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Establishing Central and East Africa as Sources of Quality
Products and Investment Destinations of Choice, to
Accelerate Industrialization and Economic Diversification,
and to Strengthen Food Security

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accelerate industrialization and economic
diversification, strengthen food security i
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ABSTRACT:

The aim of the Bujumbura meeting, organized by the ECA, is to make Central Africa (ECCAS) and East Africa (EAC) origins of quality and premier investment destinations to drive their sustainable development in a bid to build Africa's common market. The purpose is to identify the possible causes of delays in these two areas, and where appropriate, to devise integrative, creative and sustainable remedial solutions.

To achieve this objective of bridging the gap in these RECs under study, the methodological prerequisite adopted, built on a holistic approach, consists in comparing performance in the field. Against this backdrop, it would be appropriate to start by defining the concept of quality according to different schools of thought, as well as the concept of implementation as developed by UNIDO on quality infrastructure. These are the integrated theoretical and practical elements of Feigenbaum's concept of Total Quality Management (TQM) for the development of economies as the "access key" to markets. We attempt to assess this in Central Africa (ECCAS area) and East Africa (EAC area).

Three main challenges have been identified around the issue of quality, namely the ability of these two RECs to implement a quality policy, so as to drive a paradigm shift towards a genuine policy of continuous improvement. In other words, the aim of the AfCFTA strategy is to transform natural resources through industrialization, to boost exports and create value. Hence the acceptance of the coexistence of two other factors: integration and industrialization, to amply address quality as a key to markets.

This systemic reality of an integrated quality with other determinants underpins the first part of this paper, which is a diagnostic analysis of performance monitoring. This is done through the adoption and rollout of the quality infrastructure, thus providing a clearer picture of the quality lag of these two RECs. The second part of the document seeks to identify the gaps or explanatory factors driving industrialization in Central Africa. The most striking feature is the delay in the systematic implementation of national master plans (PDIDE) and regional master plans (PDIDE -AC). A systematic lack of approach to the creation of high-potential value chains within new-generation SEZs (NGSEZs), as advocated by the ECA, is hampering the chances of establishing a genuine policy of standards and best practices, particularly in the industrial sector.

All these problems will be iron out provided a genuine cooperation and collaboration policy is implemented as part of a borderless quality-through-excellence approach, allowing each of these RECs to fit into the global ecosystem of cooperation and collaboration.

Keywords: *Agreements, Quality, Quality infrastructure, Integration, Standardization, Norms, Production, Standards, SEZ.*

ACRONYMS & ABBREVIATIONS

AIDA	System information, diagnostics and benchmarking
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank
AMU	Arab Maghreb Union
AMV	African Mining Vision
ARSO	African Organization for Standardization
ASEAN	Association of Southeast Asian Nations
AU	African Union
AUII	African Union Integration Index
BIAT	Action Plan for Boosting Intra-Africa
CAADP	Comprehensive African Agricultural Development Programme
CAR	Central African Republic
CCP	Computer Continuity Planning
CEA	Economic Commission for Africa
CEMAC	Central African Economic and Monetary Community
CEN-SAD	Community of Sahel-Saharan States
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
EAC	East African Community (EAC)
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EFRP	Economic and Financial Reform Program
EPA	Economic Partnership Agreement
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
IAEA	International Atomic Energy Agency
IEC	International Electrotechnical Commission
IGAD	Intergovernmental Authority on Development
IIRA	Index of Regional Integration in Africa
IMF	International Monetary Fund
IPI	Industrial Policy Institutions
ISO	International Standard Organization
JISC	Japanese Industrial Standards Committee
NBR	National Bank of Rwanda
ONSSA	National Office of Food Safety
PDI	Industrialization Master Plan
PDIDE-AC	Central Africa Industrialization and Economic Diversification
PIDA	Programme for Infrastructure Development in Africa
QI	Quality Infrastructure
REC	Regional Economic Community
SADEC	Southern African Development Community
SDGs	Sustainable Development Goals
SEZ	Special Economic Zone
STP	Sao Tome and Principe
SWOT	Strengths Weaknesses Opportunities Threats
TBT	Technical Barriers to Trade
TQM	Total Quality Management
UNCTAD	United Nations Conference on Trade and Development
UNCTADSTAT	UNCTAD Statistical Data Dissemination Platform
UNIDO	United Nations Industrial Development Organization
UNIDO	United Nations Industrial Development Organization
VAT	Value Added Tax
VC	Value Chain
WAQP	West Africa Quality Program
WAQSP	West Africa Quality System Program
WTO	World Trade Organization

