by small-scale holders. Over 85% of the coffee is sold through auctions at the Nairobi Coffee Trade.

The largest coffee farms in Kenya are still owned by foreign corporations, companies, or people. For example, the Kenyan largest coffee farm Mbumi coffee estate and Onyx Coffee Lab is owned and managed by a Swiss company known as The Swiss Water Decaffeinated Coffee Company.

## *Ethiopia and Uganda*

Coffee is a vital contributor to GDP and tax revenue for some African nations (ICO, 2015). A significant number of people furthermore derive their livelihood from coffee production (Wondemu, 2017). In Ethiopia, Africa's leading coffee producer, close to a quarter of the populace derives their livelihood from coffee production, marketing, and export.

In Uganda, the continent's second major coffee producer, half a million smallholders produce coffee which is furthermore the primary source of income for 2.5 million people or 8 percent of the populace (FTF, 2012). Moreover, since smallholder farmers produce close to 95 percent of the coffee, the trajectory of coffee production and the world price of coffee will furthermore have a significant impact on poverty reduction and development.

Ledgers from coffee cooperatives in Ethiopia and Uganda explode rural egalitarian myths (UNCTAD, 2018). These are producer associations that serve the benefits of a very small minority of members, namely the farmers with the largest plots of land, who can obtain the greatest profits from access to cheaper fertilizer and higher-priced market opportunities. Cooperatives of Ethiopian coffee producers increase rural inequality. Because they draw additional resources (e.g. in the form of 'ethical' trade price premiums), these disproportionately swell the income of the minority of member-producers who sell the bulk of the cooperative's 'certified' output. These cooperatives furthermore often fail to serve the benefits of their poorest members.

Coffee cooperative membership overall has an insignificant impact (Shumeta and D'Haese, 2016). Most of the cooperatives are in huge debt and have already lost the trust of banks for borrowing money. Consequently, they are not able to offer a significantly better price for coffee to their members than that received by non-members working in the conventional spot market. In addition to the price issue, cooperatives are furthermore heavily constrained by the ways they make payments. Traders in the mainstream independent market make full payment to producers immediately upon purchase. Coffee cooperatives are not in a position to provide education and technical advice to their members because of the limited number of experts and low commitment of the cooperative management. The cooperative leaders lack managerial competencies.

Almost all the cooperatives in the region are led by illiterate farmers who have no knowledge and skill in modern organizational management.

## ***Côte d'Ivoire***

Côte d'Ivoire is in the fifteenth world place today (2021) with an annual production rate of over 103 000 tons, after being in the past one of the leaders. They produce chiefly robusta coffee, which is of a lower grade. It's used primarily as filler for coffee blends, as it can give Arabica coffee a fuller body. And, as I mentioned earlier, it's furthermore used to make instant coffee.

However, Côte d'Ivoire is furthermore known for a rare type of coffee bean called Arabusta. Grown at higher altitudes, it's sweeter and a bit milder than the Robusta beans grown throughout the rest of the nation. It has lovely floral notes in its flavor profile, too.

Arabusta coffee beans are having a very interesting impact on coffee culture in Côte d'Ivoire. Because it creates a much more pleasant brew, it has been used in recent years to promote the quality of local coffee within the nation.

## ***Better revenues sharing***

International institutions policy supporting MNCs' domination and investors contributing to price volatility request strong and organized coffee suppliers of African nations at the origin of the supply chain. National, regional and international institutions representing the suppliers of raw material requesting and insuring minimum price- revenue for planters and more processing in the developing nations.

## **Cocoa**

Cocoa is a perennial tree crop that grows in humid, tropical forest areas. It is produced in Ghana's forest zone, mainly in the Brong Ahafo, Ashanti, Western (Löwe, 2017).

Europe, North America, and South America are conventional consumers of cocoa, where consumption has been stagnant recently.

Cocoa prices are very volatile, for example, from March 2019 to February 2020 cocoa prices rose by over 50%.

Approximately two million smallholder farming households in both Central and West Africa depend on cocoa for sustenance (Schroth et al, 2016).

The natural environment in Central and West Africa has a humid tropical forest, suitable agronomic characteristics for cocoa production, supporting local livelihood, and economic growth and development, through export revenues (Tosam et al, 2019).

Ivory Coast and Ghana have pledged to further strengthen and expand their existing economic relations on cocoa and other related matters (Food Business Africa, 2021). In August 2020, the two countries formed the Ivory Coast-Ghana Cocoa Initiative (ICCI) aimed to promote their cocoa industries internationally and defend their collective position in the international market. To this end, they have signed the Headquarters Agreement for the establishment of the Ivory Coast-Ghana Cocoa Initiative Secretariat in Accra, Ghana.

### ***Production in Africa***

In 2014/2015, global cocoa production stood at approximately 4.2 million metric tons, with a Global market value of US\$12 billion (Suh and Molua, 2022). Of the 4.2 million metric tons produced, West Africa produced 73%, South and Central America 17%, and 10% from Asia (Sulaiman and Boachie-Danquah, 2017).

In the last thirty years, global production of cocoa has doubled, almost all of this coming from four West African nations (Côte d'Ivoire, Ghana, Cameroon, and Nigeria). During these three decades, production in West Africa rose from 1.37 million tons to 3.47 million tons (Fountain and Friedel Huetz, 2021). The market share of the big four West African cocoa producers increased from 55% to 74% in these years.

By 2020, according to the World Cocoa Infrastructure, two-thirds of cocoa farmers in Africa continue to live below the extreme poverty line, officially defined as a net income per person per day of less than US\$1.9 (Scobey, 2020). The claims of sustainable certification programmes and the millions of dollars invested by Global cocoa and chocolate companies did little to lift them out of poverty (Ruf et al, 2022).

Fair trade, one of the leading certification agencies, recognizes this as well. Even with a drastic adjustment of the poverty line to US\$ 0.78, to account for the lower cost of living in Côte



d'Ivoire the percentage of farmers below the extreme poverty line is still estimated at 54% (Rusman et al., 2018).

Taken as a percentage of the price of a bar of dark chocolate in France, the grower received around 7% in 2000 and 6% in 2020 (Dorin, 2000; Fundamental, 2016; 2020).

In 2016 the top five cocoa-producing nations were Ivory Coast with 33.0% of global production (1,472,313 tons), Ghana with 19.2% (858,729 tons), Indonesia with 14.7% (656,817 tons), Cameroon with 6.5% (291,512 tons), and Nigeria with 5.3% (236,521 tons) (FAOSTAT).

These statistics show that about 65% of the world's cocoa (*Theobroma cacao*) is produced in West Africa.

### *Côte d'Ivoire*

In 2019, Côte d'Ivoire produced 2.2 million tons of cocoa beans, accounting for more than USD 3.5 billion in export value (ILO, 2021). It is the largest world producer followed by Ghana which accounts for 0.85 million tons of cocoa (ihsmarkit site).

Cocoa production engages 800,000 farmers and provides livelihoods to around 4.5 million people (19 percent of the populace), concentrated mostly in the East and South West of the nation.

Around 50% of total cocoa produced is certified and quasi-entirely bought by a very small group of multinational exporters like Barry Callebaut, Cargill, and Olam, who can pay a premium (from USD 70 to 200 per ton) on top of the minimum price of USD 1.5 per kilogram of cocoa set for the campaign 2019/2020. Hence, numerous exporters, mostly local and of various sizes, buy the other 50% of conventional or non-certified cocoa. In 2020, the Conseil Café Cacao has accredited 84 exporters, including 54 commercial societies and 30 cooperative societies, to operate in the cocoa supply chain. Buyers and exporters follow two sourcing channels. Big exporters prefer sourcing from cooperatives societies, as they are relatively well structured and organized. The others however follow a less formal and unstructured channel working with intermediaries or as well known as pisteurs. More than 3,000 cooperative societies collect cocoa beans from their members and can offer several services (inputs, educations, credits), including a certification programme.

## *Ghana*

Ghana is the only cocoa producing country in the world without a fully liberalized marketing system (Divine Chocolate, 2021). In the early 1990s, the Ghanaian government opted for a gradual introduction of reforms, which have so far included only the liberalization of internal marketing, privatization of input distribution (for example, chemicals) and reform of extension services. Cocobod still controls external marketing. The Quality Control Division, a subsidiary of Cocobod, is responsible for the final quality checks of cocoa beans. Ghana produces good quality cocoa, for which it receives a premium on the world market.

### Importance of the cocoa sector

Cocoa dominates livelihood strategies to such an extent that it represents between 70% and 100% of annual incomes for cocoa farmers (Läderach et al., 2013). Cocoa incomes have contributed significantly to poverty reduction efforts: while poverty rates among cocoa farmers were as high as 60% in 1991/92 this had more than halved to 24% by 2008 (Breisinger et al., 2008). Cocoa farmers are geographically concentrated in the southern part of the nation. They nevertheless represent approximately 20% of Ghana's farming households and reductions in poverty levels of this magnitude among cocoa farmers represent a significant reduction in overall poverty rates (EGEVAL, 2005).

### Ghana's Cocoa Board (COCOBOD)

COCOBOD is an unusual organization in the African context, not only for surviving the privatization trend of the 1980s but furthermore, more importantly, for its efficiency and effectiveness (Löwe, 2017).

Before the 1980s, COCOBOD was notorious for its dysfunction and was a major contributing factor to the decline of the sector in the 1960s and 1970s. Herbst (1993) singled the marketing board out as particularly corrupt. The reform course began as a part of the Economic Recovery Programme in 1983 and one of its main successes was reducing the parastatal's staff of 100,000 by 40% between 1985 and 1986. Numbers were further reduced in the following two decades, to around 10,400 by 1995 and then to 5,140 in 2003 (Williams, 2009).

This reduction in staff numbers of almost 95% freed up considerable resources and was one of the primary contributing factors to the price increases that ushered in the sector's regeneration.

However, the board is not simply lean it is furthermore a relatively efficient institution, whose technocrats are given comparatively free rein to manage the sector to maximize production (Buur and Whitfield, 2011).

COCOBOD has managed to survive as a result of the important role it has always played – even when it was at its least effective – in ensuring and guaranteeing the quality of Ghana’s cocoa. This means the institution has enjoyed the support of international buyers, even when others, for example, the international financial institutions, were calling for its abolition (Williams, 2009).

### New generation

The sector is clearly in need of rejuvenation: both cocoa farmers and trees are relatively old. There is room for a great deal of **development** and the potential exists for increases in living standards for cocoa communities through yield increases. The focus must necessarily be on the rehabilitation and replanting of cocoa farms inherited or otherwise made available by older farmers, as virgin land is very limited.

The most pressing issue remains to ensure access to cocoa land. This has been achieved on a small scale by both MASO and COCOBOD’s youth projects, which have interacted with local leaders, including chiefs, to ensure that young people have access to land.

Making savings products or even credit schemes available to young people presently will allow them to profit from opportunities in the sector in a few years. Beyond cocoa production, opportunities for young people in cocoa are not limited to the production of cocoa. The opportunity to provide services to the sector might offer an additional source of income to young people who are unable to access land or who are in the course of establishing a cocoa farm and cannot yet fund their livelihoods through the sale of cocoa beans alone.

### *Ghanaian-Ivorian partnership*

Côte d’Ivoire and Ghana remain by far the most important cocoa-producing nations. After a steep increase in production in Côte d’Ivoire a couple of years ago, harvests have stabilized at roughly 2.1 million tons, while Ghana adds another 800,000 tons (Fountain and Friedel Huetz, 2021).

Together, they produce more than 60% of the global cocoa harvest. One of the most significant development in cocoa production in the past years has been the Ghanaian-Ivorian partnership on cocoa. From the Presidential level downwards, the two largest cocoa-producing nations have

started to align their internal and external cocoa policies. In the third quarter of 2019, the Ivorian Conseil du Cafe-Cacao (CCC) and the Ghana Cocoa Board (Cocobod) started charging the so-called Living Income Disparity (LID), an extra fee of \$400 per ton of cocoa on top of forwarding sales for the 2020/21 main crop. Subsequently, in October 2020, Ghana increased the guaranteed cocoa farm gate price for the 2020/2021 season by 28% to \$1,837 per ton, and Côte d'Ivoire by 21% to \$1,840. Those initiatives advance the income condition for farmers.

### ***Cameroon***

In 2015, the second-largest export from Cameroon was cocoa beans with about US\$492 million, following crude petroleum with a US\$1.5 billion (Observatory Economic Intricacy (OEC), 2018). Compared to cocoa beans produced in other West African nations, Cameroon's beans are more reddish and darker, have a unique flavor and are preferred by processing companies in Europe (Coulter and Abena, 2010).

Key cocoa-producing provinces in Central and West Africa would continue to experience extreme temperatures with less regular rainfall. Significant reduction in cocoa production is already experienced by farmers in Cameroon caused by climate variability (with increasing rising temperatures and varying rainfall patterns), favoring the multiplication of pests and diseases (Laderach et al., 2011).

In Cameroon, numerous rural inhabitants in the Southern part of the nation obtain their livelihood from cocoa-related activities. Specifically, about 90% of households in cocoa-producing communities in the South West Region are dependent on cocoa proceeds for their livelihood (Ngong et al, 2019).

### ***Nigeria***

Since its discovery in the 18th century in the Amazon basin, cocoa cultivation has spread to other tropical provinces of the south and central, and West Africa, which became the major producer from the mid-1960s (Afolayan, 2020; Opeke, 1978).

Cocoa was introduced to West Africa from Brazil (South America) precisely by Fernando Po in Nigeria in 1874 and Ghana in 1879 by one Squiss Bamengo, chief of the Niger Delta (Adegeye, 1996). West Africa has been the centre of cocoa cultivation for numerous decades, as two-thirds

of the world's cocoa is produced in West Africa (Hartemink, 2005). Nearly all the Southwest States in Nigeria except Lagos involve in cocoa production. The top growing States Ondo, Ogun, Osun Oyo, and Ekiti account for about 60% of the cocoa production and makeup at least 30% of the total cocoa export in Nigeria.

Proshare Economy (2017) emphasized that in Nigeria; about 80% of cocoa produced is exported as cocoa beans while the other 20% is processed into powder, butter, cake, and liquor before being exported.

According to experts' statistics, presently, there are about 17 cocoa processing companies in Nigeria; only 9 are functional (Akinfolarin et al., 2012).

Between 1950 and 1960, cocoa was the highest source of foreign trade in the nation. The discovery of oil in 1970, coupled with other socio-economic factors led to the relegation of cocoa to the second position in terms of foreign trade earnings for the nation. Since then, the oil sector has been at the centre of the Nigerian economy with attendant poverty, unemployment, and a weak industrial base.

Nigeria is the fourth-largest producer of cocoa beans in the world behind Côte d'Ivoire, Ghana, and Indonesia accounting for 6.5 percent of the global production. The sector is dominated by at least 300,000 smallholder farmers with a cultivated area of 1,400,000 hectares, according to the Nigerian government (El Hennawy, 2022).

Cocoa African exporters are expected to face another tough year because of the economic pressures that the Russia-Ukraine war has already weighed on the EU, a key importer of Africa's cocoa beans.

### ***New generation***

The sector is clearly in need of rejuvenation: both cocoa farmers and trees are relatively old. There is room for a great deal of development and the potential exists for increases in living standards for cocoa communities through yield increases.

The focus must necessarily be on the rehabilitation and replanting of cocoa farms inherited or otherwise made available by older farmers, as virgin land is very limited.

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## **Acacia (Arabic) gum**

### ***The Network for Natural Gums and Resins in Africa (NGARA)***

NGARA is a Pan African organization assisting African producing countries and partners formulate a coordinated strategy for the sustainable development of their natural gums, resins and allied dryland resources, for improving rural livelihood and environmental conservation (ngara site).

### ***Production countries and exports***

Acacia gum or food additive E414, a natural product derived from hardened acacia tree sap, harvested in the Sahel region of Africa, is used primarily by the food industry.

Unlike most natural gums, acacia gum dissolves well in water and does not interact with other chemical compounds. It is also odorless, tasteless and translucent (UNCTAD, 2018). For marketing purposes, Acacia Senegal gum is designated as hard gum, whereas Acacia seyal gum is referred to as friable gum. In the Sudan, these two types of acacia gum are commonly known as hashab and talha, respectively.

Exports of unprocessed and semi-processed acacia gum have almost tripled in the last 25 years, from an annual average of 35,000 tons in 1992–1994 to an annual average of 102,000 tons in 2014–2016.

In addition, exports of processed acacia gum more than tripled, from 17,000 tons to 53,000 tons in the same period.

The three largest exporters of crude acacia gum are Sudan, which accounts for 66% of the total, Chad with 13%, and Nigeria with 8.5%, in 2014–2016.

All internationally traded crude acacia gum is produced in the gum belt: the vast arid wooded savannas that span sub-Saharan Africa, from Mauritania and Senegal, in the west, to Sudan, Eritrea, Somalia, Kenya and the United Republic of Tanzania, in the east.

Crude acacia gum export revenues increased from an annual average of \$95.4 million in 1992–1994 to an annual average of \$150.3 million in 2014–2016.

Important differences exist between producing countries. Sudan has historically played a leadership role.

Chad has made significant progress in recent decades both in terms of the quantities produced and quality.

Nigeria has been hindered by quality inconsistency, poor market organization and production disruptions due to the Boko Haram insurgency.

In Cameroon, Mali and Senegal, exports have started to rebound after decades of decline and stagnation.

To combat the advancing desert in Senegal, the Saudi company Azila Gum has planted in 2021 about 15,000 hectares of Senegal acacia trees on degraded land in Dahra in the Djolof region (Wanzi, 2021).

Self Help Africa's AgriFI Kenya Challenge Fund is providing financial support and technical assistance to Kenyan-owned Acacia EPZ, to enable the company to develop its business, purchasing, processing and exporting acacia gum to European markets (Self Help Africa, 2020).

The firm estimates that it will create a market for approximately 6,700 households in some of Kenya's remotest and poorest regions, including Isiolo, Garissa, Marsabit, Samburu and Turkana, and will create over 60 new jobs across these regions.

Kenya currently produces approximately 400 metric tons of acacia gum per annum, against a production potential calculated at 12,000 tons.

AgriFI, which is also backed by Slovak Aid, is providing a total of over €18m in financial support to businesses, and is seeking to create more than 10,000 jobs and linkages for more than 100,000 rural poor farmers and pastoralists in Kenya.

In many other countries in the African gum belt, domestic gum resources remain underexploited, as in parts of Ethiopia and South Sudan.

### *African uses*

In the drylands of sub-Saharan Africa, acacia gum is used as food, traditional medicine and a basic item for domestic activities, such as laundering and plastering. It is consumed as a famine food in periods of severe drought and food insecurity (Ruffo et al., 2002; Fratkin et al., 2004) and as a regular foodstuff by herders and gum tappers in remote arid zones (Gachathi and Eriksen, 2011).

Acacia gum is also used in traditional medicine and religious rituals in various countries in the African gum belt. The gum is believed to combat sore throats, the common cold, backaches, painful joints, stomach and intestinal disorders, kidney pains, eye diseases and haemorrhages.

Gum powder and runny gum are blended with charcoal to produce an ink preparation widely used in schools. Dusty and impure gums are fermented in animal waste, mud and water to yield a special paint that protects houses from heavy rain. In Cameroon and Nigeria, acacia gum is used in the production and cleaning of traditional head caps (Muller and Okoro, 2004; Njomaha, 2008). In the subregion of Karamoja, in Uganda, peasants use acacia gum for repairing household items, gumming spears, gluing arrows and joining leather (Obua et al., 2006).

### *International uses*

#### Confectionery

Hard candies are prepared using acacia gum at concentrations between 40 per cent and 55 per cent of total solids. Soft candies, including candy bars, chocolates and nougat, are generally 30 to



35 per cent acacia gum. In the United States, food safety regulations allow soft candies to be up to 85 per cent by weight acacia gum.

Beverages acacia gum is widely used in the preparation of concentrated flavor oil emulsions for use in cola and citrus-based soft drinks. It inhibits droplet flocculation and coalescence in concentrated emulsions and solutions with sugar-containing carbonated water.

### Pharmaceuticals

Pharmaceuticals In the pharmaceutical industry, acacia gum is employed to control viscosity, improve density, suspend insoluble drugs and prevent the precipitation of heavy metals from solutions.

Its benefits include: Source of Fiber: Acacia gum comprises of water-soluble dietary fibers; Gum for dental implants: Acacia has bonding properties; Reduces constipation; Decreases pain and irritation.

### Cosmetics

In cosmetics, acacia gum is used as a thickener because of its texture, which forms a gel in contact with water and a film in contact with air. Acacia gum is used in a variety of cosmetics, particularly in liquid makeup products. Acacia gum is an emulsifier that allows both oil and water-based ingredients to mix. It is also a natural film-forming agent which means that it stays on the surface of the skin and hair to better coat, condition and protect them. It is water-soluble and soothing for the skin.

### Printing industry

In the printing industry, acacia gum is used as a base for photosensitive chemicals, as a component of solutions used to increase hydrophilicity and impart ink-repellency to metal plates, and as a protective coating to prevent plate oxidation.

### *Companies processing and trading*

Two countries, France and India, import three-quarters of all crude gum Arabic. After processing, France alone exports two-thirds of all processed acacia gum.

Nexira, a family-owned and managed company based in Rouen, France, is the world's largest producer of processed acacia gum, with a world market share of nearly 50 per cent. The company has subsidiaries in Brazil, China, Germany, India, Japan, Mexico, the Russian Federation and the United States, and exports about 90 per cent of its output. In 2015, its turnover was €113 million.

Alland & Robert is another important family-owned French manufacturer of processed acacia gum. The company has headquarters in Paris, two factories in Normandy and kibbling and sorting facilities in Chad, Mali and Senegal. For its line of organic acacia gum, Alland & Robert maintains a partnership with Ferlo Gommés, a company from the region of Ferlo, in northeastern Senegal.

Zarrag's company is the main supplier to Läkerol, a Swedish sugar-free candy made mainly from acacia gum. Many hard candies are up to 40%-50% acacia gum, with soft candies using about one third. During periods of shortage, the candy industry searched for alternatives to the ingredient but never succeeded.

Adinath Gum Industries is a leading processing house of Indian Gum Ghatti and other natural gums (aditath site). Its infrastructural base at Malegaon-Dist Nashik (M.H). R.M.Kapadia and Bros. is the parent company of Adinath Gum Industries having market experience of more than 50 years.

ISC Gums, the US leading manufacturer of Gum Acacia, developed in 1961 the processes to produce spray dried Gum Acacia Senegal and in 1984 to produce spray dried Gum Acacia Seyal (ISC site).

Ingredion is a US leading international ingredients solutions company making sweeteners, starches, nutrition ingredients and biomaterials used in everyday products from foods and beverages to paper and pharmaceuticals (Ingredion site). Ingredion employs around 12,000 employees around the world. TIC PRETESTED<sup>®</sup> Gum Arabic FT Powder is a spray dried acacia developed by Ingredion.

Norevo GmbH is an internationally established supplier of natural raw materials and a producer of specialty ingredients. Norevo is an independent company. Branch companies and production facilities are located in Hungary, Mexico, Argentina, Hong Kong and China. Quick Gum is Norevo's brand of purified, homogenized and quick-soluble Gum Acacia powder. Quick Gum is available in standardized and tailor-made qualities, offering an easy dosage, handling and storage.

The other key players are Afrigum International, Hawkins Watts, Kerry Group, Afritec Ingredients, Elanan Trading, Dansa Gum, Dangate Danjadede, Alategahat Almtadede and Prodigy NIG Limited.

## **Shea**

### ***The Global Shea Alliance (GSA)***

GSA is a non-profit industry association with 560 members from 35 countries including women's groups, brands and retailers, suppliers and NGOs (globalshea site). Through public-private partnership, the GSA promotes industry sustainability, quality practices and standards, and demand for shea in food and cosmetics.

The expansion strategy would increase tree density and effective shea, transforming 2.5 million ha of agroforestry cropped areas to agroforestry parklands over 14 years, enriching 1.5 million ha of annual cropland with shea trees, developing cooperatives and improving access, transport facilities, and storage for 3 million women shea collectors. Shea has an enormous potential to mitigate climate change in West Africa. This expansion strategy can increase the shea tree population by 7 million additional trees per year, fix 9 million tons of CO<sub>2</sub>e per year (180 million tons of CO<sub>2</sub>e over 20 years), generate a 33 percent increase in income per working day for women collectors.

In August 2020, GSA in partnership with USAID launched a project designed to develop a 50 seedling shea nursery (cbi site). This initiative is part of the Action for Shea Parklands Program (ASP) (asp site) which seeks to address issues, such as climate change, lack of fallows, negative effects of commercial agriculture, as well as tree removal contributing to the decline in shea trees. The

project is intended to promote and protect parklands while advancing the industry's commitment to plant 10 million trees over the next 10 years across West Africa.

As of 2020, around 8,000 shea trees have been planted and about 100,000 seedlings have been raised as part of the Sustainable Shea Initiative. The five-year project is funded by USAID and it promotes the sustainable expansion of the shea industry in Ghana, Benin, Ivory Coast, Togo, Mali, Nigeria, and Burkina Faso.

### ***Production***

Shea are slow-growing multipurpose trees that grow in a 6000km belt stretching east to west, from Uganda to Senegal (Schindler, 2022; Bockel et al., 2020; Hall et al., 1996). Shea trees begin to fruit at around 15 years, reach full productivity around 45 years, and can live for 200-300 years (Boffa, 2015, and Höfer, 2009, cited in Bockel et al., 2020). Shea butter is produced primarily by women in many countries in West Africa, contributing to the incomes of an estimated 3 million women (Chen, 2017).

Africa produces around 1,7Million tons of raw shea nuts a year. However, more than half is used in domestic applications (CBI EU, 2022). Tridge states in Nigeria and Mali are the largest producers of shea kernels in Africa. In 2019, Nigeria accounted for more than 39 percent and Mali accounted for almost 31 percent of global shea nuts production.

### ***International trade***

Between 2007-2017, Benin, Burkina Faso, Côte d'Ivoire, Ghana and Mali were the biggest reported exporters of shea according to export data (ITC Trademap Database, 2020). Between 2007 and 2017, a reported 14 million tons of shea nuts were exported from six African countries (Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali and Nigeria) (ITC Trademap Database, 2020). The most significant reported exporter of shea nuts was Ghana, which reported 11.5 million tons, a volume that made up approximately 82 percent of the international trade in shea nuts between 2007 and 2017.

## ***Main applications***

About 90-percent of globally traded shea nuts are processed for inclusion in foods such as chocolate and margarine (Rousseau et al. 2015). Shea butter is typically substantially cheaper than cocoa butter on international markets.

Thus, policy changes in the European Union (EU) in 2003 that allowed inclusion of up to 5-percent of shea butter into processed foods led to a substantial increase in demand for shea nuts, butter, and other byproducts (Lovett 2013; LMC 2017). The cosmetics industry comprises the other 10-percent of the international shea market.

### Food industry

Shea butter in food industry is widely used because it's fat composition is very similar to the fat composition of cocoa butter which makes it uniquely placed to become a Cocoa Butter Equivalent (CBE) or Cocoa Butter Improver (CBI) for use in ice-creams, chocolates and biscuits (serious shea site).

The fat percentage of a typical chocolate filling contains approximately 30% fat. The properties of edible Shea fat, adds significant versatility to product development including coatings and finished goods. Using shea delivers the following beneficial properties: improved shelf life, better heat stability, increased melting point, reduced ' bloom' formation. Shea butter is mainly used in chocolate, pastry and ice cream industry.

### Cosmetics industry

The demand for shea butter in the European cosmetics market is growing. Shea butter is used mainly in skincare and hair care products because of its properties. This growth is driven by rising consumer awareness of shea butter and the consumer demand for natural cosmetics. Shea butter has unique properties and its widening availability makes it a favorite choice of cosmetic companies.

Europe is the main export market for shea products. The volume of shea butter imported to Europe ranges between 50,000 and 90,000 tons. Finished cosmetic products with shea butter are also exported from Africa to Europe. It is expected that the share of shea butter and shea derivatives imported from Africa will further increase. This is because of ongoing investments in the processing sector in West Africa.

The most attractive countries for shea butter exporters are considered to be the Netherlands, France, Sweden, Germany, the United Kingdom and Belgium (CBI EU, 2022).

These countries are the leading importers of vegetable oils in Europe. Countries such as Germany, France and Italy have large markets for conventional as well as natural cosmetic.

France has one of the largest cosmetic markets in Europe. There is a significant personal care processing sector in the country. It also has the second-largest market for natural and organic cosmetics. The country has a strong cosmetics manufacturing sector such as L'Occitane and L'Oréal . The demand for shea butter in the French market is expected to continue.

### ***Shea international processors***

The Netherlands is an important processor of shea nuts. IOI Loders Croklaan and Maas Refinery are leading refineries. Loders Croklaan sources around 70% of its shea directly from West Africa, while the rest comes from third-party suppliers. Shea butter from the Netherlands is then re-exported to other European countries.

The Swedish-Danish company AAK specializes in plant-based oils that are the value-adding ingredients in many of the products people consume (aak site). AAK is a significant producer and processor of shea.

The company has a processing facility in Aarhus, Denmark, where it imports mainly shea nuts and produces shea butter and derivatives. The company is one of the founding members of the Global Shea Alliance. There is a growing demand for natural and organic personal care products in the Nordic countries.

## **Cotton**

Area planted for Mali, Senegal, and Burkina Faso is forecast to increase six percent to 1.41 million hectares (Mha) compared to the previous year (Sylla, 2022).

2022/23 production is forecast to increase seven percent to 2.62 million bales. For Mali, Senegal and Burkina Faso, Post forecasts 2022/23 total exports at 2.57 million bales based on greater available supply and higher demand. Over the last few years, there has been a push to expand genetically modified (GM) cotton production on the continent (Marquardt, 2020).

The introduction of GM crops poses concerns over seed sovereignty, biodiversity and uncontrolled contamination of non-GM crops.

The use of GM cotton was slow to start in Africa, with South Africa being the first country to permit its use in 1997, followed by Burkina Faso 11 years later in 2008 and Eswatini and Sudan in 2012. However, in 2018 alone, another four countries – Nigeria, Ethiopia, Kenya, and Malawi – approved the use of GM cotton and Eswatini started growing the crop. In 2020, Kenya planted GM cotton for the first time commercially.

### ***Burkina Faso***

In 2016, Burkina Faso government and cotton companies decided to abandon GM cotton (Luna and Dowd-Uribe, 2020).

The main reasons are its shorter-fibre lint and ginning machines extracted proportionally less lint from harvested cotton bolls. This led to \$76 million in losses for cotton companies.

Significant conflicts of interest shaped the collection and reporting of findings. Monsanto provided funding for the evaluation studies in a contract with the Burkina Faso Institute for Environment and Agricultural Research. This meant that Monsanto had ultimate control over research findings—and a strong interest in projecting success. The institute depended on Monsanto funding that accompanied the adoption of GM cotton. Highly skilled Burkinabè researchers also jockeyed for limited jobs with Monsanto.

## ***Mali***

Post forecasts 2022/23 area to increase three percent to 740,000 ha compared to the previous year based on anticipated good farm gate prices, and input prices that have almost doubled worldwide and will motivate farmers to plant more (Sylla, 2022).

The Malian cotton zone is in the south and west of the country and covers 5.3 million inhabitants in 4,020 villages farming 205,639 cotton farms in 2021/22.

The "Compagnie malienne pour le développement du textile" (CMDT) has four areas of regional responsibility: Center (Fana and the high valley of Niger zone), South (Bougouni and Sikasso zone), North-east (Kouitala and San zone), West (Kita zone).

The Research and Training Center for the Textile Industry (CERFITEX) equipped with modern laboratories and workshops, provides training and research on textile industry development (spinning, weaving, dyeing, and textile metrology). CERFITEX is the regional hub and the reference center in research and development for the textile industry in West and Central Africa.

Cotton 2022/23 consumption is estimated at 25,000 bales. MY 2021/22 consumption remains unchanged from the previous year based on the country's capacity to process locally grown cotton. Mali exports about 98 percent of its cotton. Only two percent remains in country for processing into artisanal weaving yarns (unbleached, white, and dyed thread) and printed fabrics (bogolan fabrics, woven cloth, and woven koba)

2022/23 exports are forecast at 1.44 million bales, a 3 percent increase from the previous year. 2021/22 exports are estimated at 1.4 million bales. Mali is using the Port of Nouakchott in Mauritania to ship cotton fiber, after Senegal and Cote d'Ivoire closed their borders following the January 2022 ECOWAS and UEMOA decision to impose a range of economic and diplomatic measures against Mali following a military coup.

## ***Senegal***

2022/23 production is forecast to rise 13 percent to 45,000 bales assuming average rains, low pest pressure, and appropriate fertilizer use. Private industry estimates 2021/22 area to remain the same as the previous year at 18,000 ha.



Senegal does not have any operating textile companies. 2022/23 and 2021/22 consumption remain estimated at zero bales.

2022/23 export is forecasted to increase 13 percent at 45,000 bales compared to the previous year based on available supply. All the cotton fiber is exported through the Port of Dakar. In CY 2021, Senegal exported mainly to India (92 percent), and Turkey (6 percent).

### ***Burkina Faso***

Post forecast 2022/23 area planted to increase 9 percent compared to the previous year at 650,000 ha. The three cotton companies present in Burkina Faso, Société Burkinabe des Fibres Textiles (SOFITEX), Faso Coton, and Société Cotonnière du Gourma (SOCOMA), already ordered cotton inputs in anticipation of these developments. Currently, the country is experiencing a food shortage, and private industry thinks that in during 2022/23, farmers could divert fertilizer and use it on food crops such as maize, which could lower cotton yield.

Post forecasts 2022/23 production to jump 12 percent to 1.1 million bales, assuming average rainfall, low pest pressure, and adequate use of fertilizer.

For 2022/23 is forecast at 25,000 bales, the same as the previous year.

In Burkina Faso, there are approximately 49,900 weavers (29,400 men and 20,500 women) and 2,700 dyers (2,200 men and 500 women), with an average of three to five apprentices per weaver or dyer. Couture is highly developed in urban and semi urban centers. The capital, Ouagadougou, has more than 10,000 designers, and more than 80 percent of the cotton processing sector is informal.

2022/23 cotton exports are forecast at 1.08 million bales, an increase of 12 percent from the previous year based on available supply. Cotton exports for 2021/22 are estimated at 965,000 bales, down approximately 14 percent from the previous year due to a low ending stocks. Cotton fiber is transported to the Ports of Abidjan, Benin, Togo, or Ghana by train or trucks. In 2021, the top importing countries were China (77 percent), Pakistan (7 percent), and Thailand (3 percent).

## ***Tanzania***

Cotton production in Tanzania has almost doubled in the year 2018/19 going up by 85% from last year. The increase in production, estimated at 425, 000 480-pound bales, is mainly driven by an increase in the area harvested, which is at 500,000 hectares, up 43% from last year.

The Tanzania Cotton Board has invested in technologies that will ramp up cotton harvesting, a major impediment to higher harvests last year. The board also provides farmers technical training through its agricultural extension services and a stable market for their crop. As a result, 66,000 farmers are expected to get into cotton farming by the end of this year, suggesting even larger production quantities next year. Tanzania was approximately 124 million tons in 2017/18.

The Western Cotton Growing Area (WCGA) consists of the administrative regions of Shinyanga, Simiyu, Mwanza, Mara, Geita, Tabora, Kigoma and Singida and accounts for 97-99% of the total cotton production in the country (UNCTAD, 2017). The Eastern Cotton Growing Area (ECGA) includes Manyara, Morogoro, Coast, Kilimanjaro, Tanga and Iringa regions and accounts for the remaining 1-3% of cotton production. Shinyanga and Mwanza are the two largest cotton-growing regions in Tanzania.

## ***Côte d'Ivoire***

Ivory Coast's cotton production is expected to fall in the marketing year from August 2022 to July 2023 compared with the current year, according to the U.S. Department of Agriculture (Mwangi, 2022).

Cotton output is forecast to fall to 990,000 480-pound bales from 1.05 million bales in the 2021-2022 marketing year, the USDA said late Thursday in its Ivory Coast annual cotton and products report.

Exports are expected to drop to 1 million bales in 2022-2023 compared with 1.1 million bales this year, the USDA said. Nearly 730,000 bales have been exported this year. Currently, Ivory Coast is sub-Saharan Africa's third largest cotton producer after Mali and Benin.

## ***Ethiopia***

For the past 10 years, the area planted has been varying between 60,000 and 100,000 ha, with a peak in 2014 and a low in 2013 and 2017 (Lançon and Woldu, 2020). The variations can be explained by the fluctuations of the market price, or anticipations, which are more generalized among large scale farmers.

Today, cotton is mostly grown in 6 regions, Amhara, Afar, Tigray, SNNPR (Southern Nations, Nationalities, and Peoples' Region), Benishangul-Gumuz and Gambela.

The major regions for rainfed cotton are Amhara (with around 30,000 ha) and Tigray (around 15,000 ha). For irrigated cotton, Afar (Awash valley, with 15,000 ha) and SNNPR (Omo valley, with 10,000 ha) are leading.

About 26% of the total cotton area benefit of irrigation facilities and harvest 35 to 40% of the national production. The other 74% are run with natural rainfall. Very large farms manage more than 200 ha of crops. They have been developed by investors or taken over from the state in the early 2000s. These farms are highly mechanized. At the opposite, very small family farms grow in general less than 1 ha, and they have only access to oxen draught equipment. Weeding and harvesting are still manual everywhere, and labor intensive. About 1000 of these large farms manage approx. 70% of all the cotton fields, 90% of the fields with irrigation facilities, and 60% of the rainfed area.