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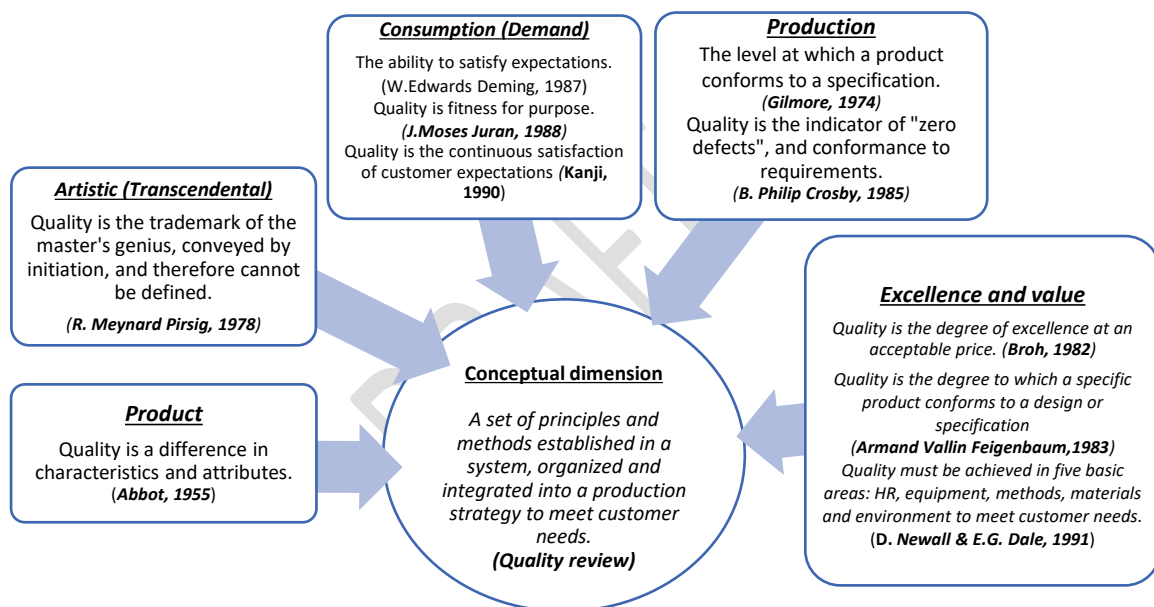
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INTRODUCTION AND STRATEGIC BACKGROUND

1. This conference's theme is consistent with the African Union (AU) Commission's Agenda 2063. As an integrative approach, regionalism through quality-intensive industrialization takes into account the Niamey Appeal, which called for the implementation of the Industrialization and Economic Diversification Master Plans (PDIDE) and the Continental African Free Trade Area (AfCFTA) without delay, in order to successfully build the world's largest-ever common market by 2063. To this end, the diagnostic assessment approach facilitates a performance-based benchmarking through excellence, to emphasize the importance of quality and related instruments as key success factors for access to intra- and extra-African markets. It is thus more than ever essential to clarify the concept of quality. It is therefore worth examining the central themes and sub-themes of ICSOE 2023 by defining and understanding the holistic and cross-cutting dimension of the notion of quality (Figure 1).

Figure 1: Common definitions of quality



Source: Author

2. These different thoughts seek industrial excellence through artistic production, economic production of markets, consumer needs and value creation for an Africa "without borders". An Africa of quality, developed through its products, services and attractive market offer as part of economic freedom without exclusion. A vision of quality seen as a whole in the sense of Feigenbaum's TQM¹ concept, enabling acceptance to boost growth so that it is truly transformative and inclusive. It is clear, then, that these main definitions share the common goal of fully meeting the needs of customers², be they

¹ Armand Vallin Feigenbaum (1983), Total Quality Management, McGraw-Hill.

² UNIDO has also adopted the principle that quality aims to ensure that products and services meet customer requirements.

consumers of products or services, and that all the world's major markets are seeking to benefit from mass effects³, with a view to the economic communities of large free-trade areas such as the AfCFTA.