## **Organic Cotton**

Leading designers, manufacturers, and retailers are increasingly making commitments to use more organic cotton as they develop their sustainability strategies, often focused on climate change mitigation. In so doing, they are supporting the more than 182,000 farmers growing organic cotton worldwide, including the more than 36,000 in Africa (Textile Trade, 2021).

Ranked by production, the top seven organic cotton-producing countries, which together account for 95% of global production, were India (50%), China (12%), Kyrgyzstan (12%), Turkey (10%), Tanzania (5%), Tajikistan (4%), and the US (3%) (storetextiletrade site).

These companies also are looking into becoming certified to finished product standards such as Textile Trade's Organic Content Standard as well as the International Organic Textile Standard, which prohibits the use of GM cotton.

Eight African countries grew over four percent of global organic cotton production in 2017/18 and experienced a 20 percent increase over 2016/17. Tanzania is by far the largest organic cotton producing country on the continent, followed by (in order of volume) Uganda, Benin, Burkina Faso, Mali, Egypt, Ethiopia, and Senegal.

Textile Trade's Pan-Africa Sourcing Working Group supports and encourages the growth of organic and preferred cotton programs that prohibit the use of genetic modification. These programs also embrace practices that build organic matter in soils (increasing carbon sequestration), support smallholder farmers, and protect human health and the environment.

Since 1998, Helvetas, the Swiss International Cooperation Organization, has worked with producer organizations in the Cotton Belt countries (Oakland institute).

This collaboration promotes organic cotton, facilitates organic certification and establishes market access for organic producers.

### ***Tanzania***

In Tanzania, 2019/20 saw 18,945 farmers grow 11,285 tons of organic cotton fiber on 154,495 hectares. Compared to the previous year, this represents a 77 percent rise in farmer numbers, a 114 percent growth in fiber volume, and a 481 percent increase in land area. As a result of these factors, the premium paid to organic cotton farmers for their seed cotton rose to 12 percent (Textile Trade, 2021).

GTZ is supporting organic cotton farming in Tanzania. To this end, they are working with the Swiss development organization Helvetas on behalf of the C&A Foundation.

Working with local cotton companies, the farmers are trained in various areas of organic farming. No fewer than 8,000 farmers took part in the first cotton season and a further 10,000 are expected to have joined them by 2020.

Around 6,900 farmers are already certified, some 45 per cent of Tanzania's organic cotton farmers.

### ***Mali***

The organic cotton program started as a pilot project with 25 small farmers in 1998. It involves the Malian Textile Development Company (CMDT), the Malian research institute of rural economy (IER) and the Organic Movement of Mali. In 2011, 6,000 farmers participated in organic cotton production in Mali (Helvetas Fairtrade site).

In Mali, 2019/20 saw 880 farmers grow 85 tons of organic cotton fiber on 12,563 hectares (Textile Trade, 2021). Compared to the previous year, this represents a 75 percent fall in farmer numbers, a 1 percent growth in fiber volume, and a 59 percent increase in land area. Mali's organic cotton sector has faced other challenges over recent years, largely a result of Fédération Nationale des Producteurs de l'Agriculture Biologique et Equitable (FENABE) lacking funding and capacity to effectively support organic farmers.

### ***Burkina Faso***

In Burkina Faso, Helvetas has been working with the National Cotton Producers Union since 2004 to promote organic and fairtrade cotton. Since 2012, the French Development Agency has provided additional support to the development of organic cotton in Burkina Faso.

In Burkina Faso, 2019/20 saw 7,931 farmers grow 574 tons of organic cotton fiber on 4,351 hectares (Textile Trade, 2021).

Compared to the previous year, this represents a 13 percent rise in farmer numbers, a 27 percent growth in fiber volume, and a 60 percent increase in land area. In January 2020, a new gin that prioritizes organic cotton was launched, named Société d'égrenage du coton biologique (SECOBIO). The gin has a capacity of 17,500 tons seed cotton per year - meaning there is now huge capacity for growth of the country's supply of organic cotton fiber.

## ***Benin***

In 2006, Helvetas and the German Technical Cooperation began working in the Pendjari Biosphere Preserve in northwest Benin's Atacora district. The result was the Alafia Pendjar, an organic and fair trade cotton project. Farmers are organized into local Organic Cotton Producers Village Groups under the larger union Associations Villageoises de Gestion des Réserves de Faune (AVIGREF), which is a partner in Helvetas' new projects (2013-2017) to continue developing organic crops producing near Benin's Pendjari and W natural parks.

In Benin, 2019/20 saw 4,976 farmers grow 1,373 tons of organic cotton fiber on 7,185 hectares. Compared to the previous year, this represents a 13 percent rise in farmer numbers, a 38 percent growth in fiber volume, and an 85 percent increase in land area (Textile Trade, 2021).

## **Palm oil**

Palm oil production has increased rapidly over the past 50 years (Ritchie and Roser, 2020), from 2 million tons in 1970 to 72 million tons in 2018 (FAO statistics). The rise of palm oil follows the rapid increase in demand for vegetable oils more broadly. Palm oil is a very productive crop. It produces 36% of the world's oil, however, uses less than 9% of croplands devoted to oil production.

### ***Palm oil uses***

Palm oil is in food, cosmetics, and even newspaper ink (Robins, 2021). The world uses more palm oil than any other vegetable oil because palm oil is cheap. The plant that makes it, the African oil palm, can produce up to 10 times more oil per hectare than soybeans.

This commodity hasn't always been cheap. It became that way thanks to legacies of colonialism and exploitation that still shape today's industry and that make it challenging to shift palm oil onto a more sustainable path.

By 1900, a new industry was gobbling up all kinds of oils: margarine was invented in 1869 by the French chemist Hippolyte Mège-Mouriès as a cheap alternative to butter. It soon became a mainstay of working-class diets in Europe and North America.

Palm oil was first used to dye margarine yellow, however, it turned out to be a perfect main ingredient because it stayed firm at room temperature and melted in the mouth, just like butter.

Margarine and soap magnates like Britain's William Lever looked to Europe's colonies in Africa for larger quantities of fresher, edible palm oil. However, African communities often refused to provide land for foreign companies because making oil by hand was still profitable for them. Foreign oil producers resorted to government coercion and outright violence to find labor.

In the 1990s, U.S. and EU regulators moved to ban unhealthy transfat, a type of fat found in partially hydrogenated oils, from foods. Manufacturers turned to palm oil as a cheap and effective substitute. From 2000 through 2020, EU palm oil imports more than doubled, while U.S. imports shot up almost tenfold.

Because palm oil was so inexpensive, manufacturers found new uses for it, for example, replacing petroleum-founded chemicals in soaps and cosmetics.

### ***Palm oil brutal decline in Africa***

Cultivation of oil palm as a crop was originally an informal course chiefly confined to the West/Central African coastal belt between Guinea/Liberia and Northern Angola (Murphey et al, 2021; Corley and Tinker 2015).

The oil palm is deeply embedded in the culture and history of most nations in the region providing not only cooking oil, but furthermore beverages, animal feed, textiles, building materials, medicines, and all kinds of spiritual and ceremonial uses.

Palm oil entered the global economy in the 1500s aboard ships engaged in the transatlantic slave trade.

The local production of palm oil was thriving until it was brutally interrupted by the foreign occupation in which much of the region's oil palm forest groves were put at the service of foreign companies and huge provinces of land were violently taken over to make way for the world's first large-scale oil palm plantations.

The European colonial rulers selected from the diverse African palms and, with the same brutal force, established massive oil palm plantations in Southeast Asia. The cheap palm oil produced on these plantations, with virtual slave Work, would eventually be shipped back to Africa, turning a region that once had no problem producing surpluses of palm oil, into a major importer.

The post-colonial period was not much better for communities in the region. Through the cover of the World Bank's African plantation programmes of the 1970s and 1980s, the old foreign plantation companies were able to re-establish their presence in the region. In fact, because the oil palm plantation expansion during these years was led by governmental companies claiming to act in the national interest, the companies could rely on governments to use Presidential decrees and the brute force of the army to displace people from the best lands for oil palm cultivation.

The African governments furthermore used public money to pay for this expansion, by way of loans from the World Bank, and then handed the plantations over to foreign companies in the 1990s and 2000s, through the privatisation processes forced upon them by the World Bank, as part of so-called structural adjustment programmes.

### *Asiatic period*

During the twentieth century, more systematic oil palm cultivation on plantations gradually became established in the Malay States. This was largely because government initiatives in the 1970s and 80 s aimed at improving the agriculture and economy of the newly independent nation of Malaysia (Corley and Tinker 2015; Murphy 2014). The later rise of the oil palm industry in Indonesia occurred during the twenty-first century when there was a > 5-fold increase in oil production from 8.3 Mt in 2000 to 43.5 Mt in 2020.

The global market is dominated by Indonesia and Malaysia (FAO, ourworldindata site. Indonesia accounted for 57% of this (41 million tons), Malaysia produced 27% (20 million tons), and Nigeria less than 1% (1 million tons).

### *Back to Africa with foreign aspects*



Africa produces 3.5% of the world's oil palm yet consumes 10%. Governments have recognised the potential for development in production to meet increasing global demand, and to contribute to food security and better livelihoods for millions of Africans while protecting the region's remaining rainforests. Diversification of food production furthermore provides resilience, helping to offset the impact of climate change.

On November 6, 2021, ministers and high-level representatives from seven African nations stated progress in the development of a sustainable palm oil industry in Africa (proforest, 2021).

The Tropical Forest Alliance's African Palm Oil Initiative (APOI), is comprised of ten nations in West and Central Africa: Cameroon, Central African Republic, Côte d'Ivoire, Democratic Republic of Congo, Edo State (Nigeria), Gabon, Ghana, Liberia, Republic of Congo and Sierra Leone. These nations are at the frontier of palm oil development and account for 75% of Africa's forests.

The new wave of industrial oil palm plantations that have taken place in Africa over the past 15 years is built, quite literally, on the back of this brutal history. The larger part of recent industrial oil palm projects that are being implemented involves old concessions, abandoned plantations, and long-simmering land conflicts.

For communities across African nations, today's industrial oil palm plantation projects are experienced as another round of foreign occupation. Their lands are being taken from them, often by force, without consultation or consent.

They lose access to lands to grow food as well as their conventional palm groves, and they are forbidden from producing their palm oil. The companies are only able to produce palm oil for cheap because the work conditions on their plantations are so bad, often even worse than they were in foreign times, with wages, when they are paid, not covering fundamental living expenses and the vast larger part of jobs being for daily workers, with no job security. There are barely any cultural investments, for example, schools, clinics, and infrastructure, that might provide some compensation-- and villagers rarely see any of the rental payments that companies claim to make.

Much like under the foreign period, villagers living in and around the concession provinces are constantly harassed and beaten by company security guards who accuse them of stealing palm fruits from the company plantations.

All of the companies claim to be "responsible investors", with several adhering to the principles of the Roundtable for Sustainable Palm Oil (RSPO) and making 'zero-deforestation pledges. Although the RSPO certification criteria cannot be considered sustainable, since it promotes industrial plantations, it is interesting to see how few of these companies have achieved RSPO certification for their industrial plantations in African nations. Only 9 of the 52 large-scale oil palm plantations in operation in Africa have RSPO certification.

Large-scale land acquisitions (LSLA) in Africa are dominated by foreign investors, from stock exchange-listed, public, and private companies, to entrepreneurs from nations across the globe. Investors from the United Kingdom, Ireland, Singapore, and Malaysia have concluded the highest number of deals, however regional investments by companies founded in Kenya and Mauritius are furthermore significant (Harding and Zee Pedra, 2019).

Nevertheless, the lack of local investors is glaring. Furthermore, although contract farmers, or "out-growers," are used by foreign investors to increase their output, they are seldom given fair payment, and are subject to strict conditions for payment, for example, when delivery should take place. In addition, foreign investors generally course fruit to oil in the nation of origin and then ship the oil to their warehouses in other nations for further processing. Few jobs are therefore established locally in the processing and manufacturing sectors.

In 2016, GRAIN reported that over 65 large-scale land deals for oil palm plantations in Africa had been signed between 2000-2015, covering over 4.7 million hectares (GRAIN, 2016). Multinational companies, in collaboration with local elites and development banks, had launched a full-scale attack against communities from Sierra Leone in West Africa to DR Congo in Central Africa to take their lands for oil palm plantations.

Things have not, however, worked out entirely as the companies had hoped. The updated accounting shows a significant decline in the number and total area of land deals for industrial oil palm plantations in Africa over the past five years, from 4.7 million hectares to a little over 2.7 million hectares (GRAIN, 2019).

Only 220,608 hectares have been developed into industrial oil palm plantations or replanted over the past decade. Strong resistance by communities has been key to slowing this expansion of industrial oil palm plantations in the region.

The focus is presently on a handful of nations, with the priorities being Cameroon, DR Congo, Congo-Brazzaville, Côte d'Ivoire, Gabon, Ghana, Liberia, Nigeria, and Sierra Leone.

In Congo-Brazzaville, of the 520,000 ha in concessions that the government awarded to palm oil companies, less than 1,000 ha or 0.2% has been developed into plantations. It seems likely that these concessions were merely fronts to facilitate illegal logging operations by converting forested provinces to agricultural lands. In Liberia, 755,000 ha were handed out to oil palm plantation companies in concessions. However today, less than 54,000 ha (7% of the total concession provinces) have been developed into industrial plantations, even though some of the largest oil palm plantation companies in the world have acquired these concessions.

Just five companies control about three-quarters of the planted, industrial oil palm plantation area on the continent, SOCFIN (Luxembourg) 93,764 ha (Cameroon, Côte d'Ivoire, DRC, Ghana, Guinea, Nigeria, Sao Tome e Principe, Sierra Leone), Wilmar (Singapore) 83,714 ha (Côte d'Ivoire, Ghana, Liberia, Nigeria, Uganda), Olam (Singapore), 71,500 ha (Gabon), SIAT (Belgium), 32,415 ha (Ghana, Nigeria) and Feronia (Canada), 23,500 ha (DRC).

One reason for this failure is that numerous of the projects were led by companies with little or no former experience with large-scale agriculture. Some of these companies simply wanted to profit from the rush for farmland in Africa, and most were interested in securing leases or concessions over large provinces of land that they could then sell to another company after making minor investments in operations or no investments at all. Other companies, for example, China's ZTE in DR Congo, the Singapore-founded Siva Group in Cameroon and Sierra Leone, or India's Karuturi in Ethiopia, could not carry out the projects they had embarked upon.

## *Socfin and Bolloré group*

Because the legacy of decades of foreign rule and the subsequent lack of local expertise and capital needed to meet the requirements of the World Bank's economic incentive programs, newly independent governments drew on foreign capital during decolonization in the mid-20th to keep businesses and exports running (Shneider, 2020). As a result, some of the biggest tropical commodity companies were founded during foreign times and still operate in nations once occupied by foreign powers.

One of these is Société Financière des Caoutchoucs (Socfin), a Belgian holding company that operates palm oil and rubber plantations through dozens of subsidiaries across Africa and Southeast Asia.

For years, Socfin has been rebuked by civil society associations for alleged human rights violations at its plantations. Several lawsuits and complaints have been submitted over alleged misconduct including irregularities in land acquisition processes, poor working and housing conditions, and the absence of the sustainable inclusion of local farmers.

Socfin, meanwhile, refutes criticism of its operations, saying it aims to further development in Africa and ensure that local communities and their workers are the beneficiaries of its operations.

Throughout its numerous transformations, Socfin remained a globally influential player in the rubber and palm oil industries. And that didn't change when it was slowly absorbed by one of the world's most secretive multinationals: the Bolloré Group.

In 1988, the French logistics giant started to gain control over Socfin's holding group, the influential Banque Rivaud. The move came as part of a major reshuffling of Bolloré by its CEO, billionaire Vincent Bolloré. Within several years, he turned his family's paper and freight business into one of Europe's top 200 companies by expanding its activities to include logistics and supply chain management, the production of plastics, microfiber, and electric vehicles, and management of media and public relations companies in France and abroad.

With the acquisition of Rivaud, and thereby Socfin, the Group expanded its influence into the tropical commodity sectors, particularly in Africa.

Over the past 20 years, Bolloré has managed to build an incomparable network of influence on the continent, mostly in nations formerly colonized by France, by using the World Bank and the IMF's programs as a device to acquire a variety of strategic concessions of port terminals, warehouses, railway lines, and tropical plantations. In 2018, the Group recorded a revenue of 23 billion euros (\$25.8 billion). Taking over Socfin meant acquiring the last piece needed to control entire supply chains into and out of Africa.

### *Resistance of affected communities*

Protests by villagers in the Rufiji District of Tanzania killed a 20,000 ha industrial oil palm plantation project by the British company African Green Oil Ltd. An intense struggle by communities in southwestern Cameroon, supported by local area organisations and national and Global groups forced the government to scale back the concession is granted to US firm Herakles Farms from 73,000 ha to less than 20,000 ha. Ultimately the US Company backing the venture pulled out, and the new investors have been unable to move ahead with the project (WRM, 2015).

Other villagers in Cameroon have stopped the expansion of Pamol's plantations or are fighting protracted battles to get their lands back and stop the expansion of SOCFIN's subsidiary Socapal (Fern, 2018).

In Liberia, the Joegbahn clan stopped the UK company Equatorial Palm Oil, presently owned by one of the largest oil palm plantation companies in the world, from taking their lands for plantations, despite the government having provided these lands to the company under a concession agreement (Kpanan' Ayoung et al, 2014). The other major palm oil companies operating in Liberia are furthermore coming up against fierce resistance from villagers and their partner organizations, as they try to carry out their industrial plantation plans (Mukpo, 2019).

The resistance to Herakles Farms influenced the decisions of the international food corporations Cargill and Sime Darby to pull back from pursuing oil palm plantations in Cameroon.

The international criticism of development banks for their funding of Feronia's plantations in DR Congo has likely caused them to refuse to fund other industrial oil palm plantation projects in Africa.

Olam established a joint venture company with the Gabon government to develop ‘outgrower’ programmes in nine provinces to allegedly support the nation's food security. The programme, called GRAINE, is supposed to develop smallholder plantations of oil palms and other crops covering 200,000 ha and involving 1,600 villages by 2020. Yet, by the end of 2017, the joint venture had invested \$40 million in the GRAINE programme, in contrast with the \$643 million that Olam's plantation company spent on its industrial plantations.

Moreover, as opposed to increase food production, the GRAINE programme had instead devoted the funding it received from the African Development Bank to the development of a large oil palm plantation on a 30,000 ha concession in the savannah zone at Ndendé in Ngounié province (RADD et al, 2017).

This GRAINE oil palm plantation is presently being handed over to Olam's plantation company (Gabon Time, 2018)

Feronia Inc, which is heavily financed by development banks, complains of not being able to pay its workers even the legal minimum wage or to build decent health clinics within its concession in DR Congo, its top executives received over \$2 million in salaries and share options in 2017 (Feronia annual report, 2017). Moreover, when there are profits, , for example, with some of the SOCFIN-owned plantation companies in Africa, most of the profits are distributed to the shareholders and are not used to advance the wages of its workers or to construct the cultural projects that were promised to communities (Socfinaf, 2018).

Sime Darby Bhd, a Malaysian conglomerate is presently the world's largest listed plantation company. Sime Darby's primary interest in Liberia is palm oil which began in May 2010, was of oil palm. It has agreed to construct a vegetable oil refinery and provide housing and medical facilities for 22,000 employees; it expects to employ 35,000 workers once the entire concession area has been developed. (In 2015, however, the plantation employed only some 3,000 workers). The concession area presently extends across Grand Cape Mount, Gbarpolu, Bomi, and Bong counties. Sime Darby was accused of devastating sacred sites and of destroying livelihoods and forcing displacement through its land clearance operations in 2012.

### ***Smallholders partnership***

The experience with this latest wave of industrial oil palm plantations in Africa makes it clear that this model of corporate agriculture is inappropriate and ineffective for the continent. Despite all the support they get from governments, banks, and donors, the plantations of the big palm oil companies still account for only 10% of the total harvested area of oil palms in Africa.

Most of the palm oil that the big companies sell in Africa is imported from Malaysia and Indonesia and this cheap, low-quality palm oil undercuts the local markets for the higher-quality conventional palm oil supplied by small-scale producers.

The solution is cooperatives or partnerships of SMEs. Villagers in numerous parts of the region have a long history of cultivating oil palms and producing palm oil without the involvement of big companies, and women are usually the main actors in these small-scale frameworks.

Today, smallholders in African nations, supplying small-scale mills, account for the vast larger part of palm oil that is produced on the continent, and they are far more capable of expanding production to meet the growing local demand if they have access to lands and markets (Ordway et al, 2019).

They furthermore produce palm oil that is of higher quality and more suited to local food cultures, whereas the industrial plantations produce a highly-refined palm oil planned for industrial uses, including unhealthy, ultra-processed foods and biofuels.

### **Sesame**

Currently, sesame is grown widely in the warmer regions of the world, with the largest production occurring in Sudan, India, Myanmar and Tanzania (agmrc site).

Sesame is drought tolerant and does not require irrigation, though studies have been conducted under irrigation that demonstrated yield increases with irrigation. It is generally planted in rows, rather than drilled.

The outstanding characteristic of sesame oil is its long shelf life due to the antioxidant, sesamol. This quality makes it applicable for use in the manufacture of margarine in many parts of the world where there is inadequate refrigeration. Sesame oil is also used in paints, soaps, cosmetics, perfumes, bath oils, insecticides and pharmaceuticals as a vehicle for drug delivery.

Sesame oil contains two important antioxidants believed to promote cell integrity and the healthy function of body tissues in the presence of oxidizing compounds: sesamol and sesamol. These antioxidants maintain fats and increase vitamin E activity dramatically.

With the world production of Sesame seeds estimated to be 4.8 million tons, ten countries accounts for over 80% of it which includes Myanmar, India, China, Tanzania, Sudan, Ethiopia, Nigeria, Burkina Faso, Uganda, and Niger. Africa, accounts for over 45 per cent of the crop, and in the last 10 years has become as a fast-growing supplier of sesame seed in the world market (the tradeafrica site).

Sesame seeds in Africa is produced in almost 25 countries which includes; Tanzania, Sudan, Guinea, Morocco, Togo, Gambia, Cameroon, Cote D'Voire, Angola, Senegal, Sierra Leone, Ethiopia, Benin, Kenya, Mozambique, Mali, Chad, Egypt, Central Africa Republic, Somalia, Burkina Faso, Niger, Uganda and Nigeria.

Germany and Greece are the largest markets, but there is also the potential for growth in countries such as Poland, France and Italy.

Of the Sesame seeds global production, over two million tons are exported yearly mainly to China (one million ton), Japan (150,000 tons), Turkey (150,000 tons), European Union (150,000 tons), South Korea (100,000 tons) and Vietnam (100,000 tons).

The main African exporters are in 2020 (FAO), Sudan (617 thousand tons), Nigeria (337 thousand tons), Ethiopian (298 thousand tons), Tanzania (168 thousand tons), Mozambique and Chad (67 thousand tons), Mali and Burkina Faso (65 thousand tons).

## **Cobalt**

Global demand growth for cobalt-containing products, such as lithium-ion batteries and super alloy turbine blades, continues to accelerate as the expanding global population increasingly adopts emerging and advanced technologies including electric vehicles and jet aircraft (Andersson and Råde, 2001; BBC, 2007; Cheng and Tong, 2017; Darton Commodities Ltd, 2018)



Largely driven by the increasing demand for refined cobalt inputs in the manufacture of lithium-ion batteries, China's production of refined cobalt in 2016 was thirty-four times that of 2000 levels (Shedd et al., 2017) and China's share of global refinery capacity rose from 3% to 50%.

### ***Zhejiang Huayou Cobalt Co Ltd***

Zhejiang Huayou Cobalt Co Ltd (Huayou Cobalt site) is the main Chinese processing company. The company involved in the manufacturing of new energy lithium battery materials, the deep processing of new cobalt material products, and the mining, selection and smelting of cobalt and copper non-ferrous metals. Huayou Cobalt's products are used in the applications of power and rechargeable battery materials, carbide and super alloys, transformers, brass materials, cemented carbide, petrochemical, and rubber catalyst.

The 'minerals for infrastructure' deal between China and DRC is an often-cited example of China's resource-seeking behavior via the Going Out Strategy (BBC, 2007; Kaplinsky and Morris, 2009; Jansson, 2011). In this deal, Chinese state-owned banks provided favorable loans to the DRC government for infrastructure, purportedly in traded for access to copper and cobalt mineral development rights (BBC, 2007; Kaplinsky and Morris, 2009; Jansson, 2011).

China's 14% influence over global mine production and 33% influence over global intermediate production is a result of Chinese acquisitions or operations established in the DRC (Gulley et al, 2019). China has come to depend almost exclusively on the DRC for its net imports of raw cobalt materials and so DRC can press on China to transfer a part of the cobalt processing in DRC.

### ***The Swiss Glencore***

The Kamoto Copper Company (KCC) is a world class, responsible mining business in the DRC owned by Glencore.

In 2020 Glencore and Tesla have signed a deal, pursuant to which Tesla will buy cobalt from Glencore (Mining Technology, 2020).The electric vehicle firm plans to use Glencore's cobalt in its Shanghai and Berlin Gigafactories.

The cobalt is supplied from the DRC, where the commodities miner has been operating a copper mine in the Katanga region since 2008.

Tesla's China plant is expected to manufacture 1,000 to 3,000 cars per week. This would translate to about 1,200 tons (t) of cobalt demand annually at peak capacity.

The deal will see Glencore supplying over 6,000t of cobalt per annum for lithium-ion (Li-ion) batteries used in electric cars.

Herewith the main applications of cobalt (matmatch cobalt site).

### ***Super alloys***

Cobalt-based super alloys form high-temperature resistant parts for gas turbine aircraft engines, space vehicles, rocket motors, and other aerospace applications. Cobalt-based super alloys have a higher melting point than iron or nickel, and have excellent resistance to hot corrosion and thermal fatigue. The weldability of this super alloy is also better than nickel super alloys. Altogether, cobalt-based super alloys perform exceptionally in applications with low stress and elevated temperature environments (cobalt institute site super alloys)

### ***High-speed steel alloys***

Cobalt steel is a variation of high-speed steel with common grades M-35 and M-42.

It is an ideal cutting tool for its high red hardness that in turn provides high heat resistance. The cobaltic high-speed steel is able to run and withstand high feed rates and faster speed (regalcuttingtools site).

### ***Magnetic Alloys***

Cobalt is used widely as one of the metals needed to create hard permanent magnets with high coercivity, such as the aluminium-nickel-cobalt (Al-Ni-Co) alloy series. Alnico magnets are used in motors, hard disk drives, and sensors. Magnetic resonance imaging is an example of an application for these magnetic alloys (cobalt institute site magnetic alloys).

### ***Electronics***

Cobalt oxide, hydroxide, and metals are used in many electrochemical devices that convert chemical energy to electrical energy, such as rechargeable batteries. Portable devices such as mobile phones, laptops, and other consumer electronic devices right up to electric vehicles, all utilize rechargeable batteries. Cobalt acts as a raw material in the cathode technology which is essential for recharging batteries (cobalt institute site electronics).

### ***Catalysts***

Cobalt is used as a catalyst for many industrial applications such as removing sulfur in petroleum and natural gas products. Desulphurisation of diesel, petrol, kerosene and other fuel oils contributes to reducing emissions. The element as a catalyst, not only reduces emissions, but also activates the energy required for industrial processes, such as recycling plastics (cobalt institute site catalysts).

### ***Inks and Pigments***

Cobalt pigments are used to decorate ceramics and can also be added to glass as a colorant or decolorizer to create specific tints. Glass, porcelain, paints and inks, and enamelware use it in order to achieve a vivid blue color. Cobalt has been found irreplaceable as a coloring agent in these applications, due to its unique properties in solubility, stability, and coloring effect. (cobalt institute site ink and pigments).

### **Copper**

Africa and the Middle East have the world's largest accumulation of sediment-hosted strata bound copper deposits, with 19 giant deposits in the Central African Copper belt in the Democratic Republic of Congo and Zambia (geology site, pubs.usgs site).

### ***Country raw material leaders***

In 2021 Chile (5.6 Million tons) and Peru (2.2 Million tons) are leading the market followed by DRC (Million tons 1.8). In 2020 the top exporters of raw copper were Zambia (\$5.77B), Chile (\$1.88B), Namibia (\$1.37B), Bulgaria (\$1.01B), and Democratic Republic of the Congo (\$710M).

### ***Main applications***

The copper tube combines the advantages of metal and non-metal tube. It is the best joint pipe in the hot and cold water system (copper shipbuilding site). The copper tube is refractory and heat resistant, and can maintain shape and strength at high temperatures without aging. It is an important component of proteins and enzymes in the body. It acts on the metabolic processes of the body and promotes many functions of the human body.

Copper can also inhibit bacterial growth and keep drinking water clean and hygienic. More than 99% of the bacteria in the water disappeared after entering the copper pipeline for five hours.

Copper is no harmful substances such as oil, bacteria, viruses, oxygen and ultraviolet rays can pass through it and pollute the water. Copper pipes can play a positive role in human health.

Copper pipe floor heating has high temperature resistance, fire resistance, high pressure resistance, corrosion resistance, frost heave resistance, impact resistance, and the service life is at least synchronized with the building.

The main applications of copper are in electrical wiring, roofing, plumbing, and industrial machinery (copper site).

Applications for copper-nickel alloys include condensers, coolers and other heat exchangers, seawater desalination plant systems for compressed air, sanitary systems, bilge, ballast water, brine, fire mains and sprinklers, fuel oil, lube oil, warm water heating, grey and black water, hydraulic lines and tank heating (copper shipbuilding site). Copper application areas cover a wide variety of different disciplines.

## Marine sector

Copper's unique properties make it ideal for many applications in the harsh environments of marine.

Copper metal is popularly utilized as it offers exceptional features such as smooth operation, cost-effectiveness, and high performance (shanghai metal site).

Copper offers excellent resistance to corrosion and erosion in seawater, salty, and treated water. It is resistant to pitting as well as stress corrosion cracking. Copper metal is preferred for tube formation due to its excellent machinability and formability. It has become an ideal solution for use in saltwater environments due to its excellent corrosion resistance.

## Automotive sector

Copper is an essential component of many of the latest design elements in today's cars.

Copper plays a critical role in cars for functionality, efficiency, comfort and safety (makin-metals car site). Copper is a multi-purpose material whose properties have made it a key component in vehicles. Even the most basic model contains some 1 km of wiring, mostly used to carry data, send control signals and supply electrical power. The total weight of copper in a vehicle ranges from 15 kilos for a small car to 28 kilos for a luxury car.

Copper-nickel brake lines will last the life of the car in safety. Volvo began the use of 90-10 copper-nickel tube in their 1976 model vehicles and has been using it since. Audi, Porsche and Aston Martin are also known to use it.

In contact with moving parts in the engine, copper alloys provide a surface which does not stick or wear easily whilst being strong enough to provide support. In this application it acts as a bearing. Copper alloy bearing materials are used for selector forks and heavy duty bearings.

A new heat exchanger has been developed using CuproBraze® technology, a cost-effective, environmentally friendly process, low in investment cost. It produces strong, reliable brazed copper/brass radiators with performance and cost advantages over aluminium radiators.

Copper has an important role to play in systems designed to reduce petrol consumption and CO2 emissions. Direct injection systems allow a more precise control of the air to petrol ratio, thereby cutting fuel consumption and exhaust emissions. Traditional camshafts are also slowly being replaced with electronic valves that further improve engine efficiency.

Copper has a role to play in hybrid and fuel cell vehicles. Firstly, hybrids which combine conventional combustion engines with electric motors can provide an interim solution. Conventional fuels are used for long journeys and the electric motor for the urban environment. Secondly, work is being done to develop fuel cell driven engines, a solution that creates almost no pollution. These two different systems, both with their powerful electric motors, can contain up to 12 kg of copper.

Motors, alternators, actuators and electrical chokes, and the wiring harness itself, all depend on reliable high conductivity. More copper will be needed as automotive electrical developments increase awareness, safety and automation. High quality brass has the long-life springiness and resistance to corrosion that makes it ideal for electrical connections.

Sensors - (pressure, temperature, speed) Sensors for the automotive industry make up around a third of the global sensor market. With a true sensory system for the car, the sensors allow, for example, dangers on the road to be detected, braking to be adapted, the temperature inside to be controlled, self-diagnosis tests to be run on the vehicle. They make use of copper - notably, in the coils and cables.

### Telecommunications

Communications are the backbone of today's fast-paced businesses, and copper wiring is at the core of those systems.

Advantages of copper cables include (all-telecommunications site):

Excellent electrical conductivity: Copper is second only to silver in its ability to conduct electricity. This means that it can be used with less insulation, providing greater flexibility in setup and installation.

Availability: Copper cable is quite common and is widely available.

Compatibility: Copper cables are used with many electronic devices making them a very compatible cable option.

Affordability: They are cheaper to install and have low maintenance costs.

Flexible: Copper cables can be bent without damage meaning they can be shaped and bent around corners during installation to better accommodate the space.

### Electricity

Copper an efficient conductor of electricity. The electrons are arranged in a way that allows for free movement so electricity can pass through the wires easily and efficiently (bpmelectric site).

Copper has the best electrical conductivity of all metals, surpassed only by silver.

Effective and affordable: it's the optimal choice for manufacturing companies.

While saving you money and being more energy efficient, copper is also highly ductile. You can bend and twist copper wire with minimal risk of damage.

Copper's high thermal resistance not only prevents overheating, but it increases the lifespan of the wiring.

Copper is perfect for a variety of environments including rural, industrial, and marine atmospheres due to its strong corrosion resistant capabilities.

### Construction

It is commonly used in the construction industry to form pipes and tubing for potable water distribution and heating and cooling systems, as it is malleable and joints can be easily formed by soldering. The ease with which it can be made to form complex shapes means it is also used as a cladding and flashing material,

for gutters, downpipes and coping. Electrical and communications cables are often formed with copper wire.

### Fuel Gas

Modern residential units use many kinds of gas equipment and appliances. Clean, efficient heating may be achieved by a central furnace or individual room heaters (copper fuel gas site). Central systems frequently have provision for air conditioning . Gas-fired water heaters, noted for their quick recovery rates, are available. Other items could include cooking ranges, ovens, clothes dryers, gas fireplaces, gas barbecues and decorative lighting.

Copper's main advantages are flexibility, resistance to corrosion, easy joining and its availability in long lengths. Lengths of up to 100 feet are standard, with longer lengths available on request (copper fuel gas site).

These factors lead to an easier, cleaner, less time-consuming installation and lower costs. For single-family dwellings, copper is often the least expensive installation. In multistory residences, the use of copper gas distribution systems can make the installation cost of natural gas service competitive with that of electricity for heating, laundry and cooking applications.

Copper tube readily makes vertical subdivision more cost effective because it allows the gas utility without the cost and typical problems associated with piping in such compact configurations.

### **Coltan -ore columbite-tantalite: Tantalum and Niobium**

Coltan ore itself hosts technology minerals tantalum and niobium. The minerals are often found together, but have very different properties and applications. Nearly 80 percent of the world's niobium is used in high-strength, low-alloy steels, while tantalum is key for the world's electronics industry (Pistilli, 2022; USGS, 2014).



### ***Leading countries***

Brazil, Canada and Australia are the leading producers of tantalum and niobium mineral concentrates. The DRC (700 metric tons) is the international leader tantalum production followed by Brazil (470 metric tons). The other countries are mainly from Africa: Rwanda (270 metric tons), Nigeria (260 metric tons), Ethiopia (52 metric tons), Mozambique (43), Uganda (40), Burundi (32). 1397 metric tons from Africa and only 647 metric tons from other countries. (statista site).

### ***Supply chain in DRC***

Coltan from the DRC passes through at least ten intermediaries from supply to consumption (Ma, 2018; Essick, 2001).

The coltan is mined in small, manual operations and transferred through several intermediaries in the country who consolidate the ores and negotiate the sales. Traders, intermediaries near the mine site, sell the ores to comptoirs, buying houses in urban centers that are often connected to rebel forces, which then export the ores. International companies then transport most of the ore either directly, or re-exported via Uganda and Rwanda, to overseas processing facilities (UN Security Council, 2008).

The cross border smuggling of coltan has also been driven by economic incentives as the export tax from eastern DRC is greater than that of nearby countries (UN Security Council, 2008).

### ***Main processors***

The processing phase is the bottleneck of the supply chain as 80% of the ore is consumed by three key processors: the U.S. based Cabot Corporation, German based H.C. Starck and the Chinese state-owned Ningxia Non-ferrous Metals Smeltery (NNMS) (Ruffini, 2008).

The 2007 U.N. Comtrade data supported industry claims that China is now the primary consumer of DRC's coltan exports (Ewing, 2008).

Import data from the same year suggests that the majority of China's ore imports were destined for NNMS (International Rescue Committee, 2008).

The coltan is extracted using the labor of over 40 000 children and teenage miners (Ojewale, 2021). Coming from remote villages and towns in the Kivu region, these children either have never had the opportunity to attend school or have dropped out.

Children work as washers and diggers in dangerous working conditions. They also engage in petty smuggling and sell coltan for a pittance once they escape with it out of the DRC to towns along the borders with Burundi, Rwanda and Uganda.

Doing adults' work in a hazardous environment, many child miners face the risks of ill health, harassment and abuse. Young artisans, mostly under 18, from the villages near Goma in North Kivu who work in coltan mining face severe occupational hazards. Radon, a radioactive substance associated with coltan, has been linked to lung cancer, and these child miners interact daily with the mineral without precautionary safeguards.

### ***Main applications***

Two-thirds of tantalum is used to manufacture electronic capacitors, a fundamental component of smartphones and other in-demand electronics. Tantalum has contributed hugely to the miniaturization of handheld electronic devices as it allows an electrical charge to be stored in small capacitors.

Tantalum is also extremely ductile and can be drawn into a thin wire. Because it causes no immune response in the human body, it is also used to make surgical appliances, as a replacement for bone, as a connector of torn nerves and as a binding agent for muscles.

### **Electronics industry**

The electronics industry is the largest consumer of tantalum (up to 60%), using powder, wire and foil in the production of electrolytic capacitors (Hayes and Burge, 2003, Roskill, 1999; Roskill, 2002; TIC, 1998).

Applications are widely varied and include medical appliances such as hearing aids and pacemakers as well as laptop computers, mobile phones, play-stations and digital cameras (TIC, 2003).

## Telecommunications industry

The telecommunications industry is an important consumer of tantalum capacitors, accounting for approximately 18% of demand units (Global Sources, 2001). Tantalum capacitors support handset miniaturization and long battery life. Ericsson pioneered handsets that do not use any tantalum and the actual number of capacitors used per handset by other manufacturers, including Motorola and Nokia, is decreasing, though this is offset by the increase in the global volume of handset production. Also Global System for Mobile communications (GSM) phones that use multi-slot transmission and third generation (3G), which require the high capacitance conferred by tantalum, have triggered a resurgence in demand (Roskill, 2002).

Drivers of growth in capacitor demand in the personal computing market include the replacement of traditional monitors with LCD flat screens as well as demand for Personal Digital Assistants (PDAs) with voice recognition and improved displays (Roskill, 2002).

The demand is increasing as 5G technology grows, owing to the requirement for low-voltage capacitors in the fast-growing telecommunications sector. Global coltan production was estimated at about 2.3 kilotons in 2020 and is expected to grow at a compound annual rate of about six per cent between 2021 and 2026 (African Report, 2022).

## Mass storage units

Mass storage units are a growth area, as are digital cameras and video recorders. Automotive electronic features including engine management systems, driver monitoring devices, GPS, collision avoidance systems as well as traffic control road-side devices will all increase demand for tantalum capacitors (Roskill, 2002). Tantalum is increasingly used as an additive in a variety of alloys where its properties of heat and corrosion resistance are of particular value (Roskill, 2002).

## Other uses

The chemical industry employs tantalum due to its property of corrosion resistance. Heat exchangers, reactor lining, and piping all use tantalum. This property also has relevance to medical applications where surgical clips, screws, implants and instruments incorporate tantalum in their manufacture.

Key companies include Plansee GmbH of Austria and Ultramet of California. Tantalum oxide's high index of refraction coupled with its ability to reduce x-ray exposure and enhance image quality means it is used in camera lenses, x-ray film and ink jet printers (TIC, 2003).

### ***JXSC Mining Machinery***

JXSC is a top mining equipment manufacturers in China founded in 1985. Its products are mineral processing equipment, stone crusher machine, sand making machine (JXSC site). JXSC build a close relationship with coltan mining plants in the Congo, Ethiopia, Nigeria, Zimbabwe, Mozambique, Namibia, South Africa, and Egypt, offering qualified mining equipment to mining companies since 1985.

## **Rubber**

### ***Asian governance***

Nearly half of all-natural rubber output is used for tire production; and about 60 percent ends up in the automotive market as an entire, which includes belts, hoses, and seals.

Natural rubber is furthermore used for gloves, mats, condoms, hot water bottles, and protective clothing. Approximately 90 percent of rubber production takes place in Asia, with Thailand, Indonesia, Malaysia, India, China and. Liberia accounts for approximately 64 percent of the quantity and 72 percent of the value of American rubber imports, with Vietnam and Thailand furthermore being significant sources (Verité, Exports Atlas: Rubber)

### ***Ivory Coast***

#### **SIFCA**

SIFCA is an Ivorian agrobusiness group founded in 1964 established from the merger of two companies - Société Immobilière et Financière de la Côte Africaine (the Real Estate and Economic Company of the African Coast) and Société Immobilière de l'Indénié (groupsifca site).

It focuses on three business segments of Africa's economy, namely: oil palm, sugar cane, and natural rubber. SIFCA is active across the value chain, from plantations to the processing of raw materials and finished and semi-finished goods. SIFCA operates in 6 nations, and its more than 33,000 employees have spread over 11 affiliates, some of which are traded on the Abidjan (SAPH, Palmci, and Sucrivoire) and Paris (SIPH) stock markets

Today, SIFCA's natural rubber sector employs more than 10,000 people in a network of eight estates in Côte d'Ivoire (SAPH), Ghana (GREL), Liberia (CRC), and Nigeria (RENL).

SIFCA is the leading producer of natural rubber in West Africa. The Group is furthermore committed to improving the quality of life of private growers, who supply more than 75% of their raw material.

## SAPH

SIFCA affiliate since 1999, the Société Africaine de Plantations d'Hévéas (SAPH) is West Africa's first producer of natural rubber, with over 163,000 tons processed yearly. With its 5,400 employees and network of 5 Integrated Agro Centres, SAPH manages 24,400 hectares of industrial plantations; and supervises some 29,000 independent rubber out-growers.

SAPH plans to open a new rubber processing plant in the Ivory Coast. With an initial capacity of 60,000 tons/year, the industrial unit will be scaled to 120,000 tons/year in the years ahead, making it the largest rubber processing plant in Africa. In 2020, 950,000 metric tons of natural rubber were produced in the Ivory Coast, up 21% from the year prior, according to government figures. This makes it the world's fourth-largest producer of the crop.

Ivory Coast's natural rubber output is expected to reach 1.1 million tons in 2021, up almost 16% from about 950,000 tons the former year, a senior industry figure said on Thursday (Reuters, 2021).

Ivory Coast is Africa's leading grower of natural rubber and the fourth largest in the world.

SAPH is going to surpass one million tons to arrive at about 1.1 million,". Saph plan to invest about 17.1 billion CFA francs (\$31 million) to increase its processing capacity by 60,000 tons with the new factory, which is expected to be completed in two years. Saph's current processing

capacity is about 230,000 tons. Ivory Coast's total rubber processing capacity was about 664,000 tons last year.

Provisional port data showed that Ivory Coast exported 1.2 million tons of rubber in 2020. Some of this was produced in neighboring Liberia.

SIFCA Group, through its rubber subsidiary SIPH, signed on Saturday, January 15<sup>th</sup>, 2022, an economic agreement with the African Development Bank (AfDB), for the a development of its Rubber Division (sifca site).

This funding of an amount of €12.5 million, which completes the round table of the credit agreement of €85 million granted by a Banking Pool led by Société Générale and Proparco at the end of year 2020, will make it possible to continue SIPH's development plan and especially to finalize the construction of the new natural rubber production plant in SOUBRE (NAWA region) by its Ivorian subsidiary SAPH and accelerate the implementation of other projects to develop the sub- regional leader in the agro-industry value chain.

### SIPH

SIPH's main activities consist of producing, processing, and marketing natural rubber. Its plantations and plants are in western Africa. Its main clients are the tire industry for which natural rubber is indispensable. SIPH furthermore carries out activities, for example, rubber wood chips production, and oil palm plantation, and provides services to outgrowers (SIPH site).

In 2020, SIPH's global production is about 305 thousand, 72 percent produced in Ivory Coast, 16 percent in Ghana, and 6 percent in Nigeria and Liberia.

### Michelin

Michelin participates in several natural rubber joint ventures, in which it maintains a minority shareholding ownership. These include joint venture operations Ivory Coast, Ghana, Nigeria, and Liberia. Michelin maintains a presence on the boards of these joint ventures, including on environmental and social advisory boards when applicable. Michelin furthermore provides technical assistance to its joint ventures, particularly on agronomy, rubber processing, and research and development.

On December 10th, 2019, Michelin acquired 425'036 shares in SIPH for a total amount of EUR 36,1 million (Michelin, 2020). The acquisition took place as part of a friendly simplified public offer and in concert with the Ivory Coast company SIFCA having its registered seat in Abidjan. After the acquisition, the Company holds 44,41% of the shares of SIPH.

## ***Liberia***

### Importance of the rubber sector

Liberia is an exporter of raw rubber (a relatively low-value commodity) and has no secondary or tertiary rubber processing activities (Freeman, 2011).

It is estimated that more than 20,000 people are employed by commercial rubber farms and up to 60,000 smallholder households are included in the growing of rubber trees. Since the coming of Firestone in 1926 rubber plantations have been the single largest source of employment in Liberia (Verité, 2016)

Rubber plantations exist in a rural landscape, however at the same time are separate, as they have little in common with ordinary rural life in the nation. Plantations are almost like small states with their urban centers.

The boundary of the plantation is well-demarcated, particularly in the case of Liberia Agricultural Company (LAC) and Firestone. There is an internal infrastructure, several communities, water supply, and schools and health centers that were built by plantation owners for the plantation populace. Most people living and working on the plantations leave the grounds periodically, with some leaving daily and others less often. In theory, one could live their entire life on a plantation without ever leaving it.

### Large-scale rubber plantations

Firestone – near Harbel, Margibi County

Firestone's farm sprawls across 119,000 acres and is billed as the largest contiguous rubber plantation on Earth (Paquette, 2020). Tens of thousands of people live on and around these grounds, including about 5,400 workers, down from approximately 8,500 five years ago.

Firestone, which is owned by Japan's Bridgestone Corp. with U.S. operations managed in Nashville, denies any wrongdoing, saying the company is adhering to Liberian labor law and pays overtime when it's warranted.

#### Liberia Agricultural Company (LAC) – near Buchanan, Grand Bassa County

LAC is the nation's second-largest producer, with a volume of over 28 000 tons per year.

LAC was established by Uniroyal in 1959 and it has a ratified Concession Agreement ceded to her by the Government of Liberia up to 2029. Owned by the US rubber company Uniroyal between 1961 and 1980, LAC is presently wholly owned by the Compagnie Globale de Cultures (SOCFINAF), a subsidiary of the Luxembourg-registered however Belgium-founded Société Financière des Caoutchoucs Luxembourg (SOCFIN). It employs some 4,300 workers.

#### Liberia Company (LIBCO) – near Cocopa, Nimba County

The Liberia Company was founded in 1948 by former US Secretary Of State Edward Stettinius with a diverse group of American and Liberian sponsors and investors. Early ventures included the operation of the Port Of Monrovia, the ship registry, and the Economic institution presently known as IB (Liberia) ([site.google libco](http://site.google.libco)).

The COCOPA agricultural project was established in Nimba County). Initial projects included Cocoa & Coffee Plantation crops (COCOPA). By 1988, the ownership group arranged financing of 7,500 acres of rubber and other crops.

On December 24, 1989, the NPFL invaded Nimba County. On March 26, 1990, a Government of Liberia militia overran COCOPA, employees and family members perished, payroll was stolen, transports driven away, equipment stolen, the factory sacked, and management driven off at gunpoint.

In 1996, the owners were able to reestablish a dialog with agents of the NPP government who wished to operate the plantation. Between 2001 and 2006, the operators of the plantation had replanted or newly planted over 1,100 acres of immature rubber.



In April 2007, the duly elected government formally acknowledged the Liberia Company's concession agreement and turned over operations to the Liberia Company, the Liberia Company has over 1,000 employees and over 100 contractors.

#### The Sime Darby concession

The Sime Darby concession comprised 120,000 ha located north of Monrovia in Bomi and Cape Mount counties; 8,000 ha were planted with rubber. Once owned by B.F. Goodrich, the US tiremaker, the plantation was acquired by Kumpulan Guthrie in 1980 and became known in Liberia as the Guthrie plantation. In 2007 Kumpulan Guthrie merged with Sime Darby Bhd, a Malaysian conglomerate that is presently the world's largest listed plantation company. In May 2009 it was announced that Johnson Sirleaf had signed a new 63-year concession agreement with Sime Darby to rehabilitate, operate and expand the plantation. Sime Darby agreed to invest a reported US \$800m, over 20 years. Liberia provided a further 100,000 ha of land.

#### Salala Rubber Corporation – near Nienka, Margibi County

The Salala Rubber Corporation (SRC) plantation was established in 1959 and the Weala Rubber Company (WRC) factory was operational in 1962. However, the civil wars of the 1990s and early 2000s were the demise of the rubber industry. SRC was looted and the WRC factory was destroyed (socfin src site).

In 2007, Agrifinal merged Weala's factory and Salala's plantation. The Socfin Group then acquired the Salala Rubber Corporation (SRC) and invested to optimize the plantation and advance social infrastructure (houses, schools, health centers, etc.).

SRC sources its rubber from its plantation, however furthermore from the surrounding smallholders. Unfortunately, since 2011 the raw material provided by the smallholders and SRC has not been sufficient to keep Weala's production unit operational. The factory has therefore been shut down and all output is sent to LAC's factory 150 km southeast of Salala, ever since the plantations have been extended to arrive at 4 500 hectares of mature rubber trees.

As Liberia's exports are founded almost entirely on rubber, numerous growers are trying to restore their plantations to boost the sector.

SRC's production unit has been ISO 9001 certified since 2011 and the plantation has been ISO 14001 certified since 2015.

And since 2008, SRC has furthermore been approved as a partner by the World Bank for its compliance with international environmental standards.

True to its vision of sustainable development, SRC has participated in various "public-private" partnerships, beneficial to all partners. Indeed, the partnerships have enabled a synergy of competencies, which was hard to imagine before.

The IFC, a subsidiary of the World Bank, has supported SRC by co-financing the plantation's social investments in the regions of health (HIV/AIDS) and education. Today, its modern medical infrastructure and equipment – a hospital, ambulances, etc. – and its medical team can serve the entire populace of the region, namely about 10 000 individuals.

Convinced that regional development starts with the education of the youth, SRC has constructed instructive infrastructure and facilities: schools, libraries, school buses, classrooms, reproductional provinces, etc.

Cavalla (initially part of the Firestone concession) – near Harper, Maryland County

Part of the original Firestone concession area became the Cavalla Rubber Corporation (CRC) plantation in Maryland County. Control of the plantation was ceded to Samuel Doe's Government in 1981. In 1983 Doe's Government granted 50% ownership to the Société Globale de Plantations et de Finance (SIPEF), a Belgian company, in exchange for its management of the entire. In 2006 SIPEF sold its benefits to Salala Rubber Investments (SRI). SRI then sold 60% of its stake to the Société Globale de Plantations d'Hévéas (SIPH) in April 2008; the remaining 40% was acquired by SIPH in January 2012. SIPH is 56%-owned by the Ivorian agribusiness SIFCA Group; Michelin, the French tire company, owns another 23%. SIFCA is itself 44%-owned by Parme Investissement, owned by Jean-Louis Billon and members of his family. Billon, probably the most prominent business person in Côte d'Ivoire and presently that nation's Minister of Trade, was the Chairman of SIFCA until November 2012. Jean-Louis' brother, Pierre Billon, who is furthermore Chairman of SIPH, was appointed in his place in February 2013. SIFCA furthermore obtained a concession of 15,200 ha to develop the former Decoris plantation, presently known as the Maryland Oil Palm Plantation (MOPP).

Construction of a rubber-processing factory began in March 2009. Protests against SIFCA by workers in Pleebo, Maryland County, culminated in the fatal shooting of a demonstrator in May 2011. Relations between the CRC, the MOPP, and residents have remained poor. The House of Representatives launched an investigation into SIFCA's Work practices in February 2015. The CRC plantation covered 5,600 ha in 2014, of which about 4,200 ha were in production, and employed 1,260 permanent workers at the end of that year. It succeeded in producing 5,330 metric tons of rubber in 2014, about 7% of SIPH's total. The company expected the revival of production to be 'lengthy and gradual'.

### Sinoe Rubber Plantation

The Sinoe Rubber Plantation, originally owned by a German company, was acquired by the family of President William Tolbert in 1973. The concession area, which is located in Sinoe County, is 240,000 ha, of which 20,000 ha are developed. After the Tolberts fled the nation in the 1980s, the plantation was controlled by a variety of management companies. It was seized by MODEL forces in March 2003 and then fell under the control of a succession of ex-combatants from the civil war. In May 2009 President Johnson Sirleaf announced that the Government intended to take over the plantation and then lease it out to private investors. In May 2010 the County Superintendent, J. Milton Teahjay, claimed to have eliminated the 'atmosphere of gangsterism' on the plantation. However, progress towards rehabilitating the plantation was reportedly mired in disputes over the ownership of the plantation between the government and the Tolbert family and no activity at the plantation has been reported for some years.

All the large company-owned rubber plantations in Liberia are unionized.

Hundreds of smallholder farms sell raw rubber to these company-owned plantations. Numerous household farmers in Liberia note that rubber is currently their most important cash crop (Mibrandt, 2009).

## Small farmers

Christopher Reeves has farmed rubber for more than three decades in Liberia, selling his crop to the international tire-maker Firestone, which furthermore operates the world's largest rubber plantation (Paye-Layleh, 2020).

He is today a victim of the global economic downturn caused by COVID-19.

Even before the pandemic, Firestone had imposed a moratorium on purchasing rubber from small-scale independent farmers. The rubber sector has gotten so bad that people are cutting down their rubber trees and planting (oil) palms.

As a result of the moratorium, numerous independent farmers like Reeves have made almost nothing so far in 2020.

## ***Sierra Leone***

China's Hainan Natural Rubber Group has become increasingly present in Sierra Leone by currently financing a hospital, a hydroelectric dam, a rubber production project spanning several thousand hectares as well as rice cultivation, stadiums, roads, bridges, electrical project, a fishing harbor project, and is included in mining Kingho Group USD 6 billion mining project complex (Conteh, 2015).

In 2012 the government of Sierra Leone and China's Hainan Natural Rubber Group announced a \$ 1.2 billion rubber and rice investment in Sierra Leone. The 50-year deal will utilize 135,000 hectares of land across 12 chiefdoms in Tonkolili, Moyamba, and Port Loko districts. This equates roughly to over 333,000 acres – the unit of measurement of land in Sierra Leone. The deal is likely to catapult Sierra Leone into a leading position in the rubber production index for Africa, knocking Firestone in Liberia off of the grid. With 100,000 hectares of land for rubber, yearly output is estimated at 180,000 tons, second only to Cote d'Ivoire.

The project estimates the production of over 30,000 full-time and 150,000 part-time employees with projected revenue to the government assessed at between \$ 50-100 million.

### ***Small growers and healthy living conditions***

African governments don't prevent the impact of a humongous rubber plantation on lives, livelihoods, and the environment before signing up a contract with MNCs. Rubber is notorious for depleting water sources, and pollution resulting from processing latex could be devastating to humans and the environment.

A healthy and wealthy production of rubber will profit the local populace and the MNCs. Efficient water management and re-use of filtrated water by the plantations and other agriculture applications is required.

Small farmers supplying rubber to MNCs could establish partnerships or cooperatives to be able to negotiate with MNCs' better and more stable contracts.

### **Polishing diamonds**

#### ***Geographical spread of the sector***

Diamonds are found in Angola, Botswana, the Democratic Republic of Congo, Namibia, and South Africa. Mined rough diamonds are transported to the sorting centers and valued into various categories. There are 4 thousands of various categories into which diamonds can be sorted, depending on size, shape, quality and color. The best quality diamonds are used as gems for jewelry making and others are used for industrial purposes, for example, cutting and drilling.

#### ***The Diamond Trade Company (DTC)***

DTC controlled by De Beers is the single largest sorter and distributor of rough diamonds. Antwerp is the largest center for the trade of roughs, although Mumbai has furthermore become a trading center for DTC roughs. DTC roughs are sold to selected „sight-holders“. Gem-quality diamonds are usually distributed in select diamond cutting and trading centers, for example, Antwerp in Belgium, Mumbai-Surat in India, Tel-Aviv in Israel, and New York in the USA. Botswana, China, Namibia, Sri Lanka, and Thailand are the other smaller centers.

## ***Botswana.***

In Botswana, diamonds account for 80% of Botswana's export revenue, 45% of the government revenue, and 33% (approximately US\$3.3 billion) of the gross domestic product.

Botswana produces approximately US \$3.3 billion worth of diamonds a year. Since independence in 1966, diamonds were discovered in Botswana 1967.

### Diamond Trading Company Botswana (DTCB)

DTCB is a 50/50 Joint Venture partnership between the Government of the Republic of Botswana and De Beers (World Bank, 2010).

It is the world's largest and most complex rough diamond sorting and valuing operation. DTCCB sorts and values Debswana Diamond Company's rough diamond production. Debswana Diamond Company (Pty) Ltd is a partnership between the Government of the Republic of Botswana and De Beers (Brook, 2012).

Debswana operates Orapa, Letlhakane, Jwaneng and Damtshaa mines in Botswana. The four mines have contributed in terms of direct foreign trade, government revenues generated by diamond sales, taxes, employment, and infrastructure in remote provinces.

DTCCB is responsible for local sales of aggregated diamonds. Aggregation refers to a course of blending and preparing for the sale of diamonds from various producer nations. This course guarantees the clients a consistent supply of diamonds as well as generates more value and profits for the nation (Brook, 2012).

DTCCB's rough diamond sales to the local manufacturing industry must be at least \$500 million a year, to create over 3,000 jobs (World Bank, 2010).

In 2011, for the first time, it was furthermore agreed that the Botswana Government would independently sell 10% of the Debswana run-of-mine production increasing by 1% each year to 15% in 2016. De Beers furthermore agreed to relocate Diamond Trading Company Global (DTCCG) through which it sells 90% of its rough diamonds by value from London to Gaborone by the end of 2013. Eighty-five of the 300 London-founded De Beers staff relocated in a move costing some \$120m (Kedem, 2020).

De Beers furthermore agreed to move some of its beneficiation operations – the course of transforming raw diamonds pulled from the ground into finished products – to the Botswana capital.

The agreement marked the production of an independent company, wholly owned by the Botswana government, called the Okavango Diamond Company, which has the right to sell 15% of gems extracted locally. De Beers commenced its Botswana diamond sales in November 2013 in the state-of-the-art Diamond Trading Centre, a rough diamond sorting and valuing operation which can sort 45m carats a year, and where 50% of employees in the sales division were newly recruited locals. The company furthermore recruited local account managers, HR, and finance workers, says David Johnson, head of strategic communications at the De Beers Group of Companies.

In 2014 the Debswana partnership supported more than 34,000 jobs in the nation. Some 8,000 individuals were directly employed by the partnership, of whom 96% were Botswana citizens; 12,870 individuals were employed by supplier, and 13,400 jobs were supported by the spending of direct employees and those of the suppliers.

Because of the logistical challenges presented by the pandemic, The Government of the Republic of Botswana and De Beer's Group agreed on the 15 Dec 2020 to extend their existing contract for the sale of Debswana's rough diamond production until the end of 2021(debeers site).

The agreement was original because expires at the end of 2020. The extension, which will extend the terms of the existing agreement, will provide further time for discussions regarding the contract renewal.

The Botswana Police operate a satellite police station on site which is armed and operational 24/7, to support tenants and insurers.

#### The Gemological Institute of America (GIA)

GIA was established in the Botswana DTP in 2008. With a tradition of science and education, the GIA was founded in 1931 and is the world's foremost governance on diamonds, coloured stones, and pearls. The 81-year-old organization established the International Diamond Grading Framework™ and the 4Cs (Color, Cut, Clarity, and Carat weight).

## The factories

The government invited 16 of the world's most renowned cutting and polishing companies to set up factories in Botswana and transfer cutting and polishing skills to local laborers. The 16 companies have invested in factories and are educating locals in cutting and polishing skills; by the end of 2011, they employed 3,250 individuals. The office of the "diamond hub," located in the heart of the diamond in Diamond Technology Park, supports the government's beneficiation policy. The office builds strategic alliances, develops infrastructure, and works to create an enabling fiscal regime for the diamond industry. The office furthermore houses various ancillary businesses, including banks, logistics, gemology, and security brokerage firms.

The first 16 factories are as follows: Dalumi Israel, Diamond Manufacturing Belgium, Eurostar Belgium, H&A Cutting Works Thailand, Lazare Kaplan Global (LKI) Israel, Leo Schachter Israel, Motiganz Israel, Pluczenik Belgium, Rand Diamonds Botswana South Africa Sherenuj India South African Diamond Corporation (SAFDICO) South Africa, Steinmetz Israel, Suashish India, Teemane Manufacturing Company Belgium, Yerushalmi Bros Israel, Zebra Diamonds Belgium.

KGK Diamonds Botswana is a company focused on diamond cutting and polishing (rough-polished site). It first originated in 1905 in India and we only opened our operations in Botswana in 2014, The company has 117 workers, of which 40 are expatriates and the rest are locals. The expatriates are there to train, however they polish as well.

A new diamond cutting and the polishing facility has been opened in Gaborone Botswana by Finestar Diamonds one of the largest manufacturers and entiresalers of polished diamonds and fine Jewelry (Ayemba, 2020).

Currently, DTC Botswana sells and markets rough diamonds today 21 cutting and polishing companies that have been licensed by the Government of Botswana to carry out cutting and polishing activities (Brook, 2012).

## Botswana Diamond Manufacturers Association

In 2007, the Botswana Diamond Manufacturers Association was established to represent the Botswana cutting and polishing industry and assisting with government policies, for example, Work and employment.



In 2008, the inaugural, biennial Diamond Trading Company Botswana Shining Light Diamond Jewelry Design Awards showcased the creativity and talent of designers from Botswana. The objective of these diamond-studded awards is to celebrate the beauty and purpose of diamonds through jewelry design and to provide a platform for local designers to showcase their work globally

#### Botswana State Diamond Company

In March 2012, the Botswana State Diamond Company called the Okavango Diamond Company was formed. 2012 saw the completion of the first Government diamond trading facility at Diamond Technology Park (DTP) in Gaborone, marking the first phase of what will become a platform for independent tenders for local, regional, and international diamond producers and buyers trading in Botswana.

#### Private Collection of Botswana

In 1990, the Private Collection of Botswana started its hand-made, classic diamond jewelry business in Botswana and became the first company to manufacture in Botswana, albeit on a very small and exclusive basis (Brook, 2012). In 2011, it launched a very special unearthed Botswana Collection featuring the Okavango Delta of Botswana. The first dedicated large-scale diamond jewelry manufacturing plant in Botswana was established by Shrenuj Botswana in the Diamond Technology Park in May 2010. The firm first employed 155 individuals with plans to grow to 300 employees, chiefly making jewelry for the United States. Botswana has preferential access to the US market under an African trade deal.

As for public education and education, the new College of Applied Arts and Technology, which opened in Oodi in 2012, offers, for the very first time in Botswana, a certificate, advanced certificate, and Diploma in Jewelry Design and Manufacturing. The course lasts between 12-18 months, and 32 students were expected to enroll in 2012.

#### The DTC Botswana Diamond Academy

The DTC Botswana Diamond Academy started operation in February 2006 (dtcbotswana site). The purpose of the Academy is primarily to raise the level of diamond expertise needed to meet international requirements while igniting the passion that is the diamond business.

Principally, the Diamond Academy is a technical education set up, however, it furthermore provides a holistic knowledge of the diamond industry.

The Academy's vision is to be recognized as one of the leading diamond academies in the De Beers Group. Some of the Academy's values include among others, being passionate about diamonds; being customer-focused; and continuous development; as well as creating an empowered workforce.

The DTCB Academy is accredited by the Botswana Qualifications governance (BQA) and plays a critical role in capacity building in provinces of diamond valuation, developing technical sorting skills, enhancing production capabilities as well as assisting in quality assurance. The Diamond Academy is furthermore ISO 9001: 2008, accredited by the Botswana Bureau of Standards.

The academy provides an extensive range of education courses and presentations. These can be tailored to meet employees' and external customers' needs on all aspects of rough and polished diamonds. This includes sorting and valuing, rough to polished yields, diamond manufacturing, and polished sorting.

### ***Angola***

Currently, Angola's diamond production is third in the continent – the first two spots taken by Botswana and South Africa respectively (Indian embassy Angola, 2021). In terms of global production, Angola is seventh, accounting for roughly 5% of world diamond production.

According to the African Diamond Council, the official governing body, the diamond industry in Angola represents nearly 1.2 billion euros in annual production. In 2019, Angola's diamond production volume amounted to 9.1 million carats, compared to a production of 6.1 million carats in 2004. Angola has in total 14 mining projects. The largest is the Catoca Mine, which produces 61% value of the total Angolan output. Six of the mines (Catoca, Chitotolo, Cuango, Camutwé, Somilwana, and Lulo) cumulatively represent 92% of the value of Angolan diamond mining.

Endiama, the state-owned mining company, is the leading player in the Angolan diamond industry. The governance and control of the mining industry in Angola are the division between Endiama and the Ministry of Geology and Mines.

Established in 1999, Sodiam is a State-owned Company responsible for controlling and supervising the purchase, sale, and single-channel export of the Angolan Diamond Mining output and allocates the nation's rough gemstones for the local manufacturing.

At present, Four-Diamond polishing companies including two Indian companies have already set up a base at the Sourimo Diamond Hub. In 2019, two cutting plants were established:

Stone Polished Diamond factory, which began operations in February 2019 and is owned by SODIAM (10%), MWS Empreendimentos e Servicos Lda (60%), and South Africa-founded Rez Diamonds Pty (30%)

Pedra Rubra opened in September 2019 and is owned by SODIAM, India-founded KGK Group, Unpolished Stone Trading Lda, and the Radiance Diamonds Comercio e Exploracao de Diamantes Lda, the latter being owned by UAE-founded Prime Global DMCC.

Two Indian companies are in the final phase of completion. They are expecting 100 workers from India to arrive in Angola by end of September. Large solar panels have been set up to ensure a steady supply of electricity.

### ***South Africa***

South Africa has a very long and important role in the history of diamonds. It was there, in the 1860s, that diamonds were discovered on the banks of the Orange River (Laniado, 2020). The resulting diamond rush, and the setting up of De Beers' foothold in diamond mining, transformed the industry, helping to develop diamonds as a viable commercial product for more than just the world's elite. Today South Africa is the world's fourth-largest diamond producer by value, according to Kimberley Course statistics.

South Africa has seen its annual rough diamond production decline from a recent peak of \$15.2 billion in 2007, to \$8.3 billion in 2016. Numerous long-producing mines have closed, and De Beers has sold some of its smaller active mines to other companies. The number of South African diamond cutters has declined from nearly 5,000 20 years ago, to just a few hundred today.

The entrance of new cutting centers in Asia, for example, Vietnam, Thailand, and Laos have further eroded the ability of South African workers to compete on cost. Furthermore, the technological development in South Africa has been slow compared to established manufacturing provinces like India and China.

The government has become highly regulated, and there are countless rules and bureaucracy that foreign companies must navigate. As a result, numerous companies have simply left, and taken their foreign investment dollars with them. British bank Barclay's completed a deal to dispose of its African operations in Johannesburg and has left Africa completely. Numerous De Beers Sightholders have furthermore left the nation, although this is furthermore in part because of the declining availability of rough diamonds.

According to De Beers' website, only seven Sight holders currently maintain manufacturing operations in South Africa, down from more than 20 a decade ago.

De Beers announced a new project aimed at revitalizing the manufacturing industry in South Africa. Under the pilot project, five black-owned businesses will receive a regular supply of rough, as well as a comprehensive education and support program. After the program, each company will be eligible to apply for the De Beers Accredited Buyer status, and if successful, full Sight holder status. Another historical barrier to entry has been to access financing. The current project aims to change this with involvement from funding agencies including Anglo-American Zimele, and other De Beers Sight holders. The future for diamond cutting in South Africa remains foggy.

### ***Diamond model of development***

Founded on the Botswana diamond model we propose the following model of development.

A joint venture (JV) with a leading company in the sector: JV between DeBeers and Botswana government: Diamond Trading Company Botswana (DTCB)

A national research institute: the Gemological Institute of America (GIA)

The factories: in the Diamond Park\_16 companies have invested in factories and are educating locals in cutting and polishing skills.

Manufacturer association: Botswana Diamond Manufacturers Association

Botswana State Diamond Company: Okavango Diamond Company

Top-level product category: private Collection of Botswana

Academic and education institution: the DTC Botswana Diamond Academy

## **Industrialization based on local raw materials and beyond**

The vicious circle of exporting raw materials and importing added value products can be replaced by the virtuous circle of local industrialization based on cocoa, cotton, acacia gum, shea butter or palm oil but also on copper, cobalt and coltan. Local research will prepare the next phase based on new competitive advantage not based on local raw materials.

In 2020, Ghana's President Nana Akufo-Addo became the first African leader to be invited on a state visit to Switzerland in 60 years, during which he announced that Ghana would soon end the process of selling raw materials, ultimately suggesting Ghana would use its own beans to make its own chocolate (Mosbeh, 2021).

BloombergNEF report (blomberg site) has found that it would actually be cheaper to build manufacturing facilities for battery cathode precursor materials in the DRC than in the US, China and Poland and would have less intensity of carbon dioxide emissions (Henze, 2021).

### **African coffee brands**

Each area imparts specific characteristics into the flavor that is unique to that region, and discerning coffee drinkers can pick up on them immediately. With different brands and savors, coffee is the "wine" of Africa consumed even more and with no negative impact, in America, Europe, Vietnam or China.

The following African brands have become the best sellers of coffee, and they are making vast profits by selling the richest taste and best flavor to the people of Africa and beyond (Africa.com, 2019).

## *Ivory Coast*

The birth of Arabusta is located on the island of Timor, Indonesia, and is due to the spread of a fungus called Coffee Rust (Coffees.gr, 2019). This particular fungus attacks the Arabica coffee beans, which have reduced resistance to parasites, diseases and weeds. From Timor, the idea of mating between Arabica and Robusta went to Ivory Coast.

Arabusta was first grown in the 1960s at the request of Ivory Coast's first President, Felix Houphouet-Boigny, who wanted something sweeter and milder than Robusta, earning it the nickname 'The Presidential Coffee'. Ivory Coast has been exporting Arabusta for years, achieving even better prices than Robusta export.

The Arabusta bean is grown in the mountainous region of Man, combining the strength of Robusta with floral flavors (Wood and Masiyiwa, 2016).

Andre Braud-Mensah, the owner of Augur industries established in 2015 is working to mechanize the process of growing Arabusta in the Ivory Coast (businessabidjan augure industries site). He has built a high tech roasting plant in his backyard, 50 kilometers from Abidjan. Everything is digital and computerized, it's the highest technology based on Japanese technology.

## *Tanzanian Peaberry Coffee*

Peaberry Coffee is grown in Tanzania on Mount Meru and Mount Kilimanjaro. Its flavor is layered with floral notes that leave a citrus, pineapple and coconut taste.

Peaberry coffee is a natural mutation in Arabica and Robusta coffee cherries where just one seed develops instead of two (coffeebrewster site). Peaberry beans are not as common as regular beans, so they're very sought after and many consider them to be some of the best coffee in the world. About 10-15% of all coffee beans harvested will be Peaberry.

### ***Ethiopian Harrar Coffee***

The Harrar region has a special microclimate, dry throughout the year, and therefore the grains grow small. They are dried on the so-called African beds – long panels are stretched between the pegs, and the coffee crop is poured onto them. The grains are mixed several times a day (brewlogy site).

The Ethiopian Harrar Coffee is mostly grown in the regions of southern Ethiopia. It is grown at up to 6,300 feet above sea level and dry processed, which brings out a blend of bold fruitiness. It maintains tones of flowers and fluid acidity.

### ***Ethiopian Yirgacheffe Coffee***

The Ethiopian Yirgacheffe Coffee is grown at heights ranging up to 6,600 feet above sea level.

The Yirgacheffe region is a tiny area within the Gedeo Zone. In official terms, Yirgacheffe is a woreda. Woredas are small areas, or provinces, within zones (trabocca site). Gedeo belongs to the larger Southern Nations and Nationalities People's Region (SNNPR) state of Ethiopia.

The Yirgacheffe coffee flavor profile tends to have more acidity than other Ethiopian coffees graced with floral and fruity notes. The body of Yirgacheffe coffee is often light and well-balanced. The region produced both washed and natural sundried coffees. Yirgacheffe is one of the first regions in Ethiopia to use the more modern washed method. It is also wet processed. Some of the coffee's floral tones even surrender notes of chocolate.

### ***Kenya AA Coffee***

The AA coffee plants thrive in the volcanic soils of Mount Kenya, enjoying a warm climate with rain showers falling just frequently enough all year round (coffeedark site). The high altitudes that surpass 2,000 meters are sloping up to Mount Kenya.

The farmers that work here maintain some of the highest standards for coffee growing. The coffee flavors come in two tones: floral and citrus.

### ***Uganda's Good African Coffee***

In July 2009, Ugandan President Yoweri Museveni inaugurated the first coffee roasting and packaging plant in the country's city of Kampala (Packaging Gateway, 2010). The plant is owned and operated by Good African Coffee, an entrepreneurial venture founded by Andrew Rugasira. Built at a cost of \$1m, the plant has a capacity of three million kilos a year and is equipped with roasting machinery from China. Good African's plant manufactures four different brands: Rukoki Gold, Espresso Roast, Freeze Dried Instant, and Rwenzori Mountains.

The company is a supplier to the UK's main supermarket chains, including Tesco, Sainsbury and Waitrose, as well as to South African supermarket chain Shoprite Checkers. Good African coffee was launched in Sainsbury's and Tesco stores in April and July 2010 respectively. The company entered the US market in November 2011, by signing an agreement with Church of God in Christ (COGIC), a Pentecostal holiness Christian denomination. Good African distributes its coffee throughout the COGIC network of more than 12,000 churches.