3. Quality thus becomes one of the barriers to inclusive and sustainable development, as it consists of a spectrum of requirements whose fulfilment by nations becomes key to accessing the sought-after industrial excellence. As it stands, Africa has established dedicated institutions⁴ with proven skills, enabling it to support the process of aligning itself with global benchmarks in the field. It has adopted a quality policy, which in turn has led to the need for a quality infrastructure (QI). Production-backed quality with industrialization and economic diversification master plan projects as envisioned in the Central African (PDIDE-AC) and East African areas, ARSO standards with the shared ambition of translating into reality slogans such as “one standard, one test, one certificate accepted by all”, conveying the brand of an African origin or MADE IN AFRICA, as per the illustration provided by UNIDO in figure 2 (UNIDO, 2013).
4. Does all this fit in with the strategy and pragmatism of nations competing in this highly strategic field? If so, why do Africa and its sub-regions always seem to lag behind, or fail to get off the ground in their quest for strategic repositioning in the ever-changing industries or fields of manufacturing and services, and in many other strategic or potential areas of intervention open to the competition of nations?
5. The literature and the community rapprochements examined reveal that integration stakes face other challenges, such as the accelerated industrial development for Africa (AIDA), for which quality is the determining factor. The products and services produced by the industry must be built on the solid foundation of Africa's integration, a challenge clearly enshrined in Agenda 2063. Accordingly, UNCTAD's Secretary-General asserts that⁵ “The AfCFTA has immense potential to spur economic growth and transform the continent's development prospects if additional measures are taken to achieve and fairly distribute its many potential benefits, as these gains will not be automatic” In other words:
 - Implementing Africa's quality policy is the first challenge to be met, as all the major markets have a quality backbone in the form of a strong industry, whose quality standards are the ultimate access key to markets. The main challenge for Africa is to significantly boost its volume of trade, from its current level of between 10% and 13%, to at least 25%, according to the BIAT action plan to boost intra-African trade;

³ USMCA (United States, Mexico and Canada to replace NAFTA); ASEAN (ASEAN (Association of Southeast Asian Nations)); MERCOSUR (South American Common Market); EU (European Economic and Political Union); AfCFTA ((African Continental Free Trade Area).

⁴ CEAE, ARSO...

⁵ Rebeca Grynspan,

Figure 2: Visualizing the depth and breadth of a typical quality infrastructure system



UNIDO: 2013

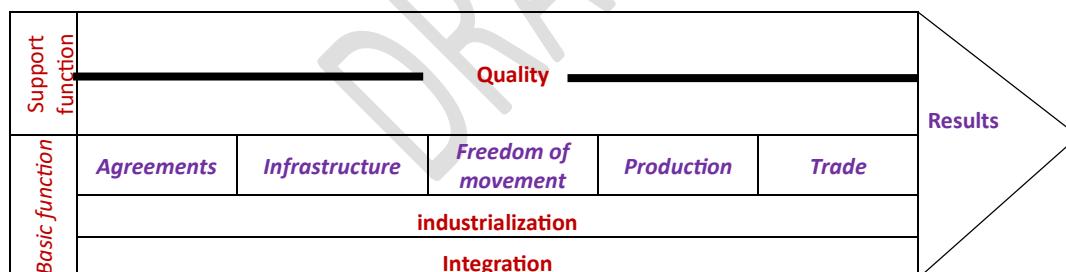
- A real commitment to a radical paradigm shift in Africa's development will help rise to the challenge of a policy of constant improvement, aimed at achieving “better management of commodities and natural resources for the benefit of African populations, to spur economic growth”. Agenda 2063, which "aims to identify, formulate and implement policies and programs to add value and derive higher incomes from Africa's commodities, produced from global value chains through the strategy of vertical and horizontal diversification anchored in value addition and local content development";
- By accepting products of African origin, quality is key to meeting the challenge of accessing different markets for products from the industrialization of targeted RECs, to better circumvent the challenge of achieving inclusive growth in a world marked by changes driven by contextual turnabout that have become brutal and frequent⁶. Yesterday's COVID-19 and today's Ukrainian

⁶ Intra-African trade can drive inclusive growth. It is currently down to 14.4% of total African exports, yet the continent's current untapped export potential stands at \$21.9 billion, representing 43% of intra-African exports. The report finds inclusive growth out of reach as it stands.

crisis are pushing up poverty and inequality in Africa, thereby limiting the stimulation of sustainable, inclusive growth through numerous externalities⁷.