### ***Madagascar Excellence Coffee***

Magepro, the most important roaster in Madagascar, combines technology, tradition and know-how to achieve Excellence coffee (21food site).

Madagascar excellence is composed only by the best coffee beans of the island.

### ***Burundi AA Kirimiro Coffee***

Small holder based activity with over 800.000 families are involved in coffee farming. Farms are very small with most only 50 to 250 trees per farm. Coffee is cultivated at altitudes ranging from 1250 and 2000 meters above sea level. The Burundi AA Kirimiro Coffee boasts heaviness and richness, floral flavors of lemon and black tea, delicate hints of spiced clove, all finished off with a sweet nut.

### ***DRC's Virunga Beans***

Farm Africa project support two coffee local cooperatives of 7,000 coffee farming families living in that region (farmafrica site)



Farm Africa project supports the Virunga Cooperatives formed by 7,000 coffee farming families' farmers, in the Kivu province living along the borders of DR Congo's Virunga National Park, vital refuge for endangered animals including the mountain gorilla. They produce some of the world's finest Arabica coffee.

This project is funded by the European Union. 7,000 coffee farming families Virunga coffee emits a plum aroma

## **Coffee processing**

### ***South Africa***

Nestle has eight manufacturing plants, three distribution centers, and 3500 full-time permanent employees in South Africa (Powder Bulk Solid, 2016).

The factory in Estcourt is one of the first three factories acquired by Nestle when it established its presence in the country in 1916. A chicory farming initiative was launched in 2015 in Kwa-Zulu Natal and the Eastern Cape Provinces, a key component of Nestle's instant coffee mixtures Ricoffy and Ricoffy Mild.

Nestlé has launched in 2016 its expanded instant coffee processing plant in Estcourt, South Africa (nestle south africa site). The factory, which produces *Nescafé Ricoffy*, received an almost 80 million CHF investment to expand production and upgrade existing coffee processing facilities.

### ***Ethiopia***

Melange Coffee Roasters, a family-owned coffee roaster company has inaugurated in 2019 a new coffee roasting and packaging plant after investing US\$1.37 million (Food Business Africa, Aug 2019). The facility has a daily capacity of roasting 7,500 kilograms and a packaging capacity of 3,600 kilograms of coffee per hour.

The acronym TOMOCA is derived from the Italian Torrefazione Moderna café, which means modern coffee roasting (tomoca site).

Established in 1953, Tomoca is a family-owned business known as the gold standard of Ethiopian coffee; with an unmatched delivery of the best quality coffee from roast to cup. Tomoca is a member of the Ethiopian Commodity Exchange (ECX) and export our coffee to Sweden, Germany, USA, China and Japan.

### ***Rwanda***

Rwanda Farmers Coffee Company Ltd (RFCC) is a large-scale coffee roasting and packaging facility in Kigali, Rwanda; it produces 100% Arabica Bourbon roasted coffee, branded as “Gorilla’s Coffee,” from the highest quality green coffee beans (gorillascoffee site). RFCC was incorporated in 2009, and its coffee roasting facility was commissioned and inaugurated in October 2014.

With its state-of-the-art roasting machinery expertly sourced from Italy, the facility can produce 9 tons of roasted coffee per day, making it the giant roasting plant in the region. The company is roasting, grinding, and packing specialty grade as defined by Specialty Coffee Association of America (SCAA).

### **African chocolate brands**

Local chocolatiers around the continent are increasingly creating sweet confections from the beans, and in doing so, they’re supporting sustainability, culture and empowerment (The Luxe Digest, 2020). Here are 6 African chocolatiers redefining cocoa.

#### ***Chocoloza***

Vicki Bain spent 14 years as an environmental and sustainability consultant before pursuing her passion for chocolate. Together with a team of women from around the continent, she creates pralines with Belgian chocolate made in South Africa (chocoloza site).

The flavors and ingredients used in the confections, including berries and coffee beans, are sourced from local farms and other sustainable fair trade partners.

### ***Chocolatier Robert***

Chocolaterie Robert is the first brand of chocolate to be commercially produced and sold in Madagascar (chocolaterierobert site). The company was established in 1940 by Mr and Mrs Robert, a French couple from nearby Reunion Island. The couple began producing chocolates using local cocoa from Brickaville, where Madagascar's first cocoa plantations had been established by earlier French colonists. In 1948 the couple sold the company to a candy maker based in Antananarivo.

By 1977 the company was owned by a French family named Berger who decided to leave the island and sell the chocolaterie to a Malagasy entrepreneur named Ramanandraibe, whose family were among the Malagasy economic leaders of the post-colonial period.

Since 2012 the company has made intensive investments to further improve the quality of their chocolate in order to compete globally with international chocolate makers. To this end, the company established a series of cooperatives employing 125 farmers in the Ambanja region to produce top quality organic cocoa. New high performance machines were purchased for the Antananarivo factory, and the company has adopted British quality standards as required by the Hazard Analysis Critical Control Point in order to expand into the British market.

Their chocolate bars have received numerous awards from the Academy of Chocolate, including the 2017 Golden Bean for their 100% dark chocolate - making it the best pure dark chocolate in the world.

### ***Midinu Chocolates***

Chocolatier Selassie Atadika creates artisanal handcrafted chocolate truffles from Ghanaian cocoa. The confections are infused with African inspired flavors including spices, fruits, coffee and tea. The assorted truffles feature moringa, ginger, star fruit, ginger and many more.

In addition to the unique flavours, a lot of thought goes into the design and name of each truffle variation. For instance, Thando, is infused with South African Rooibos while *Almzaz* is infused with the berbere spice from Ethiopia.

### ***Loshes Chocolate***

Loshes Chocolate creates premium handcrafted bean to bar chocolate from cacao beans sourced ethically from South Western Nigeria. Their preservative free chocolates are made in small batches with only 3 to 4 ingredients; cocoa, milk and sugar, along with added flavors.

### ***Savannah Chocolate***

Savanna Premium Chocolate is a woman-owned and run business: Lynn and Chiinga from Zambia ([savanachocolate site](#)).

Savanna Premium Chocolate is a single-origin bean-to-bar chocolate maker using the finest cocoa beans that is grown in Africa. The company purchases cocoa beans directly from farmers. Their flavors include pink salt dark chocolate, baobab dark chocolate and chilli dark chocolate to name a few. The Ginger Milk Chocolate Bar won the European Bronze International at the 2019 Chocolate Award.

### ***Mon Choco***

Dana Mroueh, Mon Choco owner and manager is 27-year-old is the latest entrepreneur in Ivory Coast to become a chocolatier using Ivorian cocoa beans (Fortd, 2016); [monchoco site](#)). She buys the cocoa beans straight from the farmer and then dries them on the roof of her factory in Abidjan, or in her newly purchased tumble dryer

The chocolate is organic and is made directly from raw cacao beans into fondant, preserving the taste and nutritional value of the beans. The chocolate range includes a number of palette teasing flavors, including ginger and cashew.

Mon Choco company employs a team of women across different operational areas and works strictly with cacao planters who adhere to organic, forest-friendly practices.

## ***Fair Afric***

This single origin chocolate was born out of the German founder's desire to empower local farmers and aid development through chocolate (fairafric site). The company sources its beans in Ghana and produces the chocolate bars there as well. The chocolate bars are organic and gluten free.

The idea was born in 2013 from the cooperation between the cooperative Yayra Glover, the company Niche Cocoa and Fair Afric. Fairafric produces a variety of organic chocolate such as the organic vegan mix, organic chocolate with milk and hazelnut, organic chocolate and cocoa nibs, and organic dark chocolate with tigernut & almond.

In 2019, the solar-powered chocolate factory in Amanase, Ghana takes shape. Ludwig Weinrich KG, a family-run chocolate manufacturer from Herford, Germany took a stake in the company to better manage the production process and meet the increase in demand for Fairafric's organic chocolate. In 2020, the factory in Ghana becomes more concrete and thanks to another successful bond and Kickstarter campaign, the foundation is finally laid. To better manage the factory locally, the subsidiary fairafric Ghana Limited, is established. On November 20th, 2020, officially fairafric GmbH is a stock company.

With a current capacity of around 300,000 bars each month, Fairafric exports the majority of its chocolate to Germany, Switzerland and France. Operating out of a free zone, the export-only business receives certain incentives like tax breaks on sugar imports in return for the initial investment in Ghana and domestic job creation.

## **Cocoa processing**

### ***Ghana***

#### **Cargill**

Cargill has been sourcing cocoa from Ghana for over 40 years and in 2008 opened its \$100 million cocoa processing facility in Tema (Cargill site).

Today the company has around 240 employees processing cocoa products to service food and confectionary customers locally and around the world. Production of cocoa products is including cocoa butter, cake and powder. In 2019 Cargill invested US\$ 13 Million in the 20 % expansion of the plant capacity.

#### Afrotropic Cocoa Processing Limited (ACPL)

The company's primary products such as cocoa liquor and cocoa butter are sold to reputable companies around the world. Since its establishment in 2005, the company has since evolved into a competitive player in the chocolate industry with established markets and recognized products (Gepaghana Afrotropic site).

In 2019 ACPL commissioned a new cocoa processing factory valued at US\$30 million with a capacity to process 15,000 tons of cocoa bean into cocoa nibs, cocoa liquor, deodorized cocoa butter and cocoa cake (Food Business Magazine Africa, 2019).

#### BD Associates Ghana Limited

Established in 2008, BD Associates Ghana Limited is a cocoa processing facility situated in the free zone enclave in Tema (Gepaghana BD site). The facility currently had an annual throughput of 12,500 metric tons of premium cocoa beans which it processes into cocoa mass.

This semi-finished product is exported mainly to Europe, Asia and the Middle East to be used as ingredients for various confectionery manufacturing establishments. BD Associates currently produces under the brand name CHOCOMAC.

#### Niche Cocoa Industry

Niche Cocoa Industry, Ltd. is the leading privately operated cocoa processing company in Ghana established in 2011 and producing high quality semi-finished cocoa products and premium cocoa powder (Nichecocoa site).

The company has an installed cocoa processing capacity of 60,000 metric tons of semi-finished products and 10,000 tons of confectionery per year. Niche, producing high quality products, supplies Fairafric, Ghana's first organic chocolate maker, with the needed raw materials.

### Cocoa Processing Company (CPC)

CPC was incorporated in November 1981 as a Limited Liability Company (ide site). The Company comprises two factories, The Cocoa Factory and The Confectionery Factory. The CPC factories process only the choicest premium Ghana cocoa beans.

In 2002 CPC's position as one of the world's best chocolate producers was re-confirmed at the Monde Selection Competition held in Paris, France. At this Competition all its seven brands of chocolate and ALLTIME drinking chocolate powder won gold medals. CPC is listed on the stock index of the Ghana Stock Exchange, the GSE All-Share Index.

The German company MAN Ferrostaal AG was commissioned in 2004 to update and expand the facilities of the Company. MAN selected Buhler (Chocolate & Cocoa) as the technical partner for handling the project. The cocoa processing facility, which opened in October 2005, has a capacity of four metric tons per hour and is fully computer-controlled.

The Cocoa Factory processes raw cocoa beans into semi-finished products-cocoa liquor, butter, natural/alkalized cake or powder whilst the Confectionery Factory manufactures the Golden Tree chocolate bars, couverture, pebbles (chocolate coated peanut),

CPC, formerly wholly-owned by the state, was partially privatized after the government offloaded 25 percent of its stake and listed it on the Ghana Stock Exchange in February 2003.

The government owns about 48 percent of CPC's shares, with state-run industry regulator Ghana Cocoa Board controlling about 22 percent.

### Kuapa Kokoo

Kuapa Kokoo, "Good cocoa farmer", was first established in 1993 when, for the first time, it was possible to set up your own cocoa buying company in Ghana (Divine Chocolate, 2021). A group of cocoa farmers saw the opportunity to set up a buying company run by farmers for farmers.

Today Kuapa Kokoo has over 100,000 members in three countries: Kuapa Kokoo Farmers' Union – Ghana 121,157 farmers own a 20% share of Divine Chocolate, Cooperativa de Exportação de Cacao de Qualidade – São Tomé 1,027 farmers, Ngoleagorbu Cocoa Farmers' Union – Sierra Leone 1,743 farmers Kasinthula Cane Growers' Association – Malawi 762 farmers (Divine Chocolate, 2022).

Kuapa Kokoo was established around Fairtrade standards with the farmer members' welfare at its heart, and quickly built a reputation for producing high quality cocoa, and running a professional efficient business.

In 1997 the farmers (one man and one woman from every village) voted at their AGM to set up their own chocolate company in order to get their own slice of the valuable chocolate market. The next year Divine Chocolate was born.

Supported by Twin and SNV, a Dutch NGO, the farmer's co-operative set up their own company to buy their cocoa and sell it on to the Government Cocoa Buying Board.

In 2020, London-based Divine is owned of 80% by the German manufacturer Ludwig Weinrich. The previous majority shareholder, Kuapa Kokoo, the Ghana farmers' co-op that supplies Divine with cocoa, will retain a 20% stake in the company (Best, 2020). In 2021, our Dark Chocolate Pink Himalayan Salt won a Great Taste Award from the Guild of Fine Food in the UK – testimony to the high quality and delicious taste of our chocolate.

### Chinese investment

In September 2019 Ghana signed a memorandum of understanding with the Chinese state-owned conglomerate China General Technology Group (Genertec) for the construction of a cocoa processing plant at Sefwi Wiawso in western part of the country (Chandrasekhar, 2021).

The factory will be operated by Cocobod and Genertec, as a public-private partnership. The factory is expected to cost around \$100 million (CHF91 million) and will increase Ghana's share of processed cocoa from 15% to 25%.



## Swiss companies

Nestlé currently sources 46% of its raw cocoa from Ghana and Ivory Coast, while Ghana is Lindt & Sprungli's "major cocoa bean origin".

In June 2021, Swiss food processing equipment firm Bühler signed an agreement with the Ghanaian cocoa board to provide training, product development and technology guidance (COCOBOD, 2021).

## *Ivory Coast*

### CEMOI

Since the 1970s CÉMOI has been selecting cocoa beans in the Ivory Coast, the leading international producer (group cemoi site). In 1996 the group decided to build a cocoa-transforming factory that in 2022 employs 1,000 team members and has a turnover of 230M Euros. Today CÉMOI is positioned as one of the leading transformers in Ivory Coast. The group has built strong economical and industrial relations in the country and this local implantation has enabled us to develop the Premium Ivory Coast origin, a cocoa with exceptional aromatic qualities that can be found in our professional and finished products.

CÉMOI is the first international chocolate maker to have opened a chocolate making factory in 2015, to produce products for the Ivorian market, made from local cocoa beans.

### Axel Emmanuel Gbaou

Gbaous' company, *Le Chocolatier Ivoirien* (the Ivorian Chocolate maker) decided to train farmers' wives so that they can charge more for the processed product (Rfi, 2022). The company has trained 2000 women since 2016. The cocoa grows in the mountains where there is a lot of iron and magnesium because it grows at high altitude and so the flavor is very intense. He also sources cocoa from Azaguié, the rainiest town in Cote d'Ivoire, just an hour from Abidjan.

The West African country receives 800mm of rain per year throughout the country, but Azaguié receives twice that amount. Rain is good for cocoa. The beans here are a lot bigger, adding more fat and cocoa butter inside, so the chocolate will be very fluid and smoother in your mouth, less bitter.

Le Chocolatier Ivoirien currently makes 10,000 chocolate bars per month. All the chocolate sourced from cooperatives such as Cooperative de Belier which employs many of the women he's trained is certified fair trade and organic.

### Barry Callebaut

Barry Callebaut, the world's leading manufacturer of high-quality cocoa and chocolate products, inaugurated its new state-of-the-art processing unit at its Zone 4C Société Africaine de Cacao (SACO) plant in Abidjan, Ivory Coast in 2019. The new grinding unit, part of the company's five-year, US\$60 million investment plan, will increase SACO's cocoa bean processing capacity by 40% by 2022.

### Cargill

Cargill's activities in Côte d'Ivoire span more than two decades, including the opening of the Yopougon plant in 2000 (Bains, 2021).

Cargill has completed a \$100 million expansion of its cocoa processing facilities in Yopougon, Côte d'Ivoire.

The upgrades, increased production capacity at the site by 50 percent, creating nearly 100 full-time, local jobs and hundreds of indirect jobs.

With the new technology installed at our Yopougon plant, we're now better equipped to supply the full range of our customers' needs, from delicate light to intensely dark Gerkens® cocoa powders.

### Bühler

Bühler, one of the world's leading plant equipment manufacturers, opened an ultra-modern agro-industrial training & innovation center in Abidjan, Ivory Coast in

2020. Christened the Bühler Cocoa Competence Center (CFIA), the facility becomes the first and only cocoa competence centre in Africa, dedicated to offering theoretical and practical training and R&D service for recipe development and process optimization.

With the new facilities, Bühler is set to offer manufacturers, students and sector researchers, facilities to optimize their processes, develop new semi-finished product recipes. They will be able to train the current and future cocoa processing workforce on state-of-the-art technology.

### Atlantic Cocoa Corporation (ACC)

In Cameroon, ACC, an Ivorian cocoa processor with investments in the neighboring country, recently commenced operations at its newly built US\$73.8m processing plant with a production capacity of 48,000 tons expandable to 64,000 tons, located at the industrial zone of the Kribi deep seaport.

### Chinese investment

In September 2020 Ivory Coast President lays the cornerstone of a cocoa factory that will be capable of processing 50,000 tons of cocoa beans a year (Chandrasekhar, 2021).

The Ivorian cocoa processing project also includes another factory of similar size and capacity in the port city of San Pedro west of Abidjan. The investment is financed by a loan from China worth \$388 million. Construction works, which will take 2 years, have been bestowed on China Light Industry Design Engineering Company.

China will obtain preferential access to Ivory Coast's "brown gold" with 40% of the output from the two factories reserved for Chinese companies. The Ivorian cocoa board will also open a marketing office in China to promote its offerings there.

### *Sierra Leone*

Sierra Leone has opened its first cocoa processing factory in a bid to bring profits from the country's crucial industry home and improve the lives of thousands of local farmers (Kedem, 2021).

The new factory's machinery, nestled in the eastern Kenema Village, juddered to life on 23 October 2021. The factory will be able to process up to 4,000 tons of cocoa beans per year – around a quarter of the country's annual output. Sierra Leone's new facility, built by Capitol Foods Limited, will export its semi-finished product to major cocoa produce buyers and chocolatiers in Europe for 20% more than it sold its unprocessed cocoa beans,

## **Shea processing**

### *Nigeria*

The majority of shea butter produced in Nigeria is for domestic consumption. There is growing investment in processing facilities in Nigeria.

The new factory, located in at Wozibe, a community in Kaiama Local Government Area of the state, is expected to use the facility to improve the value chain of the commodity in the state. The project is a tripartite arrangement with the World Trade Organization, Nigerian Export Promotion Council and the host state, Kwara (Olowookere, 2020).

### *Ghana*

International specialty oils and fats supplier Bunge Loders Croklaan (BLC) Netherlands has opened a shea butter processing facility in Tema, Ghana, the company announced on 2020 (Ofi magazine, 2020).

In operation since 2019, the facility is BLC's first shea processing plant in Africa and the largest of its kind on the continent, according to the company.

A fully automated solvent fractionation plant, the facility processes raw shea butter made from locally collected and crushed shea nuts into two major products – shea olein and shea stearin.

Shea stearin is further processed in BLC's facilities in the Netherlands, Malaysia, Canada and the USA, to produce ingredients for food and non-food applications.

## ***Mali***

The first industrial shea butter processing unit in Mali, Mali Shi, was inaugurated in 2021 (African News Agency, 2021).

Located in Banakoroni near Bamako, the factory has a processing capacity of 30,000 to 32,000 tons of shea kernel for a production of 14,000 tons of butter. Mali Shi is 58.5% owned by the Malian company Omnium Mali SA, 35% by Ecodev, the investment fund of the mining group Endeavour managed by the French company classM, and 6.5% by the Malian shea trader SOATAF. It has benefited from a \$2.5 million loan from the International Finance Corporation.

## ***Burkina Faso***

In collaboration with Agriterre Dutch not-for-profit agri-agency , Foundation Rural Energy Services (FRES) and Yeelen Ba, representative of FRES in Burkina Faso, are developing a solar-powered shea nut processing center for a women cooperative in the village of Koutoura in Burkina Faso fully tailored and designed around their demands (FRES, 2020). The project was kicked on 15 and 16 March 2021 with a workshop with members of the cooperative to identify their needs. The platform will be operational before the shea season in September 2022.

## **Cotton processing**

Among the 46 spinning factories existing in the UEMOA area in 2003, around 10 are operational and 2% of lint cotton produced in the sub-region is processed locally.

## ***Burkina Faso***

The cotton companies present in Burkina Faso, Société Burkinabe des Fibres Textiles (SOFITEX), Faso Cot on, and Société Cotonnière du Gourma (SOCOMA), already ordered cotton inputs in anticipation of these developments.

Burkina Faso has one spinning company, La Filature du Sahel (FILSAH), was established in 1997 and started operations in 2000. The company has a processing capacity of about 5,400 tons of fiber to yarn per year, which is sold to Europe (about 50 percent), the local market (26 percent), and in the Sub-Saharan Africa (24 percent).

FILSAH also diversifies its production towards yarns for crafts, export, and for "Maliwatt," a canvas made from cotton waste to wrap cotton bales for export. Canvas is intended to replace plastic used to wrap the bales.

## ***Ethiopia***

Wuxi No. 1 Cotton Mill, part of the Guolian Development Group and one of the largest textile manufacturers in China, had last year signed an investment agreement with the Ethiopian Government to establish an integrated textile plant in the country in Dire Dawa Industrial Park (DDIP) in Eastern Ethiopia, investing \$220 million and will employ 3,000. The park is now being constructed by China Civil Engineering Construction Corporation (fibre2fashion site).

## **Other innovative agriculture processing**

### ***Cocoa fruit***

#### Koa, a Swiss-Ghanaian start-up

Koa, a Swiss-Ghanaian start-up partnered with Lindt & Sprüngli, an international leader in the chocolate sector to develop a new chocolate bar sweetened using cocoa pod's pulp. The new chocolate, known as Excellence Cacao Pur, is exclusively made of 82% cocoa beans and 18% cocoa pulp from Koa.

Founded in 2017, Koa is the first company in West Africa to have unlocked a new value chain around the cocoa pulp (Venture Kick, 2022). Koa reduces on-farm food waste around the cocoa fruit, generates additional farmer income while at the same time bringing unique new ingredients

to the food and beverage industry for applications ranging from chocolate, confectionery, ice cream to drinks.

To finance its next expansion plans, Koa has successfully completed its Series A round raising a total of \$4.7 million in equity. The investment round was led by Haltra Group, a Luxembourg-based family investment company which is joined by a group of other like-minded family offices all sharing Koa's conviction to establish a business that creates real impact while being profitable and sustainable on the Triple Bottom Line "People, Planet and Profit".

The equity round is complemented by a \$3.5 million long-term debt facility from impact funds and \$2.0 million of shareholder loans. The long-term debt facility is co-led by the IDH Farmfit Fund and the Landscape Resilience Fund.

Koa is investing the funds from the debt financing into a new production plant in Akim Achiase, in the Eastern Region of Ghana. This will be Koa's second factory which is already in construction and is planned to start its operations by the end of 2022. The new factory will increase our production capacity by tenfold, while generating 250 new jobs in rural Ghana and allowing us to extend our cocoa fruit upcycling to an additional 10,000 cocoa farmers.

## KOKOJOO

KOKOJOO was founded in Germany in 2018 by the inventor, Dayog N wend  Kabor , native from Burkina Faso. Cocoa shells are used in order to produce in Ivory Coast Cocoa fruit juice and cocoa husks.

It is also a basis for aromatic tea. The project is in cooperation with the Zurich University of Applied Sciences (ZAHW). Cocoa shells contain almost no calories and no xanthine. They contain more caffeine and less theobromine than the beans and less sugar than conventional sugary sodas. In February 2020, the company moved to Switzerland.

## *Coconuts*

### Melach Coconut Processing Farm, Ghana

Michael Annan-Forson from Melach Coconut Processing Farm, Ghana, developed an innovative process producing pure coconuts oil. He published his new product on LinkedIn (Rose-Innes, 2022).

A businessman from Jerusalem visited Ghana and was so impressed with the quality of the African coconut oil that he bought six tons to send to Israel and since then, Michael's fortunes had changed, growing his coconut producing farm into a worldwide giant and leader.

When this big order came in, this entrepreneur was still working from his flat in Accra on a very small scale, but he jumped at the opportunity and moved to another region where factory space was available for rent. He also purchased a small grinding machine with the USD 35 000 the Israeli business paid up front.

Annan-Forson completed the order within seven days with the Israeli businessman, who is also a rabbi, on hand to certify the oil met with the stringent kosher standards of the Jewish religion.

Since then, Melach Coconut Processing had become one of the African continent's largest exporters of coconut products, including oil, water, porridge, charcoal, potash and sugar. Hundred and sixty six (166) smallholder farmers in western Ghana are benefitting as raw products are sourced from them. Michael's 200 acre farm grows coconuts on an industrial scale, where 16 permanent staff and 13 temporary workers are working – a far cry from the stove in his small flat where he started out.

Michael now has clients in Mexico, Bangladesh, Thailand and the Netherlands and supplies to the United States, one of his biggest customers, buying 50 tons per month. He sells coconut products, such as oil and water, in bulk to overseas companies where the raw material is processed and branded products created.



Melach Processing is currently producing 600 tons of coconut products per year and registered a profit of USD 966,000 last year when other businesses across the world, had to scale down or close their doors. Sales rose during the pandemic as demands from cosmetic companies grew.

### Fibrivoire

Coconut processing generates plenty of by-products, especially the outer husk, which used to be considered waste (Hortifresh West Africa, 2020).

FIBRIVOIRE produces coconut peat, Coir nets, substrate, and coconut fiber from over 50,000 tons of coconut outer husks annually. They most recently also started producing Coir mats as a result of their high water retention capacity which is suitable for greenhouses and nurseries for plants, flowers, fruits and vegetables.

Some companies on the other hand, do see use and opportunities for value addition for coconut by-products. Located in Grand Bassam on the road to Bonoua, Since 1988

Fibrivoire exports the majority of its products to Europe (including France, the United Kingdom, the Netherlands, and Spain), as well as the United States and Asia.

## **Cobalt and copper processing**

### ***Eurasian Resources Group Africa (ERGA)***

ERG is a leading diversified natural resources producer, with more than 75,000 people globally at operations across four continents (ergafrica site). ERGA operates all of ERG's assets on the African continent and has a workforce of around 3,500.

ERGA's key stakeholder groups range from employees and host communities to governments, trade unions, customers, suppliers and shareholders. ERGA management is in South Africa.

In 2014, ERG launched an ambitious transformation programme to increase management efficiency and the profitability of the business. In the DRC, ERGA mines cobalt and copper, processing the ore at Boss Mining, Frontier Mine and Comide.

### Boss Mining

Boss Mining produces cobalt oxide and sulphide concentrate, cobalt carbonate and copper cathode and is located in the south-eastern Lualaba and Katanga provinces. It operates in Lubumbashi, Kakanda and Luita and includes open cast mines, crushing- beneficiation- and concentrator plants, as well as an electroextraction facility.

Boss Mining was placed on care and maintenance at the end of February 2019, while a feasibility study is looking into the construction of two processing facilities to treat oxide and sulphide ores.

### Frontier Mine

Frontier Mine is a copper sulphide concentrate producer situated on the DRC-Zambia border, 30km north of Ndola, with access to stable infrastructure in terms of road, rail and power networks.

Frontier Mine comprises an open-cast copper mine and processing facilities to produce copper sulphide concentrate. The open pit mine's processing facilities is capable of treating over 10Mt of copper sulphide ore annually, producing circa 350kt of concentrate. In 2019, it produced 84 254t copper contained in concentrate.

### Comide project

Comide is an open pit mining operation with two dense medium separators and a spiral concentrator using hydromet technology in order to separated cobalt and copper.

Hydrometallurgy or "hydromet" is a metal processing technology that uses a chemical process combining water, oxygen or other substances in a pressurized or other vessel to dissolve a metal from its ore, concentrate or an intermediate product.

The nickel industry worldwide has traditionally smelted concentrates produced from nickel, copper and cobalt sulphide ores to make an intermediate sulphide product called matte (Vale site). Hydrometallurgy has been used for refining the matte to produce high purity nickel, copper and cobalt for the market. Thus, traditional production of these metals has occurred in two steps: smelting and refining.

### Chambishi Metals

Chambishi Metals located in Zambia, is a cobalt and copper electro-metals refinery north of Kitwe, which produces copper cathode and cobalt metal (ergafrica chambishi site). The Chambishi plant is the only plant in Zambia producing cobalt metal and is one of the largest cobalt metal producers in the world. It is also unique as it is the only operation in the world which produces both LME registered cobalt and copper metal.

### Metalkol Roan Tailings Reclamation (RTR)

RTR in the Kolwezi area of the DRC consists of two legacy tailings deposits hosting approximately 113 million tons of resources. In 2020, Metalkol RTR reached full Phase 1 production capacity and completed Phase 2 construction, with the additional plant increasing its production. By the end of 2020, production had reached 80% of cobalt hydroxide and 75% of copper metal. Phase 2 design capacity (i.e. 16.5kt of cobalt hydroxide and 80.3kt of copper metal). As such, Metalkol RTR is one of the world's leading cobalt producers.

Unlike conventional mining operations which extract primary ore, at Metalkol RTR legacy copper-cobalt tailings are reclaimed and reprocessed.

### ***Glencore Kamoto Copper Company (KCC)***

The Kamoto Copper Company (KCC) is a world class, responsible mining business in the DRC owned by Glencore.

Kamoto produces is the world's single largest producer of cobalt – commodities.

Located in Kolwezi, in the province of Lualaba, our portfolio of assets includes two open pit mines (KOV and Mashamba East), one underground mine (KTO), the Kamoto concentrator, and the Luilu refinery. The business is jointly owned by Glencore (75%), Gécamines (20%) and SIMCO 5%).

### ***Batteries plant lowest cost in DRC***

DRC supplies most of the world's cobalt, but exporting semi-finished or finished products rather than raw materials would better help the country capture the value of the metal used in high power lithium-ion batteries (Colthorpe, 2021).

BloombergNEF report (blomberg site) has found that it would actually be cheaper to build manufacturing facilities for battery cathode precursor materials in the DRC than in the US, China and Poland and would have less intensity of carbon dioxide emissions (Henze, 2021).

The cost of 10,000 metric ton cathode precursor plant producing battery precursors in the DRC, is about US\$39 million compared to more than US\$60 million in Poland, more than US\$100 million in China and more than US\$39 million in the United States.

Raw materials make up 85% of the total cost of operation of an NMC 622 cathode chemistry precursor plant, including cobalt, manganese and nickel.

If mining can be integrated with such facilities, the DRC could be very competitive in producing the essential ingredient, especially with significant manganese and nickel able to be sourced from nearby countries like Madagascar, Mozambique and Gabon.

For this to happen is required the creation of a diversified capital market in countries across Africa to support battery research and early stage products. Investment also needs to be made into the local workforce.

DRC can become the regional and international center of gravity for the production of precursor materials for batteries to drive the fourth industrial revolution. In so doing, the country and the rest of Africa can extend international end their access from the US\$271 billion battery precursor segment to the more lucrative US\$1.4 trillion combined battery cell production and cell assembly segments of the battery minerals global value chain (Henze, 2021; Colthorpe, 2021).

### ***Vietnam competitor or partner?***

Vietnam-based VinFast and the government of North Carolina signed a memorandum of understanding (MOU) for the establishment of electric cars VinFast's first North American manufacturing plant. The company intends to invest up to \$2 billion in the project's phase 1 (Green Car Congress, 2022).

VinFast's factory will create a major manufacturing center in Chatham County's Triangle Innovation Point megasite, covering an area of 800-hectares, with 3 main areas: electric car and bus production and assembly, EV battery production and ancillary industries for suppliers.

Construction for phase 1 of the factory starts in 2022. The capacity of phase 1 is expected to be 150,000 vehicles per year.

Founded in 2017 and headquartered in Hanoi, VinFast has a vehicle production facility in Haiphong, Vietnam, that will have the capacity to produce 950,000 vehicles per year by 2026. VinFast has established global operations in the US, Canada, Germany, France and the Netherlands. Recently, Vingroup started construction of a battery plant in Ha Tinh, Vietnam on an 8 hectare plot for phase 1, with a capacity of 5 gigawatt hours (GWh) per year. The facility is expected to be fully installed and running at full capacity from late 2022.

Blackstone Minerals has delivered nickel-cobalt sulphides from its Ban Phuc mine in Vietnam to consultant, ALS in Perth, as part of a trial of its Ta Khoa nickel refinery pilot program (Birney, 2022). The company has a plan to become a globally significant producer of high purity NCM811 nickel-based precursor products for the lithium-ion battery industry and it is building an integrated mining, ore processing and downstream refinery business in Vietnam.

Blackstone will center its mining and nickel concentrating activities at Ban Phuc in northern Vietnam, approximately 160km west of Hanoi.

### **Coltan processing**

In recent years, the Chinese company FORUI Machinery (forui site) has set up many coltan washing plant in Rwanda, Nigeria, Mozambique, Democratic Republic of the Congo (frmining site). Coltan ore mining plant process includes:

Feeding: there has various kinds feeding way, depends on plant and material conditions

Washing: Coltan washing trommel scrubber is for washing material that with much sticky clay, trommel screen is for wash raw material that without much sticky clay.

Sieving: after washing, need to sieve out some bigger waste material, the under screen slurry will go to next separation machine.

## *Tanzania*

AB Minerals Corp. has been cleared by the Governing Council (the top decision-making body composed of Ministers) of the African Minerals and Geoscience Centre (AMGC), Dar es Salaam, Tanzania, to establish the first ever Coltan Processing Plant in Africa (Benton, 2020).

AMGC is a Pan African body that specializes in Minerals Geosciences and Geological Information. The Germans through BGR recently installed an Analytical Finger Printing (AFP) Laboratory worth €2 million in the Center for the purpose of analyzing the so called 'conflict free' minerals from Africa.

This was meant to help sustain the flow of Coltan from Africa into Europe under the EU's Raw Materials Initiative RMI.

The Coltan Processing Plant, a Joint Venture between AB Minerals and AMGC, will reduce the flow of raw materials and a lot more value will be captured by the Coltan producing countries in the region but more especially by the Artisanal and Small-Scale Miners by supplying directly to the plant. The Project was also endorsed by the Tanzanian Government.

AB Minerals is introducing a new disruptive processing technology, which has been developed to assist African coltan mining countries with the low-cost production of metallurgical-grade tantalum powder and niobium oxide using an industrial-scale processing plant (Wilkinson, 2016).

The company is evaluating opportunities in Africa for the location of its initial plant. The Great Lakes region in Africa is the world's largest producer of coltan and, thus, a key location that AB Minerals is considering for its first processing plant.

Once the first plant is up and running AB Minerals will consider additional locations in Africa and South America.

The use of tantalum in manufacturing is currently limited, owing to the high cost of the metal, as a result of the expensive processing methods employed. The metal will have a far greater range of use if its cost can be reduced.

Tantalum- bearing ore has varying levels of radiation and, as more ports increase their monitoring of radiation levels, more ore will be rejected if it is not processed in Africa before being exported.

Unlike current coltan processing technologies, AB Mineral's solution does not use hydro- fluoric acid – a highly polluting substance.

The capital cost to set up a processing plant is substantially reduced and the facility has been designed to be modular so that the plant's capacity will be planned according to the available ore in different locations.

The process developed by AB Minerals produces niobium hydroxide and potassium fluorotantalate, which is upgraded to metallurgical-grade tantalum powder. The company has advanced the final product to a significantly high-purity metallurgical-grade tantalum. AB Minerals has received interest in off- take agreements for the finished product from several multinational companies.

## ***Rwanda***

East Africa Mineral Processing Ltd, a subsidiary of Canadian based AB Minerals Corporation has announced in 2016 plan to build a coltan (Columbite-Tantalite) processing plant in Rwanda (Brenda, 2016).

Rwanda is currently the number one exporter of coltan, supplying 50% of the world's tantalum. Coltan is a dull metallic mineral which is a combination of columbite and tantalite and which is refined to produce tantalum.

Many of the artisanal & small scale mining companies and cooperatives who represent almost 80 per cent of the total miners in the country, will for the first time be able to sell their ore directly to a local smelter rather than to agents.

Local government will gain an increase in tax revenue through having the mineral concentrate upgraded to high purity oxides, prior to its export from Rwanda.

AB Minerals will look to hire people in the fields of metallurgy, chemistry, accounting and finance, lab operations, quality assurance and quality control as well as plant managers and shift managers. Construction of the plant will start after a US\$1 million production/evaluation run conducted at a major laboratory in the United States.

### *Uganda*

JXSC has provided a 100TPH coltan processing plant in Uganda (jxcmineral uganda site). The design of the coltan mining plant process and plant layout drawing is according to ore conditions, provide a complete set of plant machines and send Chinese engineers to the mine site for plant installation & commissioning guidance.



## Free trade agreements

The free trade agreements do have not a similar impact on the international trade of the members of the nation. Intra-COMESA grew from US\$ 4.4 billion in 2005 to about US\$ 10.9 billion in 2019. The EAC customs union has generated a significant increase in intra-EAC exports, while Kenya and Tanzania have seen a significant increase in their intra-EAC imports. The external trade of ECOWAS is dominated by the preponderance of fuels. Total intra-SADC imports have grown steadily over the past ten years, more than tripling in total. Congo and Equatorial Guinea members of CEMAC were hit the hardest by recessions. South Africa is the main beneficiary of the SACU trade agreement.

### The impact of Brexit

The UK has concluded negotiation for "rolling over" of EPAs, with the following blocs (Taylor and Coleman, 2020):

Eastern and Southern Africa: Madagascar, Mauritius, Seychelles, and Zimbabwe

East African Local area: Kenya, Uganda, Tanzania, South Sudan, Rwanda, and Burundi

Southern African Customs Union Member States and Mozambique: Botswana, Eswatini, Lesotho, Namibia, South Africa, Mozambique

A similar deal was rolled over for Ivory Coast and Cameroon.

Developing nations, for example, Ghana and Nigeria, are excluded from this preferential trade treatment. Both Ghana and Nigeria failed to seal an agreement with the UK before the end of the Brexit transition period on December 31, 2020 (dw site).

Nigeria is probably unwilling to maintain the old trade status quo of exporting crude oil and agricultural raw materials to Britain and importing machinery and technology goods from the UK. Nigeria increasingly gets its industrial goods from Asian nations, for example, China and India.

Kenya has signed a continuity trade deal with Britain, one of its top five trading partners in 2019. This allows Kenya to continue to export tea, coffee, and spices, as well as vegetables and flowers to the UK without paying duties.

### ***In less developing nations***

Post-Brexit Britain has implemented the EU's "Everything However Arms" trade preferences. This means the least developed nations in Africa exporting to Britain enjoy "quota-free access and nil rates of import duty on all goods other than arms and ammunition".

### ***On Francophone Africa***

The cocoa farmers in Francophone West Africa, are damaged because their product is conventionally exchanged in Pound Sterling (Kohnert, 2019). Thus, any fall in the value of the Pound Sterling against the Euro once Britain leaves the EU would have damaging consequences, not only for the producers but furthermore for public finances, because cocoa is priced in Sterling and the CFA franc is linked to the Euro. This affects furthermore on the revival of the long-standing controversy on the ill-adapted and increasingly anachronistic FCFA. African activists already demand a genuine African debate and a referendum on these issues similar to the Brexit vote.

### **Common Market for Eastern and Southern Africa (COMESA)**

The Free Trade Area (FTA) was achieved on 31st October 2000 when nine of the member States namely Djibouti, Kenya, Madagascar, Malawi, Mauritius, Sudan, Zambia, and Zimbabwe eliminated their tariffs on COMESA originating products, following the tariff reduction calendar implemented in 1992 (comesa site). This followed a trade liberalization programme that commenced in 1984 with the reduction and eventual elimination of tariff and non-tariff barriers to intra- regional trade. Burundi and Rwanda joined the FTA on 1st January 2004. These eleven FTA members have not only eliminated customs tariffs but are working on the eventual elimination of quantitative restrictions and other non-tariff barriers.

COMESA offers its members and partners a wide range of profits which includes wider market, greater industrial productivity, increased agricultural production, more rational exploitation of

natural resources, a more harmonized economic, banking, and economic policies, and more reliable transport and communications infrastructure

Since the setting up of the COMESA Free Trade Area (FTA) on 31 October 2000, intra-COMESA from US\$ 4.4 billion in 2005 to about US\$ 10.9 billion in 2019 (COMSTAT, 2020).

Intra- regional trade is largely dominated by seven Member States with an average share of about 79.9 percent in 2019. Egypt accounted for the highest share of 26.3 percent followed by Kenya (14.7 percent), Zambia (11.3 percent), DR Congo (8.4 percent), Tunisia (7.8 percent), and Rwanda (5.8 percent) and Uganda (5.5 percent).

Burundi, Comoros, Egypt, Eswatini, Ethiopia, Libya, Malawi, Mauritius, Rwanda, Tunisia, Zambia, and Zimbabwe recorded development in intra-COMESA total exports in 2019

Intra-COMESA total exports grew by 8% from US\$ 10.1 billion in 2018 to US\$10.9 billion in 2019. Export of fuels was the major contributor to overall development with an increase of 60% from US\$ 831 million in 2018 to US\$ 1.3 billion in 2019. Increased demand for fuels in the region drove growth in exports of light oils and preparations, butanes, liquefied, crude petroleum oils, medium oils preparations, and electrical energy. Intra-COMESA manufactures exports registered an 8% growth increasing from US\$ 4.3 billion in 2018 to US\$ 4.7 billion in 2019. The major export products to the region were cement, cobalt oxides and hydroxides, ceramic tiles, urea, quicklime, sanitary towels, sacks and bags, and mixtures of odoriferous materials used in the food and drink industries. Intra-COMESA food exports increased slightly from US\$ 3.696 billion to US\$ 3.737 billion between 2018 and 2019.

Despite this being a phenomenal increase, it only constitutes 7 percent of COMESA's international trade. This could be attributed to the weak productive capacity in the region, underutilization, and non-implementation of preferential trade regime to enhance intra- regional trade potential.

### **East African Local area (EAC)**

The East African Local area (EAC) is a Customs Union in force since 2005 between the Republics of Burundi, Kenya, Rwanda, South Sudan, the United Republic of Tanzania, and the Republic of Uganda, with its headquarters in Arusha, Tanzania. The Republic of South Sudan acceded to the Treaty and became a full member on August 15, 2016.

The EAC Partner States have agreed to establish free trade (or zero duty imposed) on goods and services amongst themselves and agreed on a common external tariff (CET), whereby imports from nations outside the EAC zone are subjected to the same tariff when sold to any EAC Partner State.

Goods moving freely within the EAC must comply with the EAC Rules of Origin and with certain provisions of the Protocol for the Setting up of the East African Local area Customs Union

The customs union has generated disproportionate effects on intra-bloc exports and imports for individual member nations (Buigut, 2012). Kenya, Uganda, and Rwanda have seen a significant increase in their intra-EAC exports, while Kenya and Tanzania have seen a significant increase in their intra-EAC imports. Significant changes are seen in Kenyan exports and Tanzanian imports up to three years before the actual implementation.

There has been a sharp growth in Ugandan exports to other EAC member nations, from a low of around \$65 million in 2004 to around \$330 million by 2009. Kenya's exports have increased however the increase predates the implementation of the customs union. Tanzania's exports show only a marginal increase. There is a slight pump in exports from Rwanda to the EAC bloc upon entry in 2007. Burundi's exports show no sign of increasing throughout the analysis.

The customs union has increased Kenya's intra-EAC imports by about 104 percent to 170 percent. This means the EAC member nations have taken advantage of the immediate duty-free status of goods entering Kenya. The customs union has not had a significant impact on imports by other EAC nations, except for Tanzania.

Uganda's exports to the EAC bloc have increased by about 159 percent to 185 percent. The implementation of the customs union has not had a significant contemporaneous effect on Kenya's exports. Kenya, Uganda, and Rwanda have seen a significant increase in intra-EAC exports; however, only Kenya and Tanzania have seen a significant increase in their intra-EAC imports.

Tanzania's imports have increased substantially from around \$100 million in 2002 to over \$400 million in 2007. Rwanda's imports have increased from around \$60 million to over \$300 million. This growth furthermore predates the customs union implementation.

Kenya's imports have increased sharply from around \$55 million in 2004 to \$300 million by 2009.

Herewith selected accomplishments (usaaid eac site):

Health: Strengthened cross-border health services, Worked on the technical capacity of the EAC's Lake Victoria Basin Commission to manage risks related to populace development and environmental degradation.

Energy: Reducing barriers to regional power trade through identification, prioritization, and package of three key power interconnection infrastructure projects valued at \$350 million

Environment and natural resources: The Wildlife Information and Landscape Database (WILD), a mobile phone-founded app for real-time data collection, monitoring, analysis, and reporting developed and tested in Kenya and Tanzania and deployed in Kenya's Maasai Mara ecosystem; US\$2.5 million leveraged through USAID's International Sustainable Water Partnership to support a three-year field activity in the transboundary MRB through the Memorandum of Understanding (MoU) for Joint Water Resources Management in the Transboundary Mara River Basin (MRB) shared between Kenya and Tanzania signed in 2015.

### **Economic Local area of West African States (ECOWAS)**

Established on May 28 1975 via the treaty of Lagos, ECOWAS is a 15-member regional group with a mandate of promoting economic integration in all fields of activity of the constituting nations (ecowas site).

Member nations making up ECOWAS are Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal, and Togo.

The external trade of ECOWAS is dominated by the preponderance of fuels. These represent three-quarters (75%) of exports (excluding re-exports) and are provided chiefly by Nigeria (73%).

Cocoa and cocoa food preparations (5% of exports), precious stones (3%) and secondarily cotton, edible fruit, rubber, plastics, wood and wood products, fish and shellfish (about 1% each), form together with fuel, the major export products of the West African Economic Local area.

Europe accounts for about 28% of ECOWAS exports. The Americas account for 40 %. These exports are dominated by Nigeria and Ivory Coast carrying between them, 87% of these transactions. Nigeria provides 77% of exports and Côte d'Ivoire 10%. For their part, Ghana and Senegal are placed third and fourth with 4% and 2% respectively.

As for imports, fuels still hold a leading position in this list. They represent 24% of total imports. They are followed by motor transport, machinery, and cereals. As for the exports, Nigeria appears here furthermore in a dominant position by making alone 41% of transactions against 18 % in Ghana, 10% each for Senegal and Côte d'Ivoire. Nigeria and Ghana together perform 59 % of the Local area imports.

## **Southern African Development Local area (SADC)**

### ***Trade between members***

In 1992, Heads of Government of the region agreed to transform the Southern African Development Co-ordination Conference (SADCC), established in 1980 in Lusaka, Zambia (SADC site). SADC members are

Angola, Botswana, DR Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

Main intra-SADC trade export items include petroleum oils, agricultural products, electricity, and some clothing and textile products. Main export items to the rest of the world consist of predominantly export of resources (e.g. coal, ferrochromium, manganese ores, platinum, as well as precious metals and diamonds), resource-intensive manufactured goods, chiefly for the automotive industry, some clothing, and textiles, and tobacco.

The highest share of total SADC exports over time is to the Asia Pacific Market, followed by the EU market. Trade within Africa is the smallest and of this, the larger part is intra-SADC trade.

Total intra-SADC imports have grown steadily over the past ten years, more than tripling in total. As with intra-SADC exports, imports furthermore experienced a significant fall in 2009 because of the global recession.

### ***The Seed Trade Project***

The project was started by Malawi, Mozambique, Zambia, and Zimbabwe (dai site).

The project facilitates seed trade across the region, integrating small and isolated national markets into one larger SADC-wide market for seeds. This, in turn, increases agricultural productivity and profitability and subsequent food and nutrition security.

The Feed the Future Enabling Environment for Food Security Report (2016, agrilinks site) found that small national variations among regulations related to variety release, seed certification, quality control, and quarantine and phytosanitary regulations lead to increased transaction costs and duplicative procedures, which together not only raise the cost, however furthermore increase the time required to get seeds to farmers.

The project trained more than 2,000 individuals on the SADC HSRS Seed Variety Release, Seed Certification, and Quality Assurance, Quarantine and Phytosanitary Measures for Seed, and worked on business management practices.

The project is engaged with 14 seed companies and presently has 91 seed varieties released and registered on the SADC Variety Catalogue—maize, Irish potato, sorghum, soybean, beans, wheat, groundnuts, and cotton—and they are all eligible for production and trade. This represents a 264 percent increase from when the project started.

The project is partnered with Seed Co. Zambia through a grant to pilot and pressure-test the SADC HSRS' Seed Labels and Certificates in 2019. Seed Co. Zambia produced 226 metric tons of hybrid maize seed, of which 200 metric tons were exported to the Democratic Republic of Congo. Three more seed companies, Lake Agriculture of Zambia, Zimbabwe Super Seeds Cooperative Company, and Peacock Seeds of Malawi—engaged in 2020 to further test the SADC HSRS as a second phase pilot.

Lake Agriculture, Seed Co. Zambia, and Zimbabwe Super Seeds are scaling up the SADC Seed Labels and Certificates post piloting through seed productions under the SADC HSRS during the

2020/21 planting season using their resources, with only technical assistance from the Project. Lake Agriculture exported in September 2021 scaling up from 250 metric tons in 2020 to 850 metric tons in 2021.

The project digitized seed quality assurance in Malawi, Mozambique, and Zambia by developing and operationalizing an Online Seed Certification Framework for the National Seed Authorities and seed producers, both private and public.

The project has transferred 12 technologies and management practices to the SADC Member States, including the three online seed certification frameworks, new management practice/laboratory technology, and new seed varieties.

### **Central African Economic and Economic Local area (CEMAC)**

CEMAC was established in 1994 and became operational after the treaty's ratification in 1999 (Globaldemocracywatch site).

CEMAC is made up of six States: Gabon, Cameroon, the Central African Republic (CAR), Chad, the Republic of the Congo, and Equatorial Guinea. With a total populace of about 37 million, it covers a total surface of around 3 million km<sup>2</sup>.

The Economic Union UMAC and the Economic Union UEAC present the Local area's two main pillars.

The CEMAC has been hit hard by two shocks, just a few years apart. The first shock in 2015–16 was triggered by a sharp decline in oil prices which remains CEMAC's main export proceeds and revenue source, just when numerous CEMAC nations were ramping up public investment programs (IMF, 2021). As a result, CEMAC nations put together a coordinated effort relying on large fiscal adjustments under IMF and WBG-supported programs.

External balances were on the path of recovery when, in the first quarter of 2020, the world experienced its largest economic shock since WWII, with the spread of the COVID-19 pandemic and, again, a collapse in oil prices. What ensued is a large demand and supply shock, exacerbated by the cultural and economic cost of mitigation measures to contain the contagion. This second



crisis hit the region before fiscal and external buffers had time to fully recover from the former one and threaten to erase the hard-won gains made since the former shock

CEMAC experienced its worst recession in 20 years in 2020. The policy response from national and regional authorities helped mitigate the fallout caused by the crisis. Still, overall GDP shrank by 2.6 percent in 2020, with non-oil GDP receding by 2.8 percent and oil GDP decreasing by 2.1 percent. Congo and Equatorial Guinea were hit the hardest with recessions of 7.8 percent and 4.9 percent, respectively because of lower oil production in both and the impact of strict national lockdowns in Equatorial Guinea. Inflation remained contained at 2.7 percent, below the regional convergence criteria.

### **Southern African Customs Union (SACU)**

The 1969 SACU Agreement, signed by Botswana, Lesotho, Swaziland (BLS), and South Africa, on December 11, 1969, provided two major changes (sacu site): the inclusion of excise duties in the revenue pool and a multiplier in the revenue sharing formula that enhanced BLS revenues annually by 42 percent.

South Africa retained the sole decision-making power over customs and excise policies. It furthermore retained open access to the BLS market, while the high common tariff raised barriers for Southern African neighbor's exports to SACU. These trade-diverting effects profited South African manufacturers.

With the independence of Namibia in 1990 and the end of apartheid in South Africa in 1994, SACU members embarked on new negotiations in November 1994, which culminated in a new SACU Agreement in 2002.

The SACU Agreement, 2002 addressed the joint decision-making processes: New Revenue Sharing Formula: Revision of the RSF to include a customs excise and development component and question of external trade: the need to develop strategies that enhance the political, economic, social, and cultural integration of the region without jeopardizing the economies of the smaller states.

South Africa is the main beneficiary of this trade agreement in GDP, imports, and exports (SACU, 2020).

## **The African Continental Free Trade Area (AfCFTA) Agreement**

### ***AfCFTA principles and partners***

On 1 January 2021, Africa officially started trading under the AfCFTA agreement.

As of April 2021, 36 nations in Africa had ratified the AfCFTA agreement and 54 nations out of 55 in Africa have signed the agreement, with only Eritrea not being a signatory (Luke et al, 2021).

Nations that have already ratified the agreement include Angola, Côte d'Ivoire, Ghana, Kenya, Malawi, Namibia, Nigeria, South Africa, Uganda, Zambia, and Zimbabwe. The first shipment of goods under AfCFTA took place in early January 2021, and most signatories have submitted their proposed rules of origin.

This agreement excludes State aid, Public procurement, Environmental laws, Labor market regulations.

Trade under the AfCFTA means a liberalized single market for goods and services facilitated by the easy movement of people and capital, erasing the foreign boundaries. It furthermore lays the infrastructure for a continent-wide customs union.

Free migration presents at least three opportunities that would catapult Africa to greater economic prosperity: the recognition of informal cross-border trades (ICBTs) and their inclusion in the continent's formal economic matrix; the alleviation of poverty through remittances; building and growing the African economy by reducing reliance on the foreign economic model (Afreximbank, 2020).

The United Nations Economic Commission for Africa (ECA) is playing a key role in providing support to the AfCFTA course. ECA is collaborating with the African Union Commission (AUC) and various partners to advocate for AU Member States' AfCFTA ratification and implementation, sensitization around the AfCFTA, and technical support to the negotiations.

It has been asserted that Africa's economic model follows the "colonial economic model", which depends on exporting primary products to nations in the North. The AfCFTA presents an opportunity to end this cycle of reliance by developing Africa's economy through regional trade and industrialization. Article 6 of the Agreement makes provision for trade in goods and services, investment, intellectual property rights, and a competition policy.

### ***Main potential beneficiaries***

Ethiopia, Rwanda, and Côte d'Ivoire are likely to profit most from the free-trade zone. Ethiopia, with its quickly growing manufacturing sector, could use the AfCFTA to build new and worked on export destinations for its products and services across the continent and beyond.

South Africa and Kenya, with larger manufacturing bases and more developed transport infrastructure, are likely to profit from greater economic integration.

The free movement of people could furthermore help to draw new expertise to its booming agriculture and construction sectors.

Africa's resource-dependent economies, for example, Chad, the Republic of Congo, and Zambia could see limited income gains and risk losing their competitive advantages as more diverse economies increase productivity and human capital capabilities and gobble up the industries on which smaller, less developed economies rely.

At the very high end are Côte d'Ivoire and Zimbabwe with income gains of 14 percent each. At the low end, a few nations would see real income gains of around 2 percent—including Madagascar, Malawi, and Mozambique (World Bank, 2020b).

### ***Paytech unlocking AfCFTA***

The intra-African trade was around 2% of the continent's total trade between 2015 and 2017, while comparative figures for America, Asia, Europe, and Oceania were, respectively, 47%, 61%, 67%, and 7% (Omoniyi Kolade, 2021). The goal of Africa's new trade pact is to increase this share within the world's largest free trade area (in terms of numbers of nations).

Payment is critical on the list of items that will drive AfCFTA's future success. Having supercharged online commerce in numerous nations, Africa's budding paytech sector offers a lot of promise. Africa boasts only a few billion-dollar companies, and paytech companies dominate this list: namely, Interswitch, Flutterwave, and Fawry.

Flutterwave raised \$170 million in funding just a few months after international payment network Stripe acquired Nigerian start-up Paystack for around \$200 million in one of Africa's few large-scale buyouts in the tech sector so far. The continental trade agreement presently presents an opportunity for paytech to go one further by bridging geographic and Economic divides across the continent.

These recent investments have enabled expansions across the continent. SeerBit operates in nine nations, including Tanzania, Kenya, and Ghana. Understanding these markets places paytech start-ups in a better position to facilitate the integration of the diverse markets into an efficient payment framework for fluid trade.

However, the multiplicity of licensing regimes for payment service providers, including banks, is a potential hindrance for innovative payment services to support AfCFTA. The Pan-African Payments and Settlement Framework (PAPSS), a centralized payment and settlement infrastructure being developed for intra-African trade will provide the rails upon which some of these all-important cross-border paytech solutions could be developed.

PAPSS, developed in collaboration with the African Export-Import Bank (AFREXIM), will help reduce the turnaround time for settlement of payment for intra-African trade. It is expected to reduce the cost, duration, and time variability of cross-border payments; decrease liquidity requirements of commercial banks and central banks, and strengthen central banks' oversight of cross-border payment frameworks.

### ***Limited impact on most of the nation's members***

The free trade agreements profit chiefly from strong members. Despite this being a strong increase in trade between members it only constitutes 7 percent of COMESA's international trade. Nigeria in ECOWAS is in a dominant position by making alone 41% of transactions. CEMAC experienced its worst recession in 20 years in 2020. Congo and Equatorial Guinea were hit the hardest by recessions. In SACU FTA South Africa are the main beneficiary of this trade agreement in GDP, imports, and exports (SACU, 2020). In the AfCFTA agreement, the larger part of members has to advance their impact on the decision-making course by democratic rules to confront strong members.

## **Impact of dominant MNC's**

MNCs included in business activities in SAA nations are in three main regions, agriculture, minerals, and infrastructure providing services, for example, transport, energy, water, telecommunications, and health. Most of the local populace doesn't profit from it because of numerous reasons, for example, poverty, rural location, and lack of required knowledge. Herewith we present the activities and the impact of Bolloré group, China Molybdenum Co., (CMOC), CITIC construction group SINOHYDRO Corporation Limited, China Gezhouba Group, Corporation Ltd (CGGC), Globeleq and General Electric (GE).

### **Bolloré group**

#### *Group profile*

Founded in 1822, the Bolloré Group is among the 500 largest companies in the world (bolloré site). The Group currently holds strong positions in its three lines of business: transportation and logistics, communications, electricity storage, and frameworks.

#### Transport & Logistics

Bolloré is one of the world's leading transportation groups with 34,000 employees spread among 109 nations across all continents where it carries out its business activities in ports, freight forwarding, and railroads.

#### Communications division

Chiefly consists of its stake in Vivendi with Universal Music Group, a international leader in the music industry, Canal+ group, the top pay-TV channel in France, Havas, one of the world's leading advertising and communications consultancy groups, Editis, the second-largest French publishing group, and Gameloft, the leader in mobile video games.

### Electricity storage and frameworks.

Blue Solutions is part of the Brittany division, which brings together the Group's industrial activities alongside Bluebus, Bluestorage, and Plastic films. Blue Frameworks leverages the know-how and expertise of several Bolloré Group entities united around a shared objective: offering an optimization ecosystem for flows of people, materials, and data.

Founded on this expertise in thin films and after more than thirty years of R & D, the Group has developed batteries and energy storage solutions founded on a unique technology, the LMP® (Lithium Metal Polymer) battery. This "all-solid-state" technology has numerous advantages in terms of safety, energy density, and performance without being sensitive to external temperature conditions.

### Economic investments

The Bolloré Group manages a portfolio of shareholdings of more than 5.9 billion euros on December 31, 2020. It owns shareholdings in the communication sector through Vivendi, as well as in Mediobanca and Socfin group. It furthermore owns various agricultural assets.

Bolloré listed equity portfolio:

4.3% of Mediobanca, one of the major Italian banks

39.7% of Socfin, manages over 200,000 hectares of plantations in Asia and Africa

19.3% of Bigben Interactive, one of the European leaders in the design and supply of video game console accessories.

Vivendi listed equity portfolio

23.9% of Telecom Italia, an Italian group of telecommunications

29.2% of Lagardère, the world's third-largest book publisher for the general public and instructive markets, and the leader in France and the world's fourth-largest travel retail merchant

28.8% of Mediaset, an Italian media group present in the television sector, audiovisual production, press, and internet.

### Agricultural assets

The Bolloré Group is a shareholder in the Socfin group (39.7%), one of the biggest independent plantation owners in the world.

Socfin manages some 200,000 hectares of plantations (largely oil palm and rubber trees) in Africa and Asia.

### ***Projects in SAA nations***

#### Terminals, stevedoring, and maritime branch offices

Terminals, stevedoring, and maritime branch offices Bolloré Africa Logistics is present in 42 ports as an operator of port terminals, marine line agents, and uncontained goods handling. Concerning shipping activities, the Group has in SAA 74 African agencies in 32 nations. In 2020, the network's branch offices processed 342,000 Twenty-Foot Equivalent Units (TEUs) and 146,400 transport and rolling stock units and handled 8.1 million metric tons of bulk or conventional goods.

#### Transit and logistics

Cameroon: in October 2020, the partnership with the World Food Programme (WFP), the world's top humanitarian organization to combat hunger The company will be responsible for most of WFP's logistics operations for Cameroon, Chad, Central African Republic, Nigeria, and Congo (Brazzaville).

Côte d'Ivoire: for the 2020 crop year, the company provided significant logistics support to the mango sector in Côte d'Ivoire and Burkina Faso.

#### Rail operations

The Group operates three rail concessions in Africa: Sitarail, Camrail, and Benirail. The railway is a competitive transport device that enables exports of agricultural production (cotton, sesame, cashew nuts, and wood) and feeds national economies (oil, fertilizer, building materials, and consumer goods).

Sitarail: nearly 1 million metric tons of goods were transported in 2020 over the Sitarail network (1,260 kilometers of tracks), which connects Abidjan (Côte d'Ivoire) and Ouagadougou (Burkina Faso). Camrail: the 1,010-kilometer network linking Douala with Ngaoundéré in Cameroon follows the landlocked corridor of North Cameroon, Chad, and the Central African Republic. In 2020, Camrail transported more than 1,5 million metric tons of goods. Bénirail: The Benin-Nigeria concession that links Cotonou and Parakou (438 kilometers) employs 500 rail workers.

## Agriculture

In Africa, Socfin – Bolloré has numerous plantations in various nations, for example, in Cameroon, where Socapalm and SAFA Cameroun manage 44,500 hectares of oil palms and rubber trees, and in Côte d'Ivoire, where Société des Caoutchoucs de Grand Bereby (SOGB) farms 23,600 hectares of oil palm and rubber tree plantations. It is furthermore present in Nigeria (26,400 hectares), Liberia (17,200 hectares), the Democratic Republic of the Congo (6,200 hectares), and Sierra Leone (12,300 hectares). It furthermore more recently established a presence in Ghana (7,000 hectares) and São Tomé (2,100 hectares), where it has undertaken new plantings that are not yet mature.

## ***Dominant position***

The activities of Bolloré create jobs and revenues for numerous companies and support international trade, imports, and exports of SAA nations. However, its economic power is furthermore used to prevent competition and convince governments to act in favor of its benefits.

Investigators are looking into allegations that Havas advertising agency owned by Bolloré provided discounted communications advice to Guinean President Alpha Condé and Togolese President Faure Gnassingbé at election time in return for the Bolloré Africa Logistics company being given licenses to operate container ports in Conakry and Lomé. All parties deny the allegations (BBC, April 2018).

The company agreed to pay 12 million euros (\$14.5 million) as part of the deal with Economic crime prosecutors which was accepted by a Paris court Friday (France 24, 26.02.2021).

The case goes back to Bolloré allegedly undercharged the Togo government for consultancy work in return for a contract to manage the port of Lomé between 2009 and 2011. It furthermore used a similar strategy with the Guinea government to take over the management of the port of Conakry.

The concessions Bolloré won from Ghana are similar to those which he obtained for his operations at the port of Lomé, Togo, in return for financing a top political consultancy to help



the nation's president, Faure Gnassingbé, win re-election in 2010 (Weir, 2022). On 26 February 2022 Bolloré and two of his fellow executives admitted, in a plea bargain, to bribing the Togolese president in exchange for favors at the port, and were fined €375,000 each. Bolloré's company paid a €12 million fine.

Africa Confidential's research show how Bolloré and his foreign partners persuaded then-President John Dramani Mahama to award MPS a new container terminal contract in secret, with no tender or bids, in 2014, violating procurement laws; overstated the planned investment by a factor of two which won tax holidays worth \$832 million from an unwitting parliament; surreptitiously cut Ghana's equity in MPS to 15% after first agreeing to 30%; persuaded the government to allow it a monopoly on handling containers, putting thousands of jobs at other port concerns at risk and driving up prices, and to set tariffs; reduced the fees payable to the government over the life of the concession by \$4.1 billion.

President Nana Akufo-Addo inherited this condition when he beat Mahama in the general election of December 2016. Instead of blaming the scandal on his predecessor, he has chosen to leave the contracts as they stand while friends and officials of his New Patriotic Party (NPP) take up posts with MPS. Akufo-Addo faced Mahama, standing for the National Democratic Congress (NDC) once again in December 2020's general election, and again, the topic of the Tema deal did not come up in campaigning. The two men appeared to observe a pact of silence on this and several other instances of alleged bad governance and corruption.

### **China Molybdenum Co., Ltd (CMOC)**

CMOC was established in 1969 and after mixed-ownership restructures in 2004 and 2014, has become a private holding company with state-owned capital participation (en.cmoc site). The Company was listed on the Hong Kong Exchanges (HKEX: 03993) and Shanghai Stock Exchange (SSE: 603993) in 2007 and 2012, respectively.

Focused on non-ferrous metal mining, CMOC specializes in the mining and trading of base and rare metals in the world. With its main business presence on five continents: Asia, Africa, South America, Oceania, and Europe, the company is the largest tungsten producer, the second largest cobalt and niobium producer, and one of the top seven molybdenum producers, and a leading copper producer in the world. It is furthermore the second largest producer of phosphatic

fertilizers in Brazil. In terms of trading business, the company is among the top three base metal merchants in the world.

### ***Copper and cobalt mine in the DRC***

CMOC is the second-largest cobalt producer and a leading copper producer in the world. Covering an area of over 1,500 square kilometers, our Tenke Fungurume Mine (TFM) in the DRC specializes in the exploration, mining, extraction, processing, and sales of copper and cobalt, boasting a complete set of techniques and processes for all phases from mining to processing. It chiefly produces copper cathode and cobalt hydroxide. In 2019, 177,956 tons of copper and 16,098 tons of cobalt were produced

### ***Dominant position***

CMOC bought the Tenke Fungurume mine in 2016 from an Arizona-founded mining company (Lipton and Searcy, 2022).

The New York Times reported in November (Searcey et al, 2021) that employees at the mine had complained about a dramatic decline in worker safety under the Chinese ownership, including claims by safety inspectors that workers had been assaulted after raising concerns and been offered bribes to cover up accidents. The company disputed those claims, suggesting they were part of a broader effort to discredit it.

Congo's president, Felix Tshisekedi, last year named a commission to investigate allegations that China Molybdenum might have cheated the Congolese government out of royalty payments from the mine.

The court ruling, reviewed by The Times, leaves a third-party administrator in charge of the mine for at least six months, as auditors evaluate the allegations against the company.

The state mining enterprise, known as Gécamines, asserts that China Molybdenum failed to declare hundreds of thousands of tons of copper and cobalt reserves buried at the site, depriving the agency of significant annual payments required when new reserves are found and verified.

During the review period, Gécamines will retain its 20 percent stake in the mine, which was the world's second-largest source of cobalt in 2020. Congo last year produced 70 percent of the world's cobalt.

### **CITIC construction group**

Established on 9th December 2013, Africa regional Division is one of the regional divisions of CITIC Construction Ltd covering some African nations including Angola, Kenya, Cameroon, Ethiopia, Nigeria, South Africa, Uganda, Rwanda, etc. with Angola as its major business focus (auhf site).

#### ***Main Businesses***

Housing & infrastructure construction, Agriculture industrialization, Mineral & geological survey, Resources & Energy, and Urban planning – Contracts' value under execution: 10.6 billion US dollars; Contracts' value to be signed soon: 5 billion US dollars approximately. – Construction of KK Housing Project and five RED Projects in Angola, with a total number of apartments of 54000. – Partnership with 40 Chinese and foreign companies of large and medium-size, forming a "joint fleet".

The project includes: " 20,002 units of apartments (710 buildings ) " 24 kindergartens " 9 primary schools " 8 secondary schools, " 246 ground floor shops " 3 parks " 2 churches " 2 60kv/15kv power substations (240MVA) " 1 water purifying plant (40000t/d) " 1 sewage treatment plant (35000t/d) " All the municipal /local area roads " Power distribution framework " Drainage /sewage pipeline " Telecommunication utilities " Traffic signal frameworks.

#### ***Dominant position***

In 2008, as Mr. Dos Santos campaigned for re-election, he promised to build one million new houses by 2012, a pledge meant to address the severe shortage of decent housing in the nation (Onishi, 2017).

In a few short years, half a dozen satellite towns have appeared on Luanda's frontier, arising on a scale that had never been attempted on the continent. However, the projects became a symbol to numerous of the ruling elite's insatiable drive to accumulate even more wealth.

The most famous project, Nova Cidade de Kilamba, was built by the state-owned Citic Construction for a reported \$3.5 billion; Kilamba presently houses some 80,000 individuals.

The problem, critics said, is who got the units and how. A private Angolan company, Delta Imobiliaria, was given a lucrative contract to sell the units, even though the company's owners included high-ranking government officials with direct influence over reconstruction projects. Despite fierce demand for Kilamba's apartments, numerous of the units are thought to have gone to ruling party supporters despite Mr. Dos Santos's campaign talk of social housing.

### **SINOHYDRO Corporation Limited**

Founded in the early 1950s, SINOHYDRO is originally well known as China's first brand in hydropower construction, responsible for 65% of the large- and medium-scale hydropower stations in the nation. However, after 60 years of expansion and development, SINOHYDRO has become an international enterprise, running diversified businesses from water conservancy and hydropower construction to project financing, design, implementation, and operation in almost all kinds of infrastructures, for example, power, transportation, civil work, mining, and real estate.

Sinohydro is today a key brand of PowerChina — ranked No 253 among the Fortune Global 500. ENR ranks PowerChina No 11 in the Top international contractors (2015)

SINOHYDRO Corporation limited the international flagship of POWERCHINA has 5 regional offices abroad in Asia/Pacific, Africa, America, Eurasia, and West Asia/North Africa to supervise the market development of 116 overseas offices in over 87 nations.

Herewith are three of the last projects constructed by the company

The construction of the Zungeru hydroelectric dam will be completed in 2022. The promise is made by Sinohydro ( Takouleu, 2022). The Chinese company in charge of setting up the hydroelectric scheme says its power plant will be commissioned in four phases during 2022. The first unit of the power plant, equipped with a 175 MW turbine, will be commissioned in the first quarter.

The other three turbines will be commissioned in the second, third, and fourth quarters of 2022, for an installed capacity of 700 MW. This will be the culmination of a mega-project whose construction phase began in 2013. On the project site, work is 95% complete. However, everything will be ready for the commissioning of the first turbine in a few weeks, assures Li Xiao Ming, the deputy director of the project.

The Kafue hydropower project in Zambia is being implemented by Sinohydro, about 50 kilometers south of Lusaka ( Takouleu, 2021).

The Chinese company has built an earth and granite fill dam with a concrete spillway with four radial gates on the Kafue River, a tributary of the Zambezi River. When completed, the power station will consist of five units of 150 MW each, the first of which already supplies the grid of the state-owned Zambia Electricity Supply Corporation (ZESCO).

The Uganda Electricity Generation Company Limited (UEGCL) has recently launched the upgrading of the 400 kV Karuma-Kawanda, 400 kV Karuma-Olwiyo, and 132 kV Karuma-Lira power lines in Uganda (Magoum, 2020). The rehabilitated lines by Sinohydro will be used to transmit electricity generated from the 600 MW Karuma hydropower plant, which is in the final phases of construction.

### ***Main activities in Africa***

In Ghana Sinohydro Corp has USD 2 billion bauxite-for-infrastructure (Business Standard, 2021). In Uganda and Tanzania construct Sinohydro Corp 2021 started the construction of an oil pipeline between the two nations and wins a desalination contract in Dakar.

Electric Power Construction Port & Shipping Co., Ltd successfully won the bid for the development project of the Dakar drinking water distribution network in Senegal under the SINOHYDRO brand, and the development of overseas markets ushered in a good start (Seetao, 2021).

The project is the division into two bid sections, and the construction site is located in Dakar, Senegal. The main project content is the procurement and installation of 106 kilometers of cast iron pipelines, 196 kilometers of PE pipelines, the prefabrication and installation of 256 kilometers of good chambers, and related projects, for example, earthwork and road repair.

### ***Dominant position***

China Railway Group and Sinohydro, two major Chinese construction companies, pledged more than a decade ago to help rebuild and expand infrastructure in DRC in return for a sizeable chunk of the nation's mineral wealth (The Sentry, 2021).

The largest-ever leak of African Economic records and data, obtained by the Platform to Protect Whistleblowers in Africa (PPLAAF) and Mediapart and shared with The Sentry by PPLAAF and the European Investigative Collaborations (EIC) network, presently shows that the Chinese state-owned enterprises had a few aces in the hole all along: a shell company, a slick intermediary with a network of companies, and BGFIBank DRC. The trove of documents and data, called the Congo Hold-up leak, reveals that the state enterprises used a middleman with accounts at the bank run by the president's brother to pump tens of millions of dollars into the pockets of the Kabila family, their associates, and businesses at crucial junctures in what is known as the Sicomines agreements. These solutions, which the news media dubbed the "deal of the century," lacked transparency from the start. The Sentry's investigation has found clear evidence of corruption showing that Chinese corporations colluded with power players in the DRC to secure access to billions of dollars' worth of natural resources all with an assist from the world of high finance.

The leaked files show that the shell company at the center of the scheme—Congo Construction Company (CCC)—received \$55 million from foreign sources intended for Kabila and his entourage. CCC later funneled \$10 million back out to safety as the Kabila family faced losing both political power and control over the bank. These funds transited the international financial framework, flowing through major Economic institutions like Citibank and Commerzbank to and from a nation plagued by corruption, doing so under pretenses and with little to no documentation, exposing how Economic giants whose market values can dwarf the entire Congolese economy fail to protect the world’s poor from kleptocracy. As their time at BGFIBank DRC came to an end, top executives at the bank, which is the subsidiary of a Gabonese corporate parent, battled a dogged internal auditor who accused them of money laundering, pointing to transactions that bore worrying indications of forgery and fraud.

### **China Gezhouba Group Corporation Ltd (CGGC)**

China Gezhouba Group Co Ltd (CGGC) is an engineering, procurement, and construction (EPC) company. It provides a wide range of services including dredging, infrastructure works, building construction, engineering survey, engineering, and construction. The company carries out power construction, equipment installation, water engineering, airport and port projects, municipal projects, real estate, equipment manufacturing, investment and financing, and planning and design activities. CGGC develops hydroelectric plants, power plants, ports, roads, railways, and industrial, commercial, civil, and municipal buildings. The company operates along with its subsidiaries and affiliates in China and carries out projects globally across South Asia, South East Asia, the Middle East, Latin America, Oceania, and Africa. CGGC is headquartered in Wuhan, Hubei, China.

On the last day of December, engineers included in the construction of the Thwake multipurpose dam on the Athi River in Kenya successfully managed to divert the river's waters into the dam's two mega tunnels (China Daily, 2022). The event marked a milestone in the implementation of the dam, which is jointly financed by the government of Kenya and the African Development Bank.

Upon completion, the project, being constructed by China Gezhouba Group Co, will supply 150,000 cubic meters of clean and safe drinking water each day to more than 3 million rural

residents in the counties of Makueni, Kitui, and Machakos. The dam is furthermore expected to provide up to 20 megawatts of electricity to the national grid and promote irrigated agriculture. The dam's construction has employed more than 1,350 locals at a time when the COVID-19 pandemic has pushed millions of Kenyans out of gainful employment.

As a sustainable response to dried wells, lost pastures, and dead livestock, the government intends to devote more than 40,000 hectares of land to irrigated agriculture via Thwake Dam. The Thwake Dam is expected to be completed by June 2022.

Rumakali is a 222MW hydropower project (Carmen, 2021). It is planned for the Rumakali river/basin in Njombe, Tanzania. The project is currently in permitting phase. It will be developed in a single phase. The project construction is likely to commence in 2021 and is expected to enter into commercial operation in 2024.

China Gezhouba Group Corporation (CGGC) started in 2020 to build a 107.5-km railway in Namibia between Walvis Bay and Arandis in the west of the nation (Global Construction, 2020). The \$72.7m railway, called A1S1, is part of the Namibian government's plan to become a transport and logistics hub for southern Africa since Namibia shares boundaries with Angola, South Africa, Botswana, and Zambia.

The project is expected to last 821 days, The Namibian government will cover 56% of the railway's cost, with 44% covered by a loan from the African Development Bank.

The Ethiopian Electric Power (EEP) 2019 a \$40m contract with China Gezhouba Group Co. Ltd (CGGC), which will handle the pre-commissioning activities at the Grand Renaissance Dam (GERD) project (Brooks, 2019).

## **Globeleq**

Founded in 2002, Globeleq has become a power industry leader by operating or acquiring an interest in multiple power facilities across the world (Globeleq site). The company is owned by British International Investment (BII) (formerly CDC) (70%) and Norfund (30%).



Globaleq has regional offices in Nairobi, Cape Town, and Douala, and our 13 power plants are located in Tanzania, South Africa, Côte d'Ivoire, Cameroon, and Kenya. Herewith, presented its main activities in SAA nations.

### ***Cameroon***

The Dibamba HFO power plant is situated in Yassa Village, near Douala, and supplies electricity to the national grid when demand is at its peak. Kribi is located near the coastal city of Kribi and supplies electricity to the national grid. The plant runs on natural gas with light fuel oil as a backup.

### ***Côte d'Ivoire***

The Azito power plant is located in the village of Azito in the district of Yopougon, approximately 6kms west of Abidjan. The plant generates electricity using natural gas supplied from the nation's offshore gas fields and supplies around one-quarter of the nation's base load generation.

### ***Tanzania***

In Tanzania, Globeleq generates approximately 20% of the nation's grid-connected electricity, saving the nation billions of dollars by using native gas for electricity generation. Gas from the Songo Songo gas field is processed and then transported through a 225 km pipeline to Dar es Salaam where it is used to generate electricity at the Ubungo power plant. Songas furthermore supplies gas to various companies for use in their manufacturing processes. Songas is East Africa's cheapest thermal electricity generator.

## ***Kenya***

Kenya has a healthy power sector with extensive IPP experience. It has strong political support and a desire to develop more cost-effective power.

This positions well-resourced, long-term players like Globeleq. Nairobi hosts an office for the East Africa Business Development Team. In addition, Globeleq has a minority interest in the Tsavo (Kipevu II) 75 MW HFO power plant.

## ***Mozambique***

Globeleq and its project partners, Source Energia and Electricidade de Moçambique (EDM) have reached Economic close on the 19MWp (15MWac) Cuamba Solar PV plant with a 2MW (7MWh) energy storage framework.

The US\$36 million projects located in the Cuamba district, Niassa province (about 550 km west of the coastal town of Nacala) will supply electricity through a 25-year power purchase agreement with EDM.

Once operational, the Cuamba Solar plant will supply enough power for 21,800 consumers and over the life of the project and is expected to avoid the equivalent of more than 172,000 tons of CO<sub>2</sub> emissions. The first power is expected to flow in the second half of 2022. The Spanish group TSK is the EPC contractor, and batteries are provided by E22.

## ***South Africa***

Globeleq provides asset management services for six solar and two wind power plants.

The six wind and six solar PV projects will total 1,274 MW of generation capacity.

Globeleq and its partners in the Ikamva Consortium were named by South Africa's Department of Minerals, Resources and Energy (DMRE) as Preferred Bidder for 12 of the 25 projects chosen in South Africa's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) 5<sup>th</sup> bidding round.

Alongside Globeleq, the Ikamva Consortium includes Mainstream Renewable Power, Africa Rainbow Energy & Power (AREP), and H1 Holdings and comprises more than 45 % of black ownership. The DMRE indicated that all 25 projects will inject a total of around R50 billion into the economy through private sector investment and will create more than 13,000 job opportunities.

The projects awarded include three wind projects in the Northern Cape: two wind projects in the Western Cape and the first wind project in the KwaZulu-Natal province. The solar projects are all located in the Free State province which has not yet seen any renewable projects constructed as part of the REIPPPP Programme.

The Business development team is furthermore founded in the Cape Town office as well as in Johannesburg.

## *Nigeria*

Globeleq Power Solutions Nigeria Limited provides the Nigerian market with power solutions that generate a stable supply of electricity for Nigeria's commercial and industrial sectors. It owns 15 distributed power generation plants across Nigeria, providing 66 MW of installed capacity to Nigeria's biggest manufacturing companies.

Globeleq Power Solutions Nigeria has the flexibility to design power solutions to capture the needs of the client and maximize the efficiency of the plant.

Installation of CNG infrastructure can be a backup to piped natural gas. Globeleq Power Solutions Nigeria has significant experience in operating these facilities for clients, for example, Nigerian Breweries (who produce Heineken locally), Indomie, British American Tobacco, and Pepsi, among others.

Globeleq took in 2021 a 74% larger part equity stake in an existing Nigerian power business called CPGNL Limited (CPGNL). The current owner of the business, the Clean Energy Group, will retain the remaining 26% shares.

## **General Electric (GE) - Energy**

### ***GE Powering Africa with Gas***

Over 40% of Africa's gas-powered installed base runs on GE technology (GE, 2018).

Angola Fast Power Tech: Aeroderivative Equipment: 7 units of GE's TM2500 Output: ~200MW. In total 50,000 homes are connected; giving 15% of the populace access to electricity.

Ghana Cenpower Tech: Heavy-Duty Equipment: Frame 9E in Combined Cycle Location: Kpone, Ghana Output: ~340MW. The Kpone Independent Power Plant (KIPP) project will contribute approximately 10% of Ghana's total installed capacity.

### ***GE Smarter, Cleaner, Steam Power***

GE is powering over 50% of the continent's installed power.

GE's Smarter, Cleaner Steam Power initiative aims to ensure coal power plants are as efficient as possible and to limit their effects on the environment through innovative, effective emission reduction technologies.

Eskom South Africa Tech: 6X800MW Turbine Island and Wet Flue Gas Desulphurization plant, Location, Mpumalanga, South Africa, Output, 4800MW. Challenge to bring electricity to 95% of the local populace by 2030, South Africa is tapping into its local resources to bring reliable, available, and cleaner power to its grid. Kusile power plant will consist of 6 turnkey units delivering 800MW each for a total of 4,800 MW. This is enough power to meet the electricity needs of 3.5 million households in South Africa. GE's scope in this project is the Engineering,

Procurement, and Construction (EPC) of turbine islands, air-cooled condensers, and a wet flue gas desulphurization plant (WFGD).

Similar installation at Limpopo, South Africa, Medupi power plant will consist of 6 turnkey units delivering 800MW each for a total of 4,800 MW.

### ***GE Grid Solutions***

70% of the energy flow in Africa is managed by GE Grid Solutions Technology.

Ethiopia Hardware: EPC solutions of 230kV, 132kV & 66kV voltage levels and engineered equipment Ethiopian Electric Power contracted GE to execute the Education and Education Sector Development Programme.

The project amongst other things provides: reliable & increased power availability to new industrial facilities, and increased bulk power transfer to provinces formerly affected by adverse utility-imposed power-shedding programs.

Chikankata, Zambia. Output: 750 MW Hardware: 330kv GIS Substation Challenge Zambia's electricity access rate is at 31% with close to 4% in rural provinces having access to electricity. To add more power to the grid, Zesco Power Company, the largest power company in Zambia responsible for 80% of the power consumed in the nation approached GE to supply a GIS Substation among others. GE added 750 MW to the nation's installed base helping ZESCO operate reliably and with more efficiency.

### ***GE Power services***

ServiCIng up to 50% of GE's power plant installed base

Shell Petroleum Devt. Company Tech: GT13E2 MXL2 upgrade Location: Rivers State, Nigeria Output: ~650MW. Challenge GE's Power Services agreement to provide Total Plant Solutions will cover planned maintenance for the three existing GE GT13E2 gas turbines and one GE steam turbine to achieve the following: add 30MW Capacity, Equal to Power approximately

200,000 Nigerian homes, deliver a combined-cycle efficiency increase, resulting in significant fuel savings and reduced CO2 emissions

Dar es Salaam, Tanzania. Songas Ltd. Tech: PA to PC Upgrade of four (4) LM6000 (Fleet 360). Output: ~180MW. GE's Fleet360 platform of total plant solutions will help Songas ensure the long-term, reliable operation of its plant's gas turbines and achieve the following: advance capacity by approximately 10MW, help advance plant efficiency by approximately 3%.

## **GE healthcare**

### ***Ethiopia***

GE Healthcare has established a strong service capability in Ethiopia to deliver timely and complete aftermarket support for public and private sector clients who have invested in GE Healthcare solutions ([gereportsafrica site](#))

In collaboration with USAID, GE Healthcare has funded a project to support the Federal Ministry of Health's goal of reducing maternal and child mortality in Ethiopia. The project is equipped four Neonatal Intensive Care Units (NICU) in 4 referral hospitals (Adama, Assela, Hawassa, and Hossana) and provides functional and recurring education and monitoring and evaluation to staff in partnership with the Ethiopian Pediatrics Society.

Partnerships with the Federal Ministry of Health (FMOH), Surgical Society of Ethiopia, Ayder University Hospital (Mekelle), Addis Ababa University School of Medicine, and others. Safe Surgery 2020 partners have built the capacity of 60 surgical leaders and mentors, catalyzed the FMOH's national scale-up of a Jhpiego-led governance program to 1,000 more leaders, trained 527 hospital staff on sterilization and surgical infection prevention across Ethiopia, and developed innovative public-private partnership scheme for two medical oxygen production facilities. They built furthermore five anesthesia machines, seven patient monitors, and six ultrasound devices and established a biomedical equipment repair center at ALERT which will capacitate education for 240 students per year

GE has collaborated with the Federal Ministry of Health to contribute to the development and implementation of Saving Lives through Surgery (SaLTS), a national strategy for surgery.

## *Nigeria*

Over the past 5 years, GE provided the following services:

Development of numerous diagnostic center and multi-specialist hospital projects around Nigeria in conjunction with private partners, numerous of which are at advanced phases

Over 1500 healthcare professionals at the Federal and State levels have been trained in intensive clinical, technical, and governance courses

Implementation of Primary & Referral Care programs in rural and semi-urban settings deliver comprehensive maternal and newborn care for worked-on patient outcomes.

Leveraging funds for Smallholder medical facility scheme

GE is furthermore working on solutions for rural care of mothers and infants, in partnership with National Primary Healthcare Department Agency (NPHCDA). GE's Healthymagination Mother & Child Initiative (HMCI) is currently ongoing in several states in Nigeria including Kano, Cross River, Bauchi, and Ondo states with 180 VScan handheld ultrasound units being deployed to rural LGAs to provide free scanning to thousands of women. Under this program, 560,000 expectant Nigerian Mothers are set to profit by 2020, with 1,120,000 ante-natal scans expected to be completed and 28,000 hours of education for 360 midwives and antenatal primary health givers.

GE Healthcare recently signed a multi-year partnership with Kaduna State MoH to expand primary and referral care services and build capacity at 255 primary healthcare centers and 23 secondary healthcare hospitals across the state, with GE providing the latest medical technologies, including technical and clinical education for healthcare workers. Additionally, the Northern States Governors Forum (NSGF) recently selected GE Healthcare as a long-term partner to revitalize healthcare infrastructure in the Northern States, with the signing of a one-of-a-kind strategic partnership agreement.

GE inaugurated a first-of-its-kind comprehensive Cancer Center with Kenyatta University Teaching, Referral & Research Hospital (KUTRRH) (Ebai, 2022). The Center provides lifesaving equipment along the cancer care pathway – from screening and diagnosis to staging to determining treatment. The Duchess International Hospital furthermore opened in Lagos, as a multi-specialty privately-owned hospital. GE Healthcare completed the delivery and installation of equipment with a full range of solutions for working in healthcare across Nigeria.

### ***Ghana***

GE signed a healthcare MOU with the government of Ghana in 2013, and by the end of 2014, there had been a shipment of 400 Vscans, GE's portable ultrasound device. There is an option for an additional 1600 Vscan to be supplied. GE is spearheading an education execution plan for the VScan program, which is currently in development.

Other Healthcare footprints in Ghana include:

Development of Education Execution plan for CHPS workers for the Vscan program governance, Innovation, and Strategy (LIS Workshop) held in Istanbul in November 2013 to contribute to public sector capacity building. 6 members of the Ministry of Health and Korle Bu Teaching Hospital were in attendance

Launch of an independent feasibility study to develop a Public-Private Partnership (PPP) COE project at KBTH

### ***Kenya***

In January 2015, GE Healthcare was selected by the Ministry of Health as part of Kenya's progressive ~ USD 420 million Managed Equipment Services (MES), to provide radiology infrastructure in 98 hospitals across 47 counties. Under MES, GE has deployed 585 units of diagnostic imaging equipment including digital mammography, x-ray, and ultrasound frameworks across all 98 hospitals.



In October 2018, GE Healthcare successfully installed a Positron Emission Tomography–Computed Tomography (PET-CT) scanner and Cyclotron - the first in sub-Saharan Africa, excluding South Africa – at Aga Khan University Hospital (AKUH) in Nairobi. The technology will advance the diagnosis and treatment of cancer, heart disease, and other diseases.

County Government of Kisumu and GE Healthcare maternal and newborn health initiative aimed at mobilizing expectant women to seek antenatal screenings, and as a result, advance maternal and newborn outcomes in the County. It is anticipated that approximately 7,000 women will receive their first ultrasound screening during their current pregnancy in the next 9 months since the signing of the partnership in September 2018.

In November 2014, GE Infrastructure in partnership with the Center for Public Health and Development (CPHD) and Assist international launched the USD 560,000 Hewa Tele Oxygen plant in Siaya as part of GE Infrastructure’s “Access to Medical Oxygen” program in Kenya. The program aims to increase the supply of oxygen to health facilities at an affordable cost and to provide continuous education to medical professionals on appropriate use and services.

In January 2014, GE signed a partnership with USAID and KCB Bank, on a \$10 Million Healthcare financing program. This financing approach is planned to give Kenyan healthcare providers access to local credit for the purchase of much-needed equipment. To date, over \$ 5 Million has been utilized through the program.

### ***Dominant position***

Some MNCs compete according to the official rules, while other try to use their dominant position to find the right way to insure their success in the short or the long run. Their economic and social impact depends on the professionalism and the ethic of the authorities.

Professionalism at the local governance level by relevant experts is needed because MNCs will be better oriented and controlled. Ethics could insure a more equal sharing of services provided by MNCs.

Key features required are prohibiting improper payments in every transaction, whether with a government or with a private party, extensive controls, including thorough due diligence, careful screening, and education, heightened attention to key risk provinces, for example, gifts and

entertainment, travel and living expenses, donations, and facilitating payments, prompt investigation and remediation of any concerns.

## Infrastructure and local needs

The colonial railroad framework did not contribute to the local economy but the foreign economies. China is today the central player in numerous of Africa's biggest infrastructure projects including the Coastal Railway in Nigeria, the Addis Ababa–Djibouti Railway, and the mega port and economic zone at Bagamoyo. This infrastructure is chiefly improving the transportation of minerals to the ports.

### Colonial period

Europeans built infrastructure in Africa at the turn of the century, purportedly furthermore for local economic development, however in essence the projects were used for natural resource extraction. The predecessor of both the Nairobi-Mombasa and Addis Ababa-Djibouti railways can be categorized as such. Both connect inland provinces with mineral deposits with major ports on the Indian Ocean.

The colonial railroad framework is originating from the main outlets of international trade in the African central with few if any links between the central provinces (Austen, 1987). The railway running from Lobito into Angola, built-in 1928, is a single line running into the Belgium Congo aimed at only one purpose, access to the copper-producing region of Katanga. Much of the railroad development was undertaken with the participation of the state. This saddled the state with a heavy financial burden.

The backward linkages for the local economy were minimal. Locomotives, rolling stock, and rails were all manufactured in Europe. Skilled workmen and engineering firms were all imported. One of the motivations for undertaking the railroad was to increase employment in capital-intensive industries in the home nation while conveniently leaving the debt burden with the colonies.

The unskilled labor was often coercively recruited from the local populace with little regard to its impact on agricultural production and was frequently subjected to brutal conditions while employed.

The worst-case was the French Equatorial Congo-Ocean line, which took 12 years to build (1922 to 1934).

Workers were kept in camps for extended periods under radically various climatic conditions without adequate nutrition, health care, or shelter leading to death rates approaching epidemic levels (Austen, 1987).

In 1952, Taiwan already had 434 meters of highway per square km. In contrast, Cote d'Ivoire in 1990 had 165 meters, Nigeria 134, and Kenya only 94 (Brautigam, 1995).

### **Governments missing resources**

Aggregately, the nations of Africa would need to spend \$130-170 billion per year to meet their infrastructure needs, however, according to the African Development Bank, they are coming up \$68-\$108 billion short (Shepard, 2019). Closing Africa's infrastructure gap has been the obsession of multiple waves of colonialists, and China is the next in line to reach the heart of the continent with railroads, highways, and airports.

When we look at Africa, we see numerous nations chasing dreams of a better economic future while burying themselves in massive amounts of infrastructure-induced debt that they may not be able to afford. There have already been warning signs: the Addis Ababa-Djibouti Railway ended up costing Ethiopia nearly a quarter of its total 2016 budget, Nigeria had to renegotiate a deal with their Chinese contractor because they failed to pay, and Kenya's 80% Chinese-financed railway from Mombasa to Nairobi has already gone four times over budget, costing the nation upwards of 6% of its GDP. In 2012, the IMF found that China owned 15% of Africa's external debt and three years later roughly two-thirds of all new loans are coming from China. This has some analysts issuing warnings about debt traps – with some even going as far as calling what China is doing a new form of colonialism.

### **Energy**

More than two-thirds of people without access to electricity in the world today live in sub-Saharan Africa (IEA, 2019). The electrification rate in sub-Saharan Africa in 2018 was 45%. Electrification levels in sub-Saharan Africa remain very low compared to the levels in other developing parts of the world, most notably the 94% rate reached on average across developing nations in Asia.

The number of people gaining access to electricity for the first time more than doubled from 9 million a year between 2000 and 2013 to more than 20 million a year between 2014 and 2018, outpacing population growth for the first time. As a result, the number of people without access to electricity in sub-Saharan Africa peaked at 610 million in 2013, before slowly declining to around 595 million in 2018.

About half of the sub-Saharan African population without access to electricity lives in five nations: Nigeria, DR Congo, Ethiopia, Tanzania, and Uganda. Conversely, Ethiopia, Tanzania, and Kenya connected the highest number of people between 2014 and 2018, with these three nations accounting for more than 50% of those gaining access.

East Africa stands out as a beacon of progress. It has more than quadrupled the increase in its electrification rate, going from an increase of around one percentage point per year between 2000 and 2013 to more than four percentage points per year from 2014 to 2018. It contains three strong performing nations in terms of electricity access rate progression: Kenya, Rwanda, and Ethiopia. Kenya has performed best in recent years, with its access rate going from 25% in 2013 to 75% in 2018.

Progress in Kenya is attributable to a combination of factors: a strong grid connection push through the Last Mile Connectivity Project; continuous support by the government for decentralized frameworks expressed through exemption from import and value-added taxes for solar products and the implementation of international standards; and the development of a mature mobile payment infrastructure that enabled innovative business models and payment mechanisms to emerge. These factors allowed the nation to increase grid connections by almost one million households per year (or more than five million people), and to provide more than 700 000 households with access to electricity through decentralized frameworks by 2018.

### ***Installed utility capacity by region***

Southern Africa has more installed grid generation capacity than the rest of sub-Saharan Africa. Of Southern Africa's total 58 GW, 80% is in South Africa alone. The rest of Southern Africa has only 12 GW, mostly hydropower with some coal, oil, and gas. South (IEA, 2014).

West Africa's grid generation capacity is estimated at 20 GW. Of this capacity, more than 50% is for gas generation (mostly in Nigeria), about 30% is oil distillate, and about 20% is hydropower. Some nations, like Benin, Burkina Faso, and Niger, import most of their electricity.

East Africa has a grid generation capacity of about 8 GW, of which 50% comes from hydropower, 45% from oil distillate, and the rest from geothermal and gas.

Central Africa has the lowest grid generation capacity in sub-Saharan Africa, at 4 GW, composed chiefly of 65% hydropower, 15% gas, and 20% oil distillate.

Several regional projects made progress during 2020. For example, a contract was awarded for the construction of the 18 MW Goubassi hydropower project on the Senegal-Mali border, which will be the fifth hydropower project under the Organization pour la Mise en Valeur du Fleuve Sénégal, otherwise known as the Senegal River Basin Development governance (IEA, 2019).

The Grand Renaissance Ethiopia Dam furthermore passed a significant milestone in its development, as it saw its first filling following the completion of the lower section of the dam. The project is a major driver for regional interconnection in the East African Power Pool, with the construction of a 2 000 MW, 1 055 km bipolar HVDC interconnector between Ethiopia and Kenya.

Meanwhile, in southern Africa, a tender was launched in February 2020 for the construction of an interconnector between Mozambique and Malawi, which would connect Southern African Power Pool member Malawi to the rest of the power pool for the first time.

According to the IEA report World Energy Investment 2020 (IEA, 2021), investment in Africa in 2020 was dominated by renewables. This coincided with announcements on financing and signed contracts for wind, solar, hydro, and geothermal projects across the continent. For example, a renewable auction programme for 120 MW of wind and solar projects was launched in Mozambique, while a tender for up to 80 MW of solar PV projects was launched in Togo.

Senelec, the state-owned utility in Senegal, started feasibility studies for a potential battery storage project at the 159 MW Parc Eolien Taiba N'Diaye wind plant which, when commissioned by the end of 2020, will be the largest in West Africa. The plant will increase the installed capacity in Senegal by 15%.

### ***Independent Power Producers (IPPs)***

At the beginning of the 1990s, virtually all major power generation throughout Africa was financed by public coffers, including concessionary loans from development finance institutions (DFIs). In the early 1990s, however, a confluence of factors brought about a significant change. With the main drivers identified as insufficient public funds for new generations and decades of poor performance by state-run utilities, African nations began to implement a new ‘standard’ model for their power frameworks. Several nations implemented plans to unbundle their power frameworks and introduce private participation and competition. Independent power projects (IPP), namely, privately.

IPPs are private entities that generate and sell electricity to utilities and end-users. Ghana, Nigeria, and Uganda have had some success. The overwhelming larger part of IPP capacity (82%) is thermal; 18% is fueled by renewables. IPPs reduce the risk of investing in power frameworks in the region however increase the reliance on foreign companies (Eberhard et al., 2016). 21 nations in the region still had state-owned utilities with no private sector participation.

In 1994, Côte d’Ivoire became one of the first African nations to attract a foreign-led IPP to sell power to the grid under long-term contracts with the state utility. Ghana, Kenya, and Tanzania furthermore opened their doors to foreign and local investors. In 1997, later seen as the peak of investment, there was a record US\$1.8 billion in IPPs in Africa (World Bank, 2006)

Kenya, Nigeria, South Africa, Tanzania, and Uganda have the most experience with IPPs in the region. Currently, there are 126 IPPs in 18 Sub-Saharan nations, accounting for an installed capacity of 11 GW and \$25.6 billion in investments. However to profit more nations the report recommends these IPPs should be much larger and spread across the region.

### ***PIDA transmission corridors***

In 2012, PIDA in Africa was started by the Africa Development Bank Group with a mandate to enhance cross-border energy market development, among other priorities. The program includes three electricity transmission corridors in sub-Saharan Africa (AfDB, 2011):

- North-south transmission line from Egypt to South Africa with branches in East Africa,

Construction of an 8,000 km, 3,000 - 17,000 MW capacity transmission line frameworks from Egypt through Sudan, South Sudan, Ethiopia, Kenya, Uganda, Tanzania, Malawi, Mozambique, Zambia, and Zimbabwe to South Africa, connecting the Eastern Africa Power Pool (EAPP) and the SAPP.

- Transmission line from Angola to South Africa with branches in Central and West Africa

3,800 km line from the DRC to South Africa through Angola, Gabon, Namibia, and to the north to Equatorial Guinea, Cameroon, and Chad.

- West African transmission line linking Senegal and Ghana with several branches in other nations.

In June 2013, the United States (U.S.) The government launched Power Africa in partnership with African governments, bilateral and multilateral development partners, and the private sector to double access to electricity in sub-Saharan Africa and accelerates power transactions (USAID, 2018). The partnership comprises more than 160 public and private sector entities. Presently in our fifth year, Power Africa has built the financial and human resources, recruited the partners, and identified the specific deal flow to create a clear path to success.

Over the last decade, numerous governments and major bilateral donors have focused their support of sub-Saharan Africa's energy sector on advancing nation-founded approaches to power generation and transmission. As a result, some nations presently have national supply surpluses and stranded power assets, while others face critical supply shortages. However, the ability for electricity trade to flow from regions of surplus to regions of demand is severely constrained, within and across boundaries. This trend highlights the urgent imperative to move power from its generation sources to where it is needed, thus providing cost-efficient supply and enhancing energy security. In line with this imperative, Power Africa's 2.0 Strategy commits to increasing access to electricity in sub-Saharan Africa by increasing focus on transmission.

- Two opportunities in East Africa: Exports to Tanzania (EKTZ line) and Southern Africa, and sub- regional trade in the Nile Basin (NELSAP power interconnections).

- Four opportunities in Southern Africa: Central corridor from South Africa to the Democratic Republic of Congo; integrating Malawi into the power pool; western corridor delivering power to Namibia; and bringing new power capacity to the region (e.g., Mozambique).



- Four opportunities in West Africa: Interconnection of the Senegal-Guinea axis (OMVG line); addressing power deficits in landlocked nations (e.g., Burkina Faso); enabling Côte d'Ivoire to export to the West (CLSG line); and addressing regional imbalances in the eastern Gulf of Guinea.

### ***Power pools as a freer facilitator***

Regional cooperation fostered by power pools and cross-border transmission Communities is critical to closing the electricity gap. The profits of geothermal resources in Kenya can be shared with South Africa, which is currently powered by coal, and hydropower in Central Africa can be shared with Senegal (Castellano et al., 2015), which is currently powered by diesel. There are four power pools in sub-Saharan Africa:

- The Central Africa Power Pool (CAPP), established in 2003, consists of Angola, Burundi, Cameroon, Central African Republic, Chad, Congo, Democratic Republic of the Congo (DRC), Equatorial Guinea, Gabon, and Sao Tome. The CAPP is still in the development phase and is not yet operational.
- The Eastern Africa Power Pool (EAPP) was established in 2005 by seven nations: Burundi, DRC, Egypt, Ethiopia, Kenya, Rwanda, and Sudan. It has been implemented as a technical institution to foster power framework interconnectivity by the heads of state of the Common Market for Eastern and Southern Africa (COMESA). Since then, Libya, Tanzania, and Uganda have joined the EAPP.
- The Southern Africa Power Pool (SAPP) was established in 1995 by 12 nations: Angola, Botswana, DRC, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.
- The West African Power Pool (WAPP) is a technical institution of the Economic Local area of West African States (ECOWAS) and consists of 14 nations: Benin, Burkina Faso, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. The WAPP is still under development and is not yet operational.

### *The Emerging Africa Infrastructure Fund (EAIF)*

EAIF is a public-private partnership (eaif site). The EAIF is funded by the governments of the United Kingdom, The Netherlands, Switzerland, and Sweden. It raises its debt capital from public and private sources, including Allianz, the international insurance and financial services company; Standard Chartered Bank; the African Development Bank; the German development finance institution, KfW, and FMO, the Dutch development bank.

EAIF provides long-term debt on commercial terms to infrastructure projects in Africa. The fund operates in 48 nations and it can lend between US\$ 10 million to US\$ 50 million, typically over 15 years. Herewith are some energy projects supported by EAIF:

The Cuamba plant, Mozambique: a 19MW solar electricity plant to be built in the Niassa province of Mozambique reached Economic close on 20<sup>th</sup> December 2021. EAIF and Private Infrastructure Development Group (PIDG) company, the sole lender and will provide US\$19 million to Central Electrica de Tereane SA (CET).

PIDG is an innovative infrastructure project developer and investor which mobilize private investment in infrastructure in sub-Saharan Africa and south and south-east Asia. PIDG is funded by the governments of the United Kingdom, the Netherlands, Switzerland, Australia, Sweden, Germany, and the IFC.

The Cuamba plant is the first utility-scale solar project in Mozambique to include battery storage. It will deliver up to 7-megawatt-hours of energy, to boost solar output during the evening peak demand.

The owner and operator of the Cuamba plant are CET whose larger part shareholder is Globeleq, the London-founded business that specializes in the African power sector. The project was co-developed with Source Energia a diversified renewable energy business focused on the development and operations of large and small-scale on- and off-grid projects in Lusephone Africa.

### The 34MW Djermaya Solar project in Chad

AfDB, Proparco, and EAIF signed a Loan Agreement with Djermaya Solar on 26<sup>th</sup> November 2021, with the finance institutions respectively committing €18 million, €9.3 million, and €9.3 million of senior debt to the project. Located 30km north of the nation's capital, N'Djamena, the Djermaya Solar project has been developed by InfraCo Africa, through Anergi Africa Developments Ltd (AADL), with its partner Smart Energies. Denham Capital recently entered the project as long-term investor through Neo Themis. Djermaya Solar will be developed in two phases totaling 60MW and is the first solar project to be planned, financed, built, and operated by an independent power producer (IPP) in Chad.

### Côte d'Ivoire clean energy hydro-electricity project

PIDG is lending €25 million over 18 years to Ivoire Hydro Energy (IHE) which will build a 44MW hydro electricity generation plant on the Bandama River near the village of Singrobo in Côte d'Ivoire.

### Nachtigal Hydro Power Company Cameroon

In late 2018, EAIF announced the Economic close of its €50 million loans over 18 years to Nachtigal Hydro Power Company (NHPC). It will build a run-of-the-river hydropower station on the Sanaga River in Cameroon. The €1.26 billion plants will have an installed capacity of 420MW and supply Cameroon's Southern Interconnected Grid.

The Nachtigal development is a key component in the Cameroon government's National Electricity Development Plan, adding 30% to its base-load electricity supply. Its clean, renewable energy will profit the nation's households, industry, and environment and strengthen its business investment climate.

1500 individuals will have jobs in readying the site for construction, building the infrastructure, installing the generation technology and safety and communications frameworks, and in catering,

security, and allied services. It is estimated that around 150 new permanent jobs will be established when the Nachtigal station becomes operational.

#### Building energy: Tororo PV solar north September 2016

Tororo is the eighth renewable energy plant EAIF has backed in Uganda. In total, they contribute some 15% of Uganda's installed electricity generating capacity.

The 10MW solar farm is helping to meet the electricity needs of 36,000 individuals in the Tororo area, a chiefly rural economy situated 239km east of Uganda's capital, Kampala. Tororo is the eighth renewable energy plant EAIF has backed in Uganda. In total, they contribute some 15% of Uganda's installed electricity generating capacity.

The Tororo plant was constructed and is operated by the Italian company, Building Energy. It has developed more than 2000MW of renewable energy projects in Africa. EAIF provided 50% of the US\$14.7 million of debt funding. The balance came from the project's debt finance arranger, FMO.

#### Gigawatt international, Rwanda

Gigawatt international's 8.5 MW solar PV power plant in Agahozo Shalom Youth Village, a joint venture with an orphanage, was financed, constructed, and brought on stream in little more than a year.

In 2014 EAIF loaned the project US\$10.6 million (total cost of \$23.7 million). The facility produces enough energy to potentially supply 15,000 homes, adds 6% to national energy capacity, and adds to the incentive of homeowners to reduce reliance on expensive diesel generators. 200 individuals worked on its construction. 30 permanent jobs were established.

#### Ghana's Takoradi power station

Ghana's Takoradi 110MW simple cycle power plant has been expanded to a 330MW (delivers 50% more electricity for Ghana). Combined cycle thermal plant for US\$356 million, including a US\$15 million loan from EAIF.

Building new electricity generating capacity is principal to Ghana's economic progress. Takoradi presently produces 15% of all Ghana's electricity and can supply a million individuals. The project is a joint venture between the private-sector company, TAQA, which holds 90% of the stock in the venture, and The Volta River governance with 10%.

### ***Energy pools empowerment***

Electrification levels in sub-Saharan Africa remain very low compared to the levels in other developing parts of the world, most notably the 94% rate reached on average across developing nations in Asia.

Regional cooperation is critical to closing the electricity gap. The Central Africa Power Pool (CAPP), the Eastern Africa Power Pool (EAPP), The Southern Africa Power Pool (SAPP), and the West African Power Pool (WAPP) are the relevant frameworks that could join the effort in specific issues, for example, negotiation with MNC's in charge of electricity production and distribution.

### **Transport**

Transport routes were built by the foreign nations to transport easily the raw materials from their sources or base to the destination point where they could be effectively exported abroad. China is following the same way today in investing in roads, trains, and ports.

Africa needs roads. This much is apparent to anyone who has attempted to travel across the continent, be it between neighboring nations or on a journey more ambitious (Mitchell, 2021).

AfCFTA is expected to give a huge boost to highway and railway buildings that would advance intercontinental trade.

One of the biggest obstacles to realizing the agreement's full economic potential is Africa's poor road and railway infrastructure. Better transport infrastructure that makes local, national, and regional journeys easier is vital for fostering trade across the continent. It is furthermore critical for enhancing the connectivity of numerous landlocked African nations to the sea and for ensuring that natural minerals can be brought from distant mines to rivers and sea ports.

Better transport links can furthermore advance productivity, reducing Africa's prohibitively high transport and logistics costs, and in turn, enhance the competitiveness of African companies.

Roads are the predominant mode of transport in Africa – carrying at least 80% of goods and 90% of passengers, according to the African Development Bank. No major trunk roads exist that link West Africa to central or southern Africa, and railways are concentrated in the southern Africa region. It is a lot easier – and cheaper – to transport goods from Lagos in Nigeria to Mombasa in Kenya by ship than by road. It means that West Africa is developing economically in isolation from southern and central Africa.

Across African nations, there is an average of 204km of roads per 1,000km square, with only one-quarter paved. This lags far behind the international average of 944km per 1,000km, with more than half paved. Herewith is the planned transport infrastructure.

### ***Trans-Sahelian Highway***

Approximately 4,600 km in length, between Dakar in Senegal and N'Djamena in Chad, the highway is integral for moving goods from the more agriculturally endowed south to food insecure provinces in the north (OPEC fund, 2021). Niger's section of the road is around 975 km long and provides a vital lifeline for its populace.

The Arlit-Assamaka stretch links the industrial town of Arlit in northern-central Niger with Assamaka, a small northerly town on the Algerian border. Constructing this 225 km-long road linking the two provinces has been a priority of the government of Niger.

The OPEC Fund's contribution to the project is US\$10 million out of a total project cost of around US\$100 million. Financing is furthermore being provided by the African Development Bank, the Arab Bank for Economic Development in Africa, the Islamic Development Bank, the Kuwait Fund for Arab Economic Development, the Saudi Fund for Development, as well as the government of Niger.

### ***East African Rail Master Plan***

Inaugurated in 2017, the \$3.2bn standard gauge railway connecting Mombasa to Nairobi – the biggest investment in Kenya since its independence – is a flagship Belt and Road project in East Africa.

It structures part of a massive project, the \$13.8bn East African Rail Master Plan, a proposal to rejuvenate lines among several nations including Kenya, Uganda, Rwanda, South Sudan, and Ethiopia.

China proposes to extend the Mombasa-Nairobi Railway in Kenya to Uganda, Rwanda, South Sudan, and eventually to the Democratic Republic of Congo (The citizen, 2022).

### ***Electric railway from Addis Ababa to Djibouti***

The \$4.2bn electric railway from Addis Ababa to Djibouti – where China established its first overseas naval base and has stakes in a strategic deepwater port – is another huge project under the Belt and Road Initiative. It is about 70% financed by China's Exim Bank and was built by China Railway Group and China Civil Engineering Construction. It is the first electric train service on the continent and is expected to make a dramatic impact on trade. Each train can carry loads equal to 200 trucks, and it does the 750km route in 12 hours instead of the three days that it takes by road.

The 752.7 km Ethiopia-Djibouti railway modernization project, furthermore known as the Addis Ababa-Djibouti railway, is the first modern electrified railway line in East Africa (Railway technology, 2020).

The project was jointly owned by the governments of Ethiopia and Djibouti and constructed by China Railway Group and China Civil Engineering Construction Corporation (CCECC).

The Ethiopia-Djibouti project was constructed with a total investment of \$4bn. The Ethiopian section of the line cost \$3.4bn, 70% of which was provided by China Exim Bank and 30% by the Ethiopian government. The Djibouti Government contributed \$878m for the project.

In October 2011, China Railway Engineering Corporation (CREC) was awarded a \$1.53bn engineering, procurement, and construction (EPC) contract to build the 328.959km railway section between Sebeta / Addis Ababa and Miesso.

China Railway Eryuan Engineering Group (CREEC) was contracted to design the Sebeta-Adama-Mieso section in February 2012.

The contract for a 339km section, stretching from Miesso to Ethiopia's border with Djibouti, was awarded to China Civil Engineering Construction Corporation (CCECC). Finally, China Railway Construction Corporation (CRCC) was awarded a \$505m contracts to build the 100km-long Djibouti section in February 2012.

### ***Lamu Port Kenya - South Sudan-Ethiopia***

The Kenyan government is furthermore pushing several other large initiatives. The Lamu Port-South Sudan-Ethiopia-Transport Corridor Programme is East Africa's largest and most ambitious infrastructure project, bringing together Kenya, Ethiopia, and South Sudan. This megaproject consists of seven key infrastructure projects, including ports, pipelines, roads, and railways. Its total cost is estimated at more than \$25bn; the Kenyan government plans to pick up the tab for the project however is paying for it in phases.

The project involves the development of a new transport corridor from the new port at Lamu through Garissa, Isiolo, Mararal, Lodwar, and Lokichoggio to branch at Isiolo to Ethiopia and Southern Sudan. This will comprise a new road network, a railway line, an oil refinery at Lamu, an oil pipeline, Lamu Airport, and a free port at Lamu (Manda Bay) in addition to resort cities at the coast and in Isiolo. It will form the backbone for opening up Northern Kenya and integrating it into the national economy.

### ***Railway Mombasa to Malaba Kenya and to Kampala Uganda***

The Governments of Kenya, Uganda, Rwanda, and Southern Sudan are committed to providing high-capacity, cost-effective railway transport within the Northern corridor (krc site). The Governments of the four nations have signed and ratified a Protocol for the development of an SGR connecting the port of Mombasa to Kampala, Kigali, and Juba.

Each nation develops the section of the railway line within its boundaries. Kenya is therefore developing the Mombasa –Malaba section of the entire proposed network to Kigali through Uganda. The Mombasa – Malaba section is being developed in two phases:

In 2017, Kenya opened the 579 km Nairobi - Mombasa Standard Gauge Railway (SGR), which runs parallel to the Kenya/ Uganda railway line. The introduction of the SGR has seen an increase in freight and passengers between Mombasa and Nairobi.



Uganda signed a \$46.5 million deal with a Chinese firm to rehabilitate its 260-kilometer railway line between its border with Kenya at Malaba town and its capital, Kampala, in less than 12 months (Opali, 2021). This comes as Uganda and Kenya join forces to push the rehabilitation and seamless connection of the old meter-gauge railway line, which is narrower than the standard gauge railway, as Kenya continues revamping its meter-gauge railway line from Naivasha to Malaba.

According to the committee report, the implementation of the railway will decrease commuters' travel time within a 12-kilometer distance from two hours to 20 minutes, and freight per month will advance from 20,000 tons to 300,000 tons.

The Chinese contractor began the rehabilitation of the 460 km Naivasha-Malaba railway line in January 2021, which it expects to be ready by the end of this year. Upon completion of repairs on the old line, it will then link to the Standard Gauge Railway at Naivasha. This will enable seamless transport of freight containers from Mombasa to Naivasha and onward to the Malaba border into Uganda.

In February 2021 the Ugandan government approved the refurbishment of the 215km Malaba – Kampala meter-gauge railway that will usher in a new era for train services in the East African region (Mwanza, 2021).

The new line will enable commuters to travel from Mombasa to the Ugandan capital, Kampala, via the -border town of Malaba. This follows the subsequent approval of the project to connect the Standard Gauge Railway (SGR) to the Malaba border point on the Kenyan side of the border.

The SGR, which is planned to provide a globally competitive transport network for both freight and passengers, will specifically reduce transit time from Kampala to Mombasa from between four to six days to just a day.

The freight and passenger services will enhance the economic viability of the SGR line by easing the movement of freight and passengers from the Port of Mombasa to Uganda and the neighboring nations.

### ***Trans-West African Coastal Highway***

The 4,010km Trans-West African Coastal Highway is another important intra-nation road project linking West African coastal nations from Mauritania in the north-west of the region to Nigeria in the east, with feeder roads already existing to two landlocked nations, Mali and Burkina Faso. The corridor between Dakar and Lagos follows mostly along the coastal line and it connects the capitals of the nations included. The project is being pushed by the Economic Local area of the West African States, a regional political and economic union of 15 nations located in West Africa.

Constructed parts:

Nouakchott, Mauritania – to Dakar, Senegal to Banjul, the Gambia (duhoctrungquoc site), some sections with missing pavement.

The Gambia then southern Senegal to Bissau, Guinea-Bissau – existing to Quebo, with a short new section required to the Guinea border where a major bridge over the Kogon River was planned for construction to start in 2004 (duhoctrungquoc site).

A new 200 km section in Guinea is needed from the border to Boké in Guinea, Boké to Conakry, and the Sierra Leone border; in Sierra Leone, the section to Bandajuma is existing.

In Liberia, the section through Monrovia inland to Ganta is existing; in Ghana, the road is existing through Cape Coast and Accra to the border with Togo, and 31 km east from Akatsi to Dzodze is being replaced by a new road parallel to the old; the 80 km through Togo is being replaced by a new road by-passing Lomé on the north side; the Benin section through Cotonou and Porto Novo is existing to the Nigerian border: about 60 km from the border to Lagos, Nigeria is existing.

### **The Cross-border road corridors**

Private investors in the corridors are chiefly interested in improving the transportation efficiency and costs for their interest or the interest of MNCs exporting products or raw materials.

Cross-border road corridors may play a critical role in supporting Africa's regional economic development and integration (AFDB, 2021b).

They advance transport communications between neighboring nations and provide landlocked nations with access to seaports. They reduce transport and shipping costs and transit time for imports and exports.

They foster a conducive environment for the private sector and for attracting foreign direct investments. They contribute to poverty reduction by increasing access to markets and social services . Herewith we explain which regions profit from such corridors.

AfDB has financed nearly USD 8 billion of regional transport projects. As a result, close to 13,000 km of regional highways have been built on 17 road corridors, along with 26 one-stop border post facilities.

### ***Central Africa***

Roads carry nearly 90% of domestic passengers and goods in the CEMAC zone, constituting the principal mode of movement of goods and individual, despite the low road density which characterizes Central Africa compared to the rest of the continent.

The paved road links between nations are furthermore among the weakest in the continent. Moreover, no two capitals are linked by a fully paved road. The African Development Bank has financed the main sections and feeder sections of 4 strategic trading corridors as follows.

Herewith the main economic specializations in these central corridors could be promoted (UNECA, 2021)

Agri-business: Transformation of the agricultural and livestock sectors. Maize and rice are priority exports poised to profit from increased regional trade, particularly in the Extreme North region of Cameroon.

Renewable energy: The border area between the Extreme North region of Cameroon and Chad has among the highest potential for wind and solar energy on the African continent.

Mining: Central Africa has abundant deposits of valuable metals used in the production of rechargeable batteries, however limited capacity to course the metals and manufacture the batteries.

Pharmaceutical: The Douala-Edéa-Kribi Development triangle is well suited for the development of pharmaceutical industries.

### Brazzaville – Libreville Corridor Connecting Congo to Gabon

Cumulated travel time on concerning sections decrease from 6 hours to 2 hours; average spent at border decreased from 48 hours to 3 hours; journey time for a truck from Ndendé to Dolisie decreased from 3 days in 2013 to 4,5 hours in 2019. Intra-community trade (Economic Community of Central African States - ECCAS) increase from 1% in 2012 to 3% in 2019

### Brazzaville – Yaounde Corridor Promoting Inter- regional Integration

Travel time for a truck from Yaoundé to Brazzaville decreased from 4 days in 2012 to 1 day in 2020; cumulated travel time on concerning sections decrease from 20 hours to 7 hours; average time spent at the border decreased from 48 hours to 3 hours; transport operating costs: decrease from XAF 349 per km for light transport in 2015 to 285 XAF in 2020.

Commercial transactions between Cameroon and Congo increased from 55 billion XAF in 2009 to 65 billion CAF in 2014

### Douala – N’djamena, and Douala – Bangui Corridor Connecting Cameroon to Chad and the Central African Republic

Maroua-Pouss section: average travel time decreased from 4 hours in 2015 to 2 hours in 2020; average spent at the border decreased from 30 hours to 10 hours.

Intra- regional trade increased from 27% in 2015 to 33% in 2020

### Cameroon – Nigeria Corridor Promoting Inter- regional integration

Cumulated travel time on concerning sections decrease from 20 hours to 12 hours; average travel time from Mamfe to Kumba decreased from 5 hours in the dry season and 8 hours in the rainy season in 2011 to 2 hours all year round in 2017.

The volume of exports from Cameroon to Nigeria increased from 8% in 2011 to 15% in 2020.

## *West Africa*

WAEMU States have six seaports (Cotonou, Abidjan, San-Pédro, Dakar, Lomé and Bissau), in addition to two ports of Ghana (Tema and Takoradi) and the ports of Conakry and Nouakchott. These ports handle the bulk of international traffic between West Africa and the rest of the world.

The African Development Bank has financed 2 major cross-border bridges, main sections, and feeder sections of 7 strategic trading corridors leading to seaports in West Africa and 1 corridor in North Africa.

### West Africa Clean Energy Corridor (WACEC)

The International Renewable Energy Agency (IRENA) (2019), in collaboration with the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), West African Power Pool (WAPP), and ECOWAS regional Electricity Regulatory governance (ERERA), has started the West Africa Clean Energy Corridor (WACEC) initiative. Building on existing efforts in the region, including those of UEMOA, AfDB, and other development partners, for example, GIZ and USAID, the WACEC will promote the development and integration of utility-scale renewable power in West African power frameworks.

Endorsed by the ECOWAS Energy Ministerial in December 2016 and building on the experience of the ACEC, the WACEC's implementation plan is built on five key infrastructures:

Zoning and Resource Assessment – to identify sites for renewable power generation in provinces with high resource potential and suitable transmission routes;

Long-Term Energy Planning Support to African nations, in the form of regional education workshops and power pool assessments, and national capacity-building programmes Enabling Frameworks for Investment – to open markets and reduce financing costs; Capacity Building – to plan, operate and maintain power grids and markets with higher shares of renewables-founded electricity.

### Cross-border transhumance corridors

A transhumance corridor is a strip of land reserved for livestock passage to access pasture, a source of water, or other herd infrastructure, for example, a livestock market, vaccination area, or livestock-holding area. Both farmers and pastoralists recognize the usefulness of the corridors as a factor for peace (Alidou, 2016).

## **Characteristics of the transhumance corridor**

Width from 50 to 100m depending on the extent of land-use pressure; Multidirectional depending on the path of livestock movements, availability of resources and pastoral infrastructure, and use of the land for cropping; Straight or curved path depending on detours that may need to be taken; Usually marked by clear signs appropriate for the area (paint marks on trees, planted vegetation, beacons, plaques, etc).

The conflict between farmers and pastoralists has always been tensions between crop farmers and pastoralists. One cause of dispute has been the straying of animals into farmers' fields.

## **Identifying entry points for development cooperation:**

- Develop a strategic regional approach for an integrated common geographic area of the Sahel nations (Niger, Burkina Faso, Mali), as the main nations of origin for livestock trade, and the bordering nations ranging from Côte d'Ivoire to Nigeria, through Ghana, Togo, and Benin.
- Involve not only regional and national institutions but furthermore umbrella pastoralist organizations.
- Develop cross-border solutions and control of transhumance by updating, marking, and protecting transhumance corridors; developing amenities related to the corridors; setting up animal health infrastructure along the boundaries; facilitating the use of the International transhumance certificate (ITC); reviewing and harmonizing the legal texts on cross-border transhumance; and setting up a regional framework for resolving and preventing conflicts.
- Develop a regional charter and promote a regional transhumance observatory through setting up and ensuring the operation of a regional transhumance observatory; developing a regional transhumance charter.

## Central - West Corridor, Trans-Sahara Highway (TSH)

The Bank financed the Bamako-Dakar highway to the tune of USD 400 million, the route presently carries more than 50% of Mali's import and export goods from and to the port of Dakar and has allowed the nation to diversify its trading routes, reduce costs by more than 20% and increase international trade by 10%.

Average time spent at Burkina Faso / Niger border: 24h before, 2h after; transports crossing the Algeria/Niger border: 62 /day in 2013, 116 /day in 2018; heavy transport transit from European ports to the cities of Northern Niger (Arlit Assamakka, Agadez):40 days in 2013, 18 days in 2018; average traffic on the Mali section- of 104 veh/day in 2018, 190 veh/day in 2024

Maize in Tanzania, Uganda, Rwanda, and Burundi and mineral resource development in Tanzania foster trade growth among Tanzania, Rwanda, Burundi, and Uganda

Customs value at boundaries: Algeria/Niger: CFAF 5 billion in 2013, CFAF 26 billion in 2018 (+420%); customs value at boundaries: Niger/Chad: CFAF 2 billion in 2013, CFAF14 billion in 2018 (+600%)

Bamako – San Pedro Corridor Mano-River union: Connecting landlocked provinces to the coastal South

Cumulated travel time on concerning sections: 25h before, 10h after; average time spent at the border: 24h before, 2h after; transport operating costs for trucks in 2014: 1.7 USD/km, 0.8 USD/km in 2020

Dakar – Bamako – Ouagadougou – Niamey Corridor Linking corridors towards the port of Dakar

Time at the Senegalese border reduced from 1 day in 2005 to 2 hours in 2015; time to transit Senegal reduced from 3 days in 2005 to 1 day in 2015.

Intra-community trade increased from 10% in 2005 to 30% in 2015 and foreign trade increased by 10% in the same period.

Dakar – Abidjan Corridor Enhancing trade in and beyond the Mano River Union nations

Customs formalities reduced from 4 hours in 2011 to 2 hours in 2016; International Competitive Index on Infrastructure in the Gambia increased from 3.8 to 4.8 and in Senegal from 2.7 to 3.7

Annual trade volumes of Côte d’Ivoire-Guinea increased from 103 million tons in 2013 to 139 million tons in 2019; annual trade volumes of Côte d’Ivoire-Liberia increased from 445million tons of goods in 2017 to 560 million tons in 2022.

### Abidjan – Lagos Corridor The central section along the Gulf of Guinea

Cumulated travel time on concerning sections: 75h before, 36h after; the average time to cross the Benin-Togo border: 7 hours in 2015, 3 hours in 2020.

Intra-trade after completion of works on the Togo-Benin expressway; the volume of trade recorded at the Hillacondji border between Benin and Togo increased by 20% from 2010 to 2014.

Lagos–Kano–Jibiya (LAKAJI) Agricultural Development Corridor in Nigeria.

### Lome – Ouagadougou Corridor The missing links on the road South to the Gulf of Guinea

Average transit time on the Lomé – Ouagadougou corridor by heavy transport reduced from 6 days to 3 days in 2016. Average time spent at the border: 48h before, 2h after.

7% annual increase in the volume of intra-community trade in the WAEMU zone, from 10 million tons in 2011 to 19 million tons in 2016; 4% annual increase in the volume of traffic on the corridor transiting to or from Burkina Faso, Niger, and Mali, from 1.56 million tons in 2011 to 1.91 million tons in 2016.

### Tema – Ouagadougou Corridor Connecting landlocked Burkina Faso and Niger to the main port of Ghana

Since 2008, average 50% reduction in journey time; the average journey time from Koupela in Burkina Faso to the Niger border reduced from 7.4 hours in 2017 to under 5 hours in 2022

Since 2008, + a 15% increase in the overseas trade of land-locked UEMOA nations through the ports of UEMOA nations and Ghana; nonconventional export values between Ghana and ECOWAS: increase from US\$ 365 million in 2007 to US\$ 417 million in 2014

### ***East and Southern Africa***

JICA (2010) study proposed redefining the role of regional economic and transport corridors according to development scenarios (strategies), building on the development belt concept, which encompasses the integration of resources, value production, and international markets.



The fourth Tokyo International Conference on African Development (TICAD IV) held in May 2008 includes recommendations on regional transport infrastructure development and trade facilitation measures required for the “acceleration of development”.

The following Corridor Development Program Priorities were concluded, Maputo Corridor, North-South Corridor, Dar es Salaam Corridor, Beira Corridor, Nacala Corridor, Trans-Caprivi Corridor, Trans-Kalahari Corridor, and Lobito Corridor.

The other corridors are Lamu Port–South Sudan–Ethiopia Transport Corridor (LAPSSET), Orange corridor, Mtwara Corridor Northern Corridor, Mombasa – Nairobi – Addis Ababa Corridor, Nairobi – Lusaka Corridor, Limpopo Corridor, Shire-Zambezi Corridor, CairoGabarone Corridor, TripoliWindhoek Corridor, Malange Corridor, Namibe Corridor, Wallis bay corridors and Trans-Cunene Corridor.

#### The Maputo Corridor Logistics Initiative (MCLI)

Trade expansion between South Africa and Mozambique; industrial diversification and development utilizing industrial zones along the corridor

MCLI was established as a non-profit organization with the industry, transport, and logistics service operators – the users of the corridor – as founding members (SBB, 2018). At a later phase, the public sector of the nation's furthermore joined. Objectives, namely to rehabilitate, in partnership with the private sector, the primary infrastructure network along the Corridor, including road and rail links between South Africa and Maputo, the border post between the two neighbors, and the Port of Maputo.

Presently, MCLI consists of the following ‘founding’ members: DOT - Department of Transport (May 2006); DPW - Dubai Ports World Maputo; MMC - Manganese Metal Company Pty Ltd; MPDC - Maputo Port Development Company; FPT - Maputo Fresh Produce Terminal; TAL – Transafrica Logistics; Grindrod Terminals; TRAC - Trans African Concessions; Kudumba Investments Lda. TFR – Transnet Freight Rail; SR – Swaziland Railway; CFM – Ports and Railways governance of Mozambique.

One of the major concrete successes was the construction of a toll road of 503 km (N4) between Maputo and Witbank, which was opened in 2000 and is operating successfully. It has been given in concession to Trans African Concessions (Pty) Ltd. (TRAC), which aim was to develop the N4

route to such an extent that it would facilitate the stimulation of trade and investment in the region and provide access to international markets through the Port of Maputo. The major investment in the corridor was already showing results: the toll road N4 and MOZAL, Mozambique Aluminum, a smelter in Maputo with a capacity of 550,000 tons of aluminum per year was fully functioning.

**Agriculture:** Citrus farms in Limpopo (South Africa) Province have started to export their products via the Port of Maputo. Zimbabwe and Swaziland: Sugar and fruit industries are expected to use the Corridor

**Automobile Industry:** BMW South Africa is considering the export of vehicles through the Port of Maputo. Nissan Motor Company South Africa conducted a trial run to use the Port of Maputo Port for export.

**Industrial Park:** Mozal and its group companies have already been in the Beluluane Industrial Park, near the Port of Maputo. Textile industry companies targeting the US market (relating to AGOA) are presently considering building factories in the Park.

**Anchor Project:** “Mozal” Aluminum Smelter. A partnership among BHP Billiton, Japan’s Mitsubishi Co., South Africa’s Industrial Development Corporation, and the Mozambican government.

### North-South Corridor

The North-South Corridor links the DRC, Zambia, and Botswana/Zimbabwe (alternative routings), with the Port of Durban in South Africa, by road and rail.

The main mineral projects and potential industries for the corridor (other than in South Africa) are concentrated in Zambia and the DRC.

**Mines:** Zambia: Copper, Cobalt (Copperbelt), Coal (Maamba); DRC: Copper (Katanga Province); Botswana: Coal (Mmamabula); Zimbabwe: Platinum (Mimosa), Coal (Wankie).

**Tourism:** Zambia and Zimbabwe: Victoria Falls (World Heritage); Zimbabwe: Great Zimbabwe (World Heritage); Safari

Anchored projects: Lumwana Copper Mines (Lumwana, Zambia) invested in by a Canadian mining company (Equinox Minerals Limited). Start operation in 2009; expected to produce an average of 172,000 tons of copper per year contained in concentrates over the initial 6 years of its 37- year mine life; total investment amount: USD 1 billion Konkola North Copper Mines (Zambia); USD 50 million to be invested by the Brazilian mining company Vale in 2010; Invested in and established by the China Nonferrous Metal Mining Group. Investment commitments: About USD 900 million by 2010 a copper Smelter was constructed and started to operate in October 2009, receiving copper from Lumwana Mine

Average time spent at border Burundi/Rwanda for a light transport: 7 hours in 2011, 3.5 hours in 2016; transport operating costs reduced from USD 0.84 per veh. /km in 2011 to USD 0.35 per veh. /km in 2016.

The value of commercial trade between the included nations increased from USD 500 million in 2011 to USD 650 in 2020.

#### Dar es Salaam (TAZARA) Corridor

The Dar es Salaam Corridor depends on a rail link between Tanzania and Zambia, which was built with Chinese assistance several years ago (with a track gauge various from that of other rail lines in the region).

Mining: Tanzania: Coal, iron ore, vanadium, titanium (at Liganga), gold (at Lupa), niobium (at Mbeya), platinum group elements (at Luwumbu); Malawi: Uranium (at Kayelekera deposit and Mzimba), niobium, tantalum, zircon (at Mzimba)

Petro-Chemical Industries: Songo Songo (Tanzania)

Tourism: Selous–Niassa Transfrontier Conservation Area (Selous Game Reserve, Tanzania); Lake Tanganyika (Tanzania, Zambia, DRC); South Luangwa National Park (Zambia)

Anchor Projects: Mchuchuma–Katewaka Coal Mine Project (Tanzania); Mchuchuna Thermal Power Station (Tanzania)

#### Beira Corridor

The Beira Corridor historically was the main route into Zimbabwe, while furthermore serving some Zambian traffic.

Mining: Mozambique: Coal (at Tete, high export potential, see below), niobium-tantalum, gold, fluorite (at Montamonde and Tete), tin, heavy mineral sands, pegmatite minerals; Malawi: Bauxite (at Mulanje), heavy mineral sands (at Tengani, near Nsanje; Zimbabwe: Platinum (at Hartley and Unki), nickel (at Unki) Agriculture (The Beira Agricultural Development Corridor (BAGC) Initiative).

Agriculture: Mozambique: Cotton production (along the Zambezi River), sugar processing (investment by Sena Sugar, Mozambique), rice production (downstream Mopeia region), timber processing (Sofala region), fruit production and processing (Tsangano and Moatize region), horticulture (Buzi region)

Tourism: Mozambique: Investment and rehabilitation of Gorongosa National Park Anchor

Anchored Projects: Beira Port Fertilizer Terminal Project (through Beira Agricultural Development Corridor (BAGC) Initiative), (Beira, Mozambique), one of the world's largest fertilizer terminals at the port. To be invested in by a private sector Norwegian private company (Yara Global). Total investment amount: USD 35 million, to be transported to Zambia, Malawi, and the DRC; Dombe Jatropha BioDiesel Project (Dombe, Mozambique). 19,000 ha biodiesel production; 10% for domestic consumption, total investment amount: USD 53

### Nacala Corridor

In Southern Africa, the Nacala Corridor connects Zambia and Malawi to the Mozambican port of Nacala. ADB injected USD 420 million to finance approximately half of the total 1900 km corridor between Lusaka and Nacala, facilitating regional trade among the three nations. Official Port Statistics show an average annual development rate of 6.2% at Nacala port between 2012 and 2016.

Cumulated travel time on concerning sections: 30h before, 15h in 2017; Reduced time for trucks at Malawi border crossing: 12h before, 3h in 2017. Transport operating costs were reduced by 36% in Mozambique and 20% in Malawi.

Nacala is regarded as the best location for a deep water port on the East African coast.

Mining: Mozambique: coal (at Tete, high export potential, see below), iron ore (along the north of the corridor), potash (at Pemba); Malawi: Ilmenite (at Chipoka, the largest deposit in Africa), limestone (central Malawi), heavy mineral sands (at Mangochi and Chipoka), gemstones (central Malawi), zircon, and strontianite.

Agriculture: Nacala Corridor in Mozambique and Malawi, incorporating the ProSAVANA agricultural development programme.

Mozambique: Conventional crops, for example, sugar, tobacco, and cotton, soybean oil mill, canning fruits, and vegetables, aqua-farming (Malawi), coffee, leather processing, cotton, oil processing (for consumption) from sunflowers, and peanuts (Zambia). Malawi: Tobacco (entire Malawi), sugar (at Dwangwa), tea (southern Malawi), and cotton (at Balaka), aqua-farming (Domasi and Cape Maclear); Zambia: Cotton (at Chipata).

Large-scale agriculture another area of progress that was highly noticeable in the agricultural development corridors, especially in Mozambique, is an investment in large-scale plantations and farms by domestic and international firms and individuals. In 2012, criticism began building up an apparent boom in large-scale land acquisition, often for soy (Smalley et al, 2021).

SEZ/Industrial Park: Mozambique: Nacala Special Economic Zone (ZEEN) is currently under consideration.

Tourism: Mozambique: Pemba; Malawi: Cape Maclear (World Heritage), Liwonde National Park, Mulanje Forest Reserve Zambia: South Luangwa National Park.

Anchor Projects: Moatize Coal Mine Project (Tete, Mozambique)

Moatize I Project: USD 595 million to be invested by the Brazilian mining company Vale in 2010. Another investment planned by the Australian mining company Riversdale and the UK mining “junior”

Moatize II Project. An MOU between the Government of Mozambique and Vale has already been signed to develop railway transport in Northern Mozambique.

Chipoka Ilmenite Mine (Chipoka, Malawi). One of the largest and richest ilmenite deposits in Africa is Mangochi Heavy Mineral Sands (Mangochi, Malawi). To be developed by a private Chinese company

The economic specializations in the Nacala Corridor are Copper, Oil bearing plants, Seed Cotton, Cassava, and Sugarcane in Mozambique, Malawi, and Zambia.

In the Copperbelt, Malawi, and northwest Mozambique started industrial diversification founded on SEZ as the core.

AfDB supports the “Doing Business” reform programme in Malawi and Zambia, which involves development in the trading course and upgrading of the customs information framework, and implementation of a National Single Window.

#### Trans-Caprivi Corridor

Copper Namibia - Railway link available only for 600 km from the port to Grootfontein - Congestion at the Port of Walvis Bay container terminal is expected to become an issue soon. The main mineral potential lies in the copper mines of the Tsumeb area.

Expected to advance mineral resource transport from the Copperbelt when it is connected to North-South Corridor; contribution to copper and agricultural development with processing industries in northern Namibia is furthermore expected.

Mining: Namibia: Copper (at Tsumeb and Kombat)

Tourism: Namibia: Namibia Desert National Park, Swakopmund; Botswana: Okavango Delta National Park

Anchor Projects: Kombat Copper Mines and Tsumeb Copper Smelter (Tsumeb, Namibia). Commercial production started in May 2004, with a target full rated output of 150,000 t/year of special high-grade zinc. Ownership: Ongopolo Limited (Shareholder: East China Mineral Exploration and Development Bureau)

#### Trans-Kalahari Corridor

Trans-Kalahari Corridor is seen as having great potential for Botswana in terms of possible coal exports to Namibia as well as for export through Walvis Bay. Botswana furthermore has several base metal (copper and nickel) projects nearing the development phase, most of which would profit from a rail link to Namibia.

Gold Namibia, Botswana, South Africa - Roads are in relatively good condition although road traffic volumes are not especially high. - Currently, railway service is available only between the Port of Walvis Bay and Gobabis in Namibia. - Rapidly increasing container traffic at the Port of Walvis Bay is expected to exceed the current terminal capacity in the short term.

Mining: Namibia: Copper (at Otjihase, near Windhoek), uranium (along the central coast side), diamonds (coast side); Botswana: Coal

Automobile Industry: South Africa: Automobile manufacturers and automobile parts companies seek a new export channel in addition to the Port of Durban in South Africa. For example, Volvo Company has expressed interest in the corridor development plan.

Tourism: Namibia and Botswana: Kalahari Desert

#### Lamu Port and Southern Sudan-Ethiopia Transport (LAPSSET) Corridor

LAPPSET or Lamu corridor is a transport and infrastructure project in Kenya that will be the nation's second transport corridor. Kenya's other transport corridor is the Mombasa – Uganda transport corridor that passes through Nairobi and much of the Northern Rift. An area that provides a range of vital goods and services however could be under serious threat by the multi-million dollar Port and associated infrastructure development in particular, if poorly executed.

Lamu delta provides a range of vital goods and services that underpin the county's economy and the well-being of its people (e.g. by providing water, fuel, food, and raw materials; supporting farming, fishing, grazing, tourism, and reproduction; absorbing waste and carbon, and protecting people from hazards, for example, drought, flooding, and storms).

#### Lobito Corridor

Mining: DRC and Zambia: Copper and cobalt industries of DRC's Katanga and Zambia's Copperbelt industry

Others: industrial development is envisaged in various sectors including oil, natural gas, forestry, agriculture, and fisheries.

Anchor Projects: Tenke-Fungurume Copper and Cobalt Mines, a large copper and cobalt mine with significant potential; Kombat Copper Mines and Tsumeb Copper Smelter (Tsumeb, Namibia) Commercial production started in May 2004, with a target full rated output of 150,000t/year of special high-grade zinc. Ownership: Ongopolo Limited.

### Oranje Corridor

Lead, Zinc Namibia, South Africa - Since the large iron ore mines at Sishen is already served by the dedicated Sishen-Saldanah rail line, the potential profits from developing this corridor may not be as high as others. Southern Namibia has a high level of exploration founded on the successful Rosh Pinah Skorpion lead-zinc mines.

Mineral resource development in southwestern Namibia; trade expansion between Namibia and South Africa.

Agriculture: South Africa: Production of table grapes, raisins, wine, dates, vegetables, and nuts in the Kalahari region

Fisheries: Hake (Colin) trolling and fish culturing, etc. in the offshore of the Corridor; Namaqualand Mariculture

Industrial Park (NAMIP) development plan

Mining: Namibia: Zinc (in the southwest region), copper (at Haib); South Africa: Iron Ore (at Sishen)

Tourism: South Africa: Ais–Richtersveld National Park, Kgalagadi transfrontier conservation provinces, Oranje River mouth nature reserve, Augrabies National Park, Namaqua National Park

Anchor Projects: Skorpion Zinc Mines (near Rosh Pinah, in the southwest Namibia). Commercial production started in May 2004, with a target of full rate output of 150,000 t/yr of special high-grade zinc.

Ownership: Anglo American Base Metals 100% via local subsidiaries. One of the world's lowest production costs for zinc mining. At the full rate, the operation should account for about 4% of Namibia's GDP. Anglo American expects to export about 90% of the zinc produced through



Lüderitz Port to the Asian, European, and North American markets in about equal proportions; Oranje River Farmer Settlement Program (South Africa).

Objectives: Production of commercial farmers in the Northern Cape Province of South Africa, promotion of agricultural product processing (agrotechnical industry), and production of high-value-added agricultural products.

### Mtwara Corridor

Cumulated travel time on Namtumbo - Nagomano section: 10h before, 6h after; 7m-wide paved road; percentage of paved national roads increased from 39% in 2009 to 45% in 2015

Mtwara Port is a small functioning port, however, the rail line linking the port to the main agricultural provinces was taken out of service at the time of construction of the TAZARA rail link between Tanzania and Zambia.

Trade between Tanzania, Malawi, and Zambia increased by 10% within 2009 and 2015, tourism potential in Selous game reserve and Chief Songea historical sites increased furthermore by 10%.

Agriculture: Southern Agricultural Development Corridor of Tanzania (SAGCOT), the coupling course between international fertilizer manufacturer YARA international and the Tanzanian agricultural market.

Mining: Tanzania: Coal, Iron Ore, Vanadium, Titanium (at Liganga), Gold (at Lupa), Niobium (at Mbeya), Platinum Group Elements (at Luwumbu); Malawi: Uranium (at Kayelekera deposit and Mzimba), Niobium, Tantalum, And Zircon (at Mzimba)

Petro-Chemical Industries: Songo Songo (Tanzania); Mnazi Bay Gas fields (Tanzania)

Tourism: “Bush’n Beach” Tourism (Tanzania); Selous-Niassa Transfontier Conservation Area (Tanzania)

Anchor Projects: Mchuchuma–Katewaka Coal Mine Project (Tanzania). Coalfield: Total reserve of 536 million tons (of which 159 million tons are in the proven category.); Mchuchuna Thermal Power Station (Tanzania).

### Northern Corridor

Cumulated travel time on-road sections: 5h before, 3h after; transport operating costs USD 0.38/km in 2018, USD 0.16/km in 2022; time savings on Kamapla Jinja expressway: 70 minutes

The volume of trade between Uganda and Mombasa Port increased by 20% from 2017 to 2018.

### Mombasa – Nairobi – Addis Ababa Corridor

In East Africa, the Mombasa - Nairobi - Addis Ababa corridor has received more than USD 1 billion from ADB. The road presently allows Ethiopia to trade at least 20% of its freight more competitively through the port of Mombasa. The bilateral trade between Ethiopia and Kenya has increased by 400%.

Cumulated travel time on concerning sections: 30h before, 10h after; average spent at the border: 24h before OSBP, 6h after; average transport costs between Isiolo and Merille down from 0.49 to 0.28 cents/km.

The trade between Kenya and Ethiopia increased from USD 35 to 175 million by the end of 2019 (900,000 tons per year); Kenyan customs revenue along the corridor in 2017 was 17 million dollars.

### Nairobi – Lusaka Corridor

Time at Namanga border reduced from 24h to 2h after the OSBP; journey time from Chinsale to Nakonde reduced from 4 h to 2h30; transit time from Nakonde border to Lusaka reduced from 6 days to 5 days.

Trade volume between Kenya and Tanzania increase from 0.4 MT in 2011 to 3 MT in 2020

### Limpopo Corridor

The Limpopo Corridor is served by the rail line from Zimbabwe to Mozambique. The Corridor Mineral Sands project in Mozambique could profit from the development of this corridor, Gold, Maize Mozambique, and Zimbabwe - Served by the rail line from Zimbabwe to Mozambique. The Mineral Sands Project in Mozambique will profit from the Corridor.

The mineral sand deposit titanium dioxide (TiO<sub>2</sub>) is near the town of Chihowevero, Gaza Province. Investors are Australian mining company WMC (currently BHP Billiton).

The road, jetty, and related infrastructure to be built to the coast cost USD 80 million, and power infrastructure will cost USD 80 million.

#### Shire-Zambezi Corridor

Mozambique, Malawi - With numerous river sections having depths of less than 1 m, extensive capital dredging is required for effective regional inland water transport. - Lack of a international port at the estuary

Trade growth between Malawi and Mozambique; industrial diversification and growth in Malawi utilizing Nsanje inland port

#### CairoGabarone Corridor

Tanzania, Malawi - The road standard is not high except in Egypt and along the southern sections of the corridor. - Most of the traffic along the route is local as opposed to long-distance or international.

Contribution to intra- regional trade as the second-longest route along the Trans Africa Highway (TAH)

Angola, DRC, Namibia - Long border crossing times - Missing links in the road network

#### Malange Corridor

Iron, Diamond, Oil, and Natural Gas Angola Road and rail: - Extensive rehabilitation conducted by Chinese firms.

The Malange Corridor is seen as vital for expanding diamond benefits in the Angolan Lucapa area and across the border into the DRC. There are furthermore iron ore and manganese deposits at Cassala-Kitungo (Cuanza Norte), about 200 km from Luanda, where reserves are reported at 300–500 metric tons with 23%–33% iron, with 194 metric tons as proven reserves, of which only 84 metric tons can be recovered through open-pit mining. Manganese deposits have been reported from the Lucala Manganese Rectangle, in Cuanza North and Malange provinces, close to the Cassala–Kitungo iron deposits. Several small deposits of manganese ore ranging from 10,000 to 250,000 tons are concentrated in alluvial deposits.

A total resource of 5 million tons of high-grade ore (55% manganese) has been reported. Mineral resource development in the DRC and inland Angola; growth of trade between these nations.

### Namibe Corridor

Iron Angola - Much anticipation for the repair of rail connections and the reopening of iron ore mines in Angola.

Mineral resource development in Angola; trade growth between Angola and Namibia

### Wallis bay corridors

The Walvis Bay Corridors (WBC) is a network of routes that links the Southern African Development Local area (SADC) to the Port of Walvis Bay on Namibia's southwest coast, offering the region a gateway to transatlantic trade routes and markets (Mulenga, 2013). The WBC is composed of the Port of Walvis Bay, the Trans Kalahari Corridor, the Trans Caprivi Corridor, the Trans Cunene Corridor, and the Trans Oranje Corridor. The WBC SDI was started by the governments of Namibia and South Africa in 2000/2001. Its initial scope was the Trans Kalahari Corridor.

### Trans-Cunene Corridor

Namibia, Angola - Long Border crossing times at Oshikango/Santa Clara (3-5 days) because of complicated customs clearance processes. - Although major volumes of freight traffic move over 1,000 km along this corridor between the Port of Walvis Bay and highly populated provinces in Angola, the corridor railway link is available only for 850 km within Namibia.

Mineral resource development in southern Mozambique; agricultural development in Zimbabwe

## **Chinese engagement in Africa**

Chinese enterprises collaborate with the African government and enterprises to build infrastructure through the provision of equipment and other products imported from China. The “Angola Model” whereby trade, development assistance, investments, and infrastructure developments are intertwined with one another. A critical claim is that local workers only get low- or semi-skilled operational jobs, while the high-skilled and managerial jobs are restricted to Chinese employees.

China is Africa’s largest trading partner, providing a market for 16 percent of Africa’s total exports and supplying 19 percent of its total imports in 2020 (these shares were significantly higher before the deep economic recession caused by the COVID-19 crisis).

In 2000, African Presidents, dozens of ministers from China and Africa, and representatives from various international and regional associations met in Beijing for the first Forum on China-Africa Cooperation. Over the next twenty years, the Forum would become the key mechanism for Chinese engagement on the continent (Moore, 2021). Held every three years, the Forum on China-Africa Cooperation culminates in an announcement of ever-increasing amounts available for loans and aid to African nations. Beginning with \$1 billion in 2000 and rising to \$60 billion in 2015 and 2018.

Construction companies spread across the continent building railways (over 6,000 kilometres), roads (over 6,000 kilometers) ports (about 20), and power plants (over 80), China’s seemingly insatiable appetite for African exports fueled a boom and delivered development across the continent’s numerous resource-dependent economies.

Chinese financed infrastructure projects have had positive economic effects and problematic Economic long-term impacts for numerous developing nations (cgdev site).

### **Natural resources first, the Angola model**

China’s investments in Angola have been primarily linked to natural resources, on the one hand, and infrastructure projects on the other to assist in Angolan reconstruction needs after the civil war in 2002 (UN-Habitat and IHS-Erasmus University Rotterdam, 2018). The Chinese government provided massive low-interest or interest-free loans for infrastructure construction.

Chinese enterprises collaborated with the Angolan government and enterprises to build infrastructure through the provision of equipment and other products imported from China. The Angolan government repaid the debt with natural resources.

This is the “Angola Model” whereby trade, development assistance, investments, and infrastructure development are intertwined with one another. Similarly, in the DR of Congo where China Railway and other Chinese companies built roads, expressways, public housing, hospitals, and other facilities in Bandundu, Katanga, and Kinshasa. In exchange, the government of the DR of Congo allowed China Railway to establish and run a copper-cobalt mine in partnership with a local company using imported equipment from China. From 1956 to 2005, China provided USD 44 billion in low-interest/interest-free loans for 900 infrastructure projects in African nations. In 2009, 45.7% of China’s foreign aid funds were channeled to Africa, 61% of which were for infrastructure development. Up until 2009, China had helped Africa build more than 2,000 km of railways, more than 3,000 km of highways, 52 stadiums, and 11 bridges, Other than ports, airports, water supply facilities, and telecommunication infrastructure. Chinese enterprises often settle for lower earnings than those from other nations investing in Africa since Chinese enterprises often operate through joint ventures sharing the profits with their African partners.

### **Political engagement and ideological affinities**

Ideological affinity drawing on a shared social and anti-foreign heritage play a key role in several of China’s strongest and most enduring partnerships, including those with Angola, Ethiopia, Mozambique, Namibia, South Africa, Tanzania, and Zimbabwe (Green et al, 2020).

China exports strategies of authoritarian political control through party-to-party education and actively intervenes in African domestic politics to ensure preferred African partners, especially ones that share its ideology and worldview, adhere to China’s priorities. Beijing promotes its model of techno-authoritarianism, political control facilitated by intrusive technologies, and repressive internet governance, through the sale of advanced surveillance technology to African governments.

China shapes Africa’s media landscape by promoting narratives favorable to Beijing in African media, sponsoring education for African journalists, and leading the continent’s media migration from analog to digital technology. China leverages its influence to achieve other key objectives,

for example, garnering African support for Beijing's broader diplomatic priorities, especially at the UN.

Zimbabwe is perhaps the most striking example of China intervening in the domestic affairs of an African nation. Historically, Harare has been one of Beijing's closest partners in Africa. China-backed then guerrilla leader Robert Mugabe in his struggle against both Soviet- and Western-backed forces in the Rhodesian Bush War from 1964 to 1979, which culminated in the setting up of an independent Zimbabwe under the governance of Mugabe and his party, the left-wing Zimbabwe African National Union-Patriotic Front (ZANU-PF). China then diplomatically shielded the ZANU-PF regime, one of Africa's most repressive, and provided it with vital economic support, enabling the authoritarian regime to pursue ruinous economic policies and suppress popular opposition. In 2017, Beijing appears to have approved of a military-led coup d'état in Zimbabwe to protect its benefits and preserve the nation's pro-China regime. From 2016 to 2017, mass demonstrations occurred against Mugabe, with numerous pro-democracy groups backing or taking part in the protests, including the Movement for Democratic Change, the main opposition party, and the This Flag movement, a liberal reformist group. Fearing an apparent collapse of the ZANU-PF regime as a result of the protests, then Vice President and current President Emmerson Mnangagwa led a coup that ultimately overthrew Mugabe. Before the coup, regional media reported that Beijing provided a haven to Mnangagwa in China after a purge by Mugabe forced him to flee Zimbabwe. One week before the coup that overthrew Mugabe and installed a new regime under Mnangagwa, Zimbabwean General Constantino Chiwenga, who is close to Mnangagwa and was then, still trusted by Mugabe, visited Beijing in what the Chinese Foreign Ministry dubbed a "normal military trade." Given the timing of Chiwenga's visit and Beijing's deep ties to Mnangagwa and Chiwenga's political faction, evidence strongly suggests Beijing gave its blessing to the coup to ensure the survival of Zimbabwe's pro-Chin.

### **State-Owned Enterprises (SOEs)**

In 2006, the Chinese state-owned metallurgical and mineral resources developer and course or Sinosteel Corporation reached an agreement with Samancor Corporation, South Africa's largest chrome ore owner to jointly exploit chrome resources in South Africa. Sinosteel and Samancor each held a 50% stake in the joint venture. The deal between these two was a win-win project

with Sinosteel acquiring natural resources and South Africa receiving technology, managerial and marketing know-how, funds, and long-term access to the Chinese market.

This has contributed to economic development and increased bilateral trade for South Africa. It is argued, at times, that such collaborative operations between Chinese SOEs and large African firms are controversial because the profits of these joint ventures are reaped mostly by local authorities and corporate elites as opposed to the African people.

That may be so, however, SOEs are not the sole Chinese investors in Africa. China's non-SOEs are more active and included in retailing, trade, and low-tech primary processing industries than SOEs, and thus have much broader and deeper effects on local economic development in Africa. Unlike SOEs focusing on infrastructure and natural resources, Chinese non-SOEs tend to diversify more in Africa and often engage in several sectors. Since non-SOEs are often more engaged in local economic communities they provide more opportunities to develop human capital and create jobs in the host nations. Non-SOEs furthermore manufacture and sell cheap consumer goods, reducing the living expenses of African people. The success of the Angola Model is closely tied to Angolan government policy: natural resources in trade for infrastructure and equipment. However, whether local economic development and the African people can profit from Chinese FDI is highly dependent on institutional factors and how the host nation authorities choose to make use of the money.

### **Natural resources for cash**

When some African governments (e.g. Nigeria) decided to move from “natural resources for infrastructure and equipment” to “natural resources for cash”, things changed. While the former approach is normally beneficial to local development and the individuals as an entire, the latter one may only favor the nation's political and economic elite. The inflow of cash may be used to finance opulent lifestyles among powerful elites as opposed to being reinvested in the economy. Therefore, improving transparency within society and the political framework is an important matter facing African nations. Most Chinese investments in Africa are long-term. China has a clear strategy for Africa, however, Africa has no strategy for China. A way forward is for African nations to seek more economic diversity as opposed to relying solely on Chinese investments.



## **Local low-skill employment**

A critical claim is that local workers only get low- or semi-skilled operational jobs, while the high-skilled and managerial jobs are restricted to Chinese employees.

It is furthermore alleged that job education and technology transfer are disappointing because workforce education, although common, is mostly limited to low-skilled levels. Although this type of education is important as numerous recruits do need to start from the very fundamentals, most critical technical and managerial positions are indeed held by Chinese staff, due partly to cultural and language contrasts (Shen, 2013). Another reason is that Chinese non-SOEs are often family firms, in which the managerial positions are mostly occupied by family members. The location and quality of job production are more important for long-term economic development in Africa. Recently, Chinese investors have become increasingly focused on the job education and technology transfer. A good example is the Mombasa-Nairobi Standard Gauge Railway in Kenya with the China Road and Bridge Corporation as the prime contractor. Tracklaying was completed in 2016 and the railway was commissioned in 2017. The project employed 25,000 Kenyans, more than 16,000 of whom have been trained since the start of their careers in the project and 2,700 Kenyans have become qualified lab technicians, surveyors, or mechanics. Moreover, the company worked with Kenyan education institutions to establish education centres for railway technology and operations. The project thus brought to Kenya not only the railway hardware but furthermore advanced knowledge and skills for the construction and operation of the railway framework.

## **China's BRI investments**

### ***Debts on infrastructure***

Since 2011, China has been the biggest player in Africa's infrastructure boom, claiming a 40% share that continues to rise. Meanwhile, the shares of other players are falling precipitously: Europe declined from 44% to 34%, while the presence of US contractors fell from 24% to just 6.7% (Shepard, 2019).

Chinese FDI in Africa has increased rapidly over the past few years, with FDI flows to Africa reaching \$4.11 billion in 2017, up 70.8% from the preceding year (Prinsloo, 2021). During the

2018 Forum on China–Africa Cooperation (FOCAC) Summit, President Xi Jinping set a target of \$10 billion in FDI in Africa between 2018 and 2021.

Some nations in Africa have managed to successfully tap into FDI flows from Chinese firms in the manufacturing sector. The experience of Ethiopia and China shows the importance of SEZs, which offer investors favorable incentives, to facilitate inward FDI flows. Under its FDI strategy Ethiopia furthermore actively sought out technologically advanced firms and leaders in their respective industries, which led to crowding in other smaller investors. By branding its investment opportunities under China’s Belt and Road Initiative (BRI), Ethiopia attracted even more FDI. Ultimately, there was an alignment of benefits between Addis Ababa and Beijing, with Ethiopia attracting investment and enhancing manufacturing capacity and China exporting surplus capacity in Work-intensive industries.

In 2018 Chinese infrastructure commitments in Africa exceeded \$25.6 billion, making it by far the largest single source of financing after African governments themselves. As the continent continues to face a significant infrastructure financing deficit (currently estimated at \$108 billion annually (AU-PIDA, 2018), with growing debt stocks and servicing costs, these are pertinent dimensions of Africa–China infrastructure relations. On the one hand, infrastructure is a major enabler of economic development and China’s efforts under the BRI can help address this challenge. On the other hand, numerous have become concerned about Africa’s growing debt stock and debt servicing costs, especially in the fiscally constrained post-COVID-19 environment, and China’s growing share of debt exposure on the continent.

The decline in Chinese lending to Africa has been stark in 2018 (Moore, 2021). As recently as 2016, Chinese lending to the public sector in Africa was \$28bn. It declined to \$9.9bn in 2018 and declined again to \$7bn in 2019. Over the last two decades, China has emerged as the continent’s largest bilateral lender, committing \$153bn to over 1,140 projects in Africa, with power and transportation, where Africa has the greatest deficits, accounting for about 55%.

This slowdown in infrastructure deals from China is expected to continue, resulting in a reduction in the volume of projects, with more designated lending under more stringent lending terms.

The reasons for this decline are because changes in the Chinese economy, the uncertainty of the Chinese trade war with the US, and Chinese investment losses in Venezuela and elsewhere.

The picture of the effect of Chinese lending has always been complex. World Bank data showed that in about seven African nations, China accounted for over 25% of the debt stock. In another 12 nations, Chinese debt is less than 15% of all debt.

So when we speak of China's role in African nations facing debt distress, our attention is largely focused on seven: Djibouti, Angola, Republic of Congo, Cameroon, Ethiopia, Kenya, and Zambia.

Numerous African nations borrowed heavily to finance infrastructure on the back of expectations of higher revenues from exports. A significant descent in commodity prices, combined with an international economic slowdown towards the end of 2019, limited fiscal space, and mounting costs to counter the pandemic, placed governments and lenders on alert. It is expected that revenues for African nations in 2020 were slashed by \$45 billion as a result of these factors. At the same time, debt service costs were expected to increase to \$40 billion annually (Fabricius, 2020).

Neither private creditors nor multilateral lenders participate in the biggest international debt relief initiative, the G20's Debt Service Suspension Initiative (DSSI). Together, private creditors and multilateral lenders account for \$152.61 billion (68.6%) of the total debt of DSSI-eligible nations.

Nevertheless, China's share of outstanding African debt remains considerable, at \$57.65 billion (20.7% of the total). It has already taken some encouraging actions in this regard: it has joined the DSSI, signed debt suspension agreements between the Exim Bank of China and African nations, and waived interest-free loans because they mature at the end of 2020 for 15 African nations.

China's BRI, which lists 40 African partner nations, presents significant opportunities for these nations to reduce their infrastructure financing deficit, through key projects, for example, the Mombasa–Nairobi railway and the Addis Ababa light railway line. Chinese funding under the BRI fills a major financing gap for African nations, as numerous other financiers' funding pools are geared towards social infrastructure, while private capital markets remain expensive.

China is the central player in numerous of Africa's biggest ticket infrastructure projects — including the \$12 billion Coastal Railway in Nigeria, the \$4.5 billion Addis Ababa–Djibouti

Railway, and the \$11 billion megaport and an economic zone at Bagamoyo — is being developed via Chinese partnerships.

Investing USD380 billion in Africa between 2005-2018 alone, across the road, rail, concrete production, and electricity projects, TBY has been closely following Beijing's biggest endeavors on the African continent (The Business Year, 2021).

Here is an update on five lesser-known however important infrastructure projects underway.

### ***Mambilla Power Plant (Nigeria)***

First conceived in 1972, it took another 35 years for work to begin on Nigeria's Mambilla Hydropower Plant.

Awarding the contract to a Chinese consortium led by the Gezhouba Group in 2007, Nigeria's largest power generator is slated for completion in 2030.

To produce 3,050MW of energy, the project on the Dongo River will comprise four dams and two underground powerhouses with 12 turbine generators.

Completing the ground survey in 2010 and gaining the environmental approval in 2011, construction began on the USD 6 billion projects in 2017 with 85% funding from the Chinese Export-Import Bank and 15% from the Federal Government of Nigeria. Once finished, the mega-dam on the Dongo will help power 700km of transmission lines across Nigeria, and nearly double the nation's total electric power production.

Long the continent's biggest economy, and with the largest populace, arguably the main thing holding this giant back is its chronic electricity shortages.

Though the nation has in theory the capacity to produce 12,000MW of energy from hydro and thermal sources alone, most days it is only able to generate around 4,000MW. Once on the national grid, Mambilla will boost this by roughly 80%.

### ***Nairobi-Naivasha Railway***

Having already rebuilt the historic Addis Ababa-Djibouti line, not to mention the hugely important Nairobi-Mombasa line, China is losing no time in helping develop the rest of the East Africa Master Railway Plan.

China is building upon a storied tradition in the region, having famously already laid the 1,860km Tanzania-Zambia line in 1975 (whose capacity plummeted after Namibian independence and the end of Apartheid, both of which opened up new avenues for exported Zambian copper).

Set to bind together Kenya, Tanzania, Uganda, Zambia, Rwanda, Burundi, and even South Sudan, the East Africa Master Railway Plan's central artery will be the Mombasa-Kigali line connecting Kenya's largest port with the Rwandan capital and seat of East Africa's second-fastest-growing economy.

Though work has advanced on the Isaka-Kigali line, connecting Rwanda with Uganda, progress between Rwanda and Kenya, the train's main artery, has been slow.

That being said, important progress was made this year on the Nairobi-Kampala line, tying the Kenyan to the Ugandan capital.

### ***Walvis Bay Container Terminal (Windhoek)***

With container facilities, military bases, and proprietary rights over ports everywhere from Greece, Sri Lanka, and Djibouti to Rotterdam, Hamburg, and Antwerp, Beijing is interested in the southwest coast of Africa, a critical trade and shipping hub.

With USD300 billion in funding from the African Development Bank, the China Harbour Engineering Company Ltd. is slated to open a brand-new state-of-the-art 40-hectare reclaimed container terminal in Windhoek by the end of the month.

Set to increase the Namibian capital's total storage capacity from 350,000 to 750,000 containers per annum, the Walvis Bay container terminal will be a huge boon to helping spur the tiny 2.5m nation's nascent economy.

### ***Caculo Cabaca Hydropower Project in Angola***

Caculo Cabaca hydropower plant in 2017 is built by China's Gezhouba Group (CGGC). The firm has constructed Nigeria's Mambilla plant. The USD 4.5 billion Caculo Cabaca project is expected to produce 2,172 MW of energy upon completion in 80 months (roughly seven years—or 2024) and meet more than 50% of the nation's electricity needs.

To be constructed in the middle of the Cuanza River, the nation's longest waterway, which flows into the Atlantic Ocean at the capital of Luanda, Caculo Cabaca is furthermore expected to create 10,000 local jobs at the peak of its construction.

## **Long-range infrastructure planning**

### ***Port of Bagamoyo, Tanzania***

In a decade, however, the mud-and-thatch homes of Mlingotini, and a further four villages along this coastline 30 miles north of Dar Es Salaam (Tanzania), will be gone – razed to make space for a \$10bn Chinese-built mega-port and a special economic zone backed by an Omani sovereign wealth fund (Van Mead, 2018).

The area south of Bagamoyo – once notorious as a key staging point in the slave trade and unsuccessfully proposed 12 years ago as a world heritage site – is seen by China as a new Shenzhen. Before Deng Xiaoping designated Shenzhen as China's first special economic zone in 1979, it, too, was just a small fishing town. Presently it is a hi-tech hub and one of the world's biggest cities.

Bagamoyo, if the project goes ahead as planned, will be transformed into the largest port in Africa. That is looking ever more likely: after years of delay, the Tanzanian government says it is in the final phases of talks with state-run China Merchants Holdings International.

The lagoon will be dredged, to allow access to the vast freight ships that will queue numerous miles out to sea. As for the special economic zone, the original masterplan shows factories in a fenced-off industrial area, and apartment blocks to accommodate the estimated future populace of 75,000. There is even talk of a international airport. Numerous of the villagers have already accepted compensation for the loss of their homes.

The proposed radical transformation of the Bagamoyo coastline is an unofficial extension to east Africa as part of Chinese President Xi Jinping's Belt and Road Initiative – and is just the latest in a long line of China-in-Africa projects.

It is presently nine years since China overtook the US as Africa's largest trading partner. Although Kenya and Ethiopia were the only two African nations among the 30 nations signing economic and trade agreements at the Belt and Road Forum (Barf) in Beijing in May 2021, China has been busy on the continent.

### ***Kenya's and Ethiopia's railways from the capital***

The flagship Belt and Road project is Kenya's 290-mile railway from the capital, Nairobi, to the port city of Mombasa, which opened to the public last year. There are plans to extend that network into South Sudan, Uganda, Rwanda, and Burundi; it was already the nation's largest infrastructure project since independence.

Meanwhile, landlocked Ethiopia got a 470-mile electric railway from its capital, Addis Ababa, to the port in the neighboring dictatorship of Djibouti. The £2.5bn project – financed by a Chinese bank and built by Chinese companies – opened in January 2021. Addis's new light rail framework, too, was funded and built by China, and operated by Shenzhen Metro Group. And Djibouti, in exchange for major investments, preferential loans, a pipeline, and two airports, got China's first overseas military base.

While east Africa has been the main focus of Belt and Road on the continent, Chinese infrastructure projects stretch to Angola and Nigeria, with ports planned along the coast from Dakar to Libreville and Lagos.

### ***Revival of Tazara railway. Tanzania***

The new port of Bagamoyo could see the revival of the very first China in Africa mega-project": the Tazara railway line, stretching from the copper mines of Zambia to Dar Es Salaam.

Tazara dates back to the 1960s when Chairman Mao Zedong won friends on the continent by supporting anti-foreign movements, for example, that of Julius Nyerere in Tanzania. The 1,100-mile railway opened to much fanfare in 1976 – it was the first infrastructure project conceived on a pan-African scale.

Four decades later, the once-grand station in Dar Es Salaam stands empty most days, its missing ceiling panels exposing rotting beams and allowing water to pool on the floor. Two rusty trains a week rattle up and down the line. In the cavernous main hall, a few individuals wait under broken TV screens for an express service which is running nine hours late.

There is a proposed extension to Bagamoyo, and a plan to link a revamped Tazara to landlocked Malawi, Rwanda, and Burundi. The railway's chief executive has talked excitedly of 125mph trains.

There have been concerns about these loans. Research by the Centre for International Development found Djibouti was among eight Belt and Road nations significantly or highly vulnerable to debt distress from the loans – with IMF figures showing its public external debt swelling from 50% to 85% of GDP in two years. Though China loaned a whopping \$95.5bn to the continent between 2000 and 2015, researchers at the China Africa Research Initiative found most of this was spent addressing Africa's infrastructure gap. Some 40% of the Chinese loans paid for power projects, and another 30% went on modernizing transport infrastructure. The loans were at comparatively low-interest rates and with long repayment periods.

### **Colonialism with Chinese characteristics**

While China's tens of billions of investments and loans are greedily gobbled up by cash-starved African states, they are not as bereft of strings as is often claimed (Kelven, 2019). The BRI is trapping numerous nations in unsustainable levels of debt. At the same time, bilateral trade, though often increasing after the conclusion of a deal, remains one-sided, where China extracts resources for exports but imports cheap finished goods of questionable quality that undermine local manufacturers. With a nation's destiny thus chained to Beijing's wits, accusations of Chinese "neo-colonialism" are rising – not surprising given Beijing's scramble for Africa.

### ***Guinea's bauxite reserves,***

China has laid its eyes on Guinea's bauxite reserves, one of the world largest, to keep its aluminum industry running. Promising a loan double the size of its GDP, mining projects in Guinea's Boké prefecture under the auspices of Chalco and TBEA Co Ltd, as well as in the Télémilé district with CDM Henan China, are well underway.



In 2018, SMB-Winning Consortium made up of Wining Shipping, logistics firm UMS and producer China Weiqiao, promised US \$3 billion for infrastructure and smelter projects in Boké. That same year, another Chinese aluminum firm, Zibo Rundi, was awarded a 25-year mining concession containing 1 billion tonnes of bauxite.

These deals are cementing Guinea's position as the main bauxite exporter for China. Last year, Guinea exported 38.2 million tons of the aluminum precursor to Chinese smelters. The problem is that deals concluded between Beijing and the African governments are hardly the "win-win" outcome Beijing promises.

In Guinea, the populace is profiting little from the bauxite boom. In May last year, workers at a Boké mine went on strike for two weeks in protest over the arrest of a union leader. A volatile region because of the wealth discrepancy between the mining companies operating there and the poor local populace, riots broke out in 2017 over health and environmental issues, brutally suppressed by government forces. More recently, in April, workers at the CDM-China-owned mine in the Telimélé district went on strike demanding better working conditions.

### ***Zambia copper mines***

In Zambia, similar conditions for the local populace prevail. Having invested there for its rich copper mines, China has moved men and machinery to the nation, replacing Zambians with Chinese workers and causing a spike in unemployment in the nation's mining heartland in the course. Safety regulations for locals are routinely flouted as miners are required to work for two years until they are given fundamental protective gear. The condition has escalated since 2015, and Zambian observers assert that the influx of the Chinese will threaten the sovereignty and security of the nation.

### **Corporate and social responsibility (CSR)**

Chinese firms have started changing their attitude towards CSR and environmental matters to protect their brand reputation in Africa.

### ***Sinohydro***

Sinohydro invested USD900 million in 30 projects in Angola including hydropower, hospitals, schools, and public transportation. It has trained and employed over 8,200 local workers. In 2011, it sponsored the setting up of water facilities for schools in Nairobi when Kenya had its worst drought in six decades.

The Mombasa–Nairobi Standard Gauge Railway, which passes through the Tsavo National Park at ground level, is with consequential risk of collisions with wildlife built six viaducts at regular intervals to allow for the safe passage of wildlife. The remainder of the railway section through the park is elevated on high embankments to further reduce collision risks.

### ***China International Trust and Investment Corporation (CITIC)***

In 2015, CITIC collaborated with International Finance Corporation (IFC) and announced the launch of a USD300 million investment platform to develop affordable housing and provide 30,000 African homes over the next five years. It started in Kenya, Nigeria, and Rwanda and next expanded to other Sub-Saharan nations. Experiencing the highest rate of urbanization in the world with approximately 40,000 individuals migrating to cities every day, Africa faces serious urban housing shortages. Kenya's shortage, for example, is estimated at 2 million units. Nigeria needs 17 million more units. UN-Habitat reports that in nations like Nigeria and Sudan over half of the urban populace lives in slums, partly because few local developers possess the technical and Economic strength to construct large-scale low-cost projects however furthermore because the low-cost housing market is less profitable than that for higher-income groups. The 30,000 new homes planned by IFC and CITIC could be an important contribution. CITIC was selected since it has recently completed a 200,000- unit housing program in Kilamba Kiaksi, a new town in Angola. In a mere 54 months, CITIC built 710 residential buildings in addition to 41 schools and kindergartens, 246 shops, a power substation, water purifying and sewage treatment plants, and roads and traffic lights. Nonetheless, the new town is almost a ghost city with the larger part of the apartments unsold, as their price is prohibitive to most Angolans. Such ill-conceived projects reveal that Chinese firms should engage more with local authorities and civil society to better understand and respond to local needs.

## **Impact of AfCFTA agreement on China**

China is positioned to gain from two significant constraints to accelerate the Development and diversification of intra-Africa trade (Munemo, 2021).

Infrastructure deficits are widespread in most of the nations in Africa. These deficiencies burden African exporters with high input costs, high transport costs, and expensive delays in reaching international markets. They are a particularly significant handicap for the transit of goods to and from the 15 landlocked African nations. Implementation of the AfCFTA agreement will thus provide Chinese companies with additional business opportunities to undertake infrastructure investment projects needed to advance regional trade integration in Africa.

Exports remain heavily concentrated in conventional primary products, with the top four export products being petroleum oils, gold, diamonds, and cocoa beans. The main imports of African nations consist of manufactured and capital goods (machinery and equipment). Potential African gains from regional trade integration under the AfCFTA are likely to be relatively small, and China will continue to profit from being the largest supplier of Africa's imports.

If the AfCFTA is successful in diversifying production and export structures over the medium term, this will facilitate the participation of African firms in global value chains.

## **Strategy for Development**

Tribal and local area division could be compensated by efficient informal cross-border trade (ICBT). Every child shall learn first the language of the immediate environment. Local and international corruption could be limited by encouraging transparency of the governmental decisions as an example for the downstream levels. The industrialization of the African economy is required in mineral and agri social sectors fostered by joint efforts around a common vested competitive advantage in selected sectors.

### **Community integration**

Community disintegration is the result of the multidimensional boundaries of contact, partition and politics.

ICBT is a trading network reconnecting communities that were divided by the political boundaries. It is necessary to legalize, support, and improve it through relevant regulation and supply services, for example, warehousing, energy supply, accommodations, and health services. ICBT can be legal and profit from poverty reduction.

### **Africanize education framework**

Language, as a socio-cultural product, thus becomes a critical component of human learning because it is through language that individuals can acquire the deepest cognitive development possible. Mother tongue first improves the confrontation with the foreign culture related to the foreign- international language introduced later.

Every child shall learn first the language of the immediate environment. Furthermore, in the interest of national unity, it is expedient that every child is required to learn one of the main local dialects and the language connected to globalization.

### **Improved state management**

According to Mandela's economic experience, education, political and social building capacity for the young generation could cut unemployment and open the floor to renewed African elite focused on regional positioning profiting to local and neighboring populace.

Local and international corruption could be limited by encouraging transparency of the governmental decisions as an example for the downstream levels.

A common platform managing rate of change between local African currencies will improve Africa's regional trade and strengthen the international trade positioning of African nations. This platform will prepare the ground for the future common currency, the ECO.

Small producers organized in partnership, association or cooperative supported by credit schemes could enable economies of scale and more efficiency in sectors, for example, agriculture, mining, or energy.

### **Less economic reliance**

The African domestic processing industry suffers from the liberalization which increased the presence of multinational firms preventing any local economic development. The industrialization of the African economy is required in mineral and agricultural sectors fostered by joint efforts around a common vested competitive advantage in selected sectors.

### ***Mining***

Mine represents for a region a pole of economic development because mines buy products and services from foodstuff products to transportation, maintenance construction, and health services. Their purchasing policy has to be planned in cooperation with the local authorities.

The Chinese “Angola Model”, infrastructure construction for raw materials, has to be worked on by industry transformation and debt transformed into partnership.

### ***Coffee and Cocoa***

Coffee and cocoa growers and trees are relatively old. The focus must necessarily be on the rehabilitation and re-planting and formation of the new generation.

A strong organization of coffee suppliers in African nations at the origin of the supply chain is required to confront the international institution's policy supporting MNCs' domination.

A better sharing of revenues has to be negotiated. A national policy improving the economic environment through centers of research, professional education, and relevant fiscal policy is required in the nations producing coffee and cocoa to attract investment in the processing of those raw materials locally.

### ***Cocoa and Shea***

Cocoa and shea are produced in the same African countries. The production of chocolate depends on those two ingredients. Partnerships between those African countries could improve negotiations with chocolate leaders in order to have a better sharing of revenues along the value chain.

### ***Shea butter and Acacia gum***

Shea butter and Acacia gum produced mainly in African countries are valued ingredients of the cosmetic and pharmaceutical industries. Africa could, by adequate partnerships, attract investments of companies in those domains in order to process locally.

Joint initiatives of the relevant countries in Africa could convince some of the MNC's involved in those domains to transfer to Africa a part of the acacia gum value chain in Africa.

### ***Cotton and organic cotton***

Demand for organic cotton is growing and Africa has the required environmental conditions to produce high quality cotton and attract investment for more local transformation from the spinning factories to textiles items production

### ***Palm oil***

African villagers in numerous parts of the region have a long history of cultivating palm and producing palm oil and women are usually the main actors in these small-scale frameworks. They furthermore produce palm oil that is of higher quality and more suited to local food cultures.

The common partnership of growers and producers could advance African palm oil quality, pricing, and business efficiency and confront better the competition of MNCs.

### ***Sesame***

Sesame oil is its long shelf life due to the antioxidant, sesamol. This quality makes it applicable for use in the manufacture of margarine where there is inadequate refrigeration. Sesame oil is also used in paints, soaps, cosmetics, perfumes, bath oils, insecticides and pharmaceuticals.

### ***Rubber***

A key challenge of numerous large-scale land investments has been furthermore the absence of adequate consultation and consent-seeking, especially where the government was included as a player.

A healthy and wealthy production of rubber will profit the local populace and the MNCs. Efficient water management and re-use of filtrated water by the plantations and other agriculture applications is required.

### ***Cobalt and coltan***

Africa is the main source of cobalt and coltan used in the production of magnets, capacitors and alloys used by the high tech industry especially in the electronic and automotive markets. China which imports and process those raw materials could share the processing with Africa in selected domains.

### ***Copper***

Copper plays a central role in the gas production and distribution in the maritime transportation and construction markets. Processing in Africa of a part of the value chain could start a reverse colonization process.

### ***Polished diamond***

The Botswana diamond model is available furthermore for other raw materials to generate economic development. This model includes the following sections:

PPPs with leading companies in the sector; A national research institute; Factories; Manufacturer association; Top-level products categories; Academic and education institution.

### ***Regional free trade agreements***

African free trade agreements have a limited impact on the international trade of the members and profit of the nation chiefly to strong members.

Africa's economic model depends on exporting primary products and importing high value products. African free trade agreements presents an opportunity to end this cycle of reliance by developing Africa's economy through alliances and common industrial development.

### **Infrastructure deserving African economies**

Regional cooperation fostered by power pools and cross-border transmission networks is critical to closing the electricity gap.

Roads are the predominant mode of transport in Africa. Better transport links can cut logistics costs of raw materials however furthermore of local businesses and improve productivity and living conditions.

China's initiatives under BRI is trapping numerous nations in unsustainable levels of debt. The solution could be investment participation instead of loans and payment based on revenues generated.

### **Corridors**

Private investors are chiefly interested in improving the transportation efficiency and costs for /their interest or the interest of MNCs exporting products or raw materials. PPPs could take in account the economic and social interests of the regions involved and limit the burden of loans.



### ***Central corridors***

Agri-business; Cameroun: maize and rice

Renewable energy; Extreme North region of Cameroon and Chad has among the highest potential for wind and solar energy on the African continent.

Mining; Central Africa: valuable metals used in the production of rechargeable batteries.

National and sub-national economic generator; The Douala-Edéa-Kribi development triangle is well suited for the development of pharmaceutical industries.

### ***West corridors***

West Africa Clean Energy Corridor (WACEC): to plan, operate and maintain power grids and markets with higher shares of renewables-founded electricity.

Cross-border transhumance corridor: A strip of land reserved for livestock passage to access pasture, a source of water, or other herd infrastructure, Sahel and bordering nations.

### ***East and Southern Africa corridors***

#### **Nacala Corridor**

Agriculture: Mozambique: sugar, tobacco, and cotton. Malawi: tobacco, sugar, tea, cotton, aqua-farming. Zambia: cotton.

Tourism; Mozambique: Pemba Malawi: Cape Maclear (World Heritage), Liwonde National Park, Mulanje Forest Reserve. Zambia: South Luangwa National Park.

Anchor Projects: Moatize Coal Mine Project (Tete, Mozambique), development of a railway transport in Northern Mozambique; Chipoka Ilmenite Mine (Chipoka, Malawi) and Mangochi Heavy Mineral Sands (Mangochi, Malawi).

### Mtwara Corridor:

Mining: Tanzania: coal, iron, vanadium, titanium, gold, niobium, platinum. Malawi: uranium, niobium, tantalum, zircon.

Petro-Chemical Industries: Songo Songo (Tanzania); Mnazi Bay Gas fields (Tanzania)

Tourism: “Bush’n Beach” Tourism (Tanzania) Selous-Niassa Transfrontier Conservation Area (Tanzania)

Anchor Projects: Mchuchuma–Katewaka Coal Mine Project (Tanzania) Mchuchuna Thermal Power Station (Tanzania)

### Beira Corridor

Mining: Mozambique: coal, niobium-tantalum, gold, fluorite, tin, heavy mineral sands, pegmatite minerals. Malawi: bauxite, heavy mineral sands. Zimbabwe: platinum and nickel.

Agriculture: Mozambique: cotton, sugar processing, rice production, timber processing, fruit production and processing, horticulture, largescale operations for cattle, jatropha, and cotton

Tourism: Mozambique: investment and rehabilitation of Gorongosa National Park Anchor

Anchored Projects: Beira Port Fertilizer Terminal Project, DRC Dombe Jatropha Biodiesel Project.

### ***North-South Corridor***

Mines: Zambia: copper, cobalt, coal. DRC: copper. Botswana: coal. Zimbabwe: platinum, coal.

Tourism: Zambia and Zimbabwe: Victoria Falls (World Heritage); Zimbabwe: Great Zimbabwe (World Heritage); Safari

Anchored projects: Lumwana Copper Mines.

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Economic reliance is more profound because numerous African nations have borrowed heavily to finance infrastructure. Chinese "Angola Model" by which exports of raw materials is compensated by loans financing investment in infrastructure, could be also worked on by transport, health, housing, and education services deserving the population. Growth due to exports of raw materials without investment on the economy illustrates the colonial and post-colonial period. More raw materials exported and more vehicles imported benefit to other nations and the economy turns out to be increasingly more reliance on foreign countries.

Partnerships between African countries producing similar or complementary raw materials or agricultural products could generate industrialization and reverse reliance. African partnership could be a part of the leadership in the international processed coffee market with a wide range of original brands. Cocoa and shea are produced in the same African countries. The production of chocolate depends on those two ingredients. Partnerships between those African countries could improve negotiations with chocolate leaders in order to have a better sharing of revenues along the value chain. Shea butter produced exclusively in African countries is a valued ingredient of the cosmetic industry. Sesame oil is its long shelf life due to the antioxidant, sesamol. This quality makes it applicable where there is inadequate refrigeration. It is also an important ingredient in cosmetic industry.

Africa could, by adequate partnerships, attract investments of cosmetics companies in order to process locally shea butter and sesame as food and cosmetic ingredients. African natural and highly valued palm oil produced locally could lead the palm oil specialties market, high value high price.

**Ilan Bijaoui, Ph.D**

Bar Ilan University, Israel