6. Quality is one of the keys to Africa's development through increased trade. It should therefore be borne by all, as Africa embarks on its common market ⁸, with quality being a determining factor in world market exchanges. However, real implementation gaps are apparent, as in the case of the Central African region, which is at the crossroads of the continent due to its geographical location. Quality is therefore a systemic issue with integrated determinants. To better address the issue, we need to integrate its underlying dimensions: regional economic integration among each REC's member states, with a view to eventually creating a large African Economic Community (AEC); industrialization as envisioned in the Action Plan for Boosting Intra-African Trade (BIAT), to achieve Accelerated Industrial Development for Africa (AIDA), through an adequate quality infrastructure.
7. We are gearing towards a pragmatic conception in which determinants are interlinked and contribute to quality, the products access key to market. Therefore, their systemic nature is inevitable, as shown in Figure 3, taken from Michael Porter's basic value chain model. Quality as a vocation is a support function, cross-cutting the main basic functions. In fact, quality always has a backing instrument; it is driven by agreements, infrastructure, freedom of movement, production and trade, the first backbone of which is integration, and the second, implementation through industrialization with a view to achieving the result: Africa's inclusive development.

Figure 3: interdependence of determinants and functions



Source: Porter's value chain model adapted by the author to highlight the dimensions of quality.

8. The overall question to be answered is as follows: To what extent are factors underlying the implementation of the AfCFTA's through the identified determinants, the reason for delays of *Made In Africa*, production, a real driver of inclusive growth in the ECCAS and EAC RECs? Would the answer to the question of quality lie in the following main proposition? The solution to the delays in quality implementation for production originating from the targeted RECs is part of a regional cooperation

⁷ UNCTAD's Economic Development in Africa report, published on 8 December 2021, notes the challenge in achieving solid, inclusive economic growth in the AfCFTA as it stands, and yet this should have led to increased productivity and more opportunities. In fact, less than half of African countries have achieved inclusive growth over the past 20 years, leaving 34% of the continent's households below the international poverty line of those living on less than \$1.9 a day.

⁸ Africa, at this crossroads, must rise to the challenge of free trade to make it the world's largest market, with a demand of over 1.3 billion consumers. Especially as the UNCTAD report points to an untapped opportunity of \$22 billion in this field, representing 43% of intra-African exports. It indicates that an additional export potential of \$9.2 billion can be realized through partial tariff liberalization under the AfCFTA over the next five years".

approach by the RECs, through to the implementation of a collaboration of skills through the value chains of their main productions.

9. That said, we are tempted to assert that the answer to this main question is found in the holistic approach adopted, based on:

- Documentary exploitation via content analysis of relevant literature on the subject, in a REC benchmarking approach;
- Research and illustration of cooperation factors to bridge the gaps in the targeted RECs.

10. This said, the first part will take stock of the factors underlying the delay, by drawing up a diagnostic assessment by integrated determinants stemming from the challenges of the Agenda 2063 program; The second part will analyze the situation with a view to finding pragmatic cooperative and collaborative solutions aligned with current realities.

I. MONITORING THE OVERALL PERFORMANCE OF SOME INDICATORS AND TARGET RECs AREAS⁹

11. The first observation from the literature on Africa and the two communities (ECCAS and EAC) is that they are certainly behind schedule in implementing the AfCFTA and AIDA policies, but the reasons for this differ on the economic side of Agenda 2063 for each region.

12. Also, one of the reference documents used: the Africa Regional Integration Index (ARII) 2019, however, points out in its recommendations that ECCAS and EAC have some disparities compared to other RECs. That ECCAS and EAC have an atypical weakness in promoting the productive and infrastructural dimensions, in that: "ECCAS and EAC are not signatories to any operational bilateral investment treaty. Although investment is key to promoting the productive and infrastructural dimensions, the performance of which is ambiguous, these decision-makers have not taken concrete steps to make investment a reality in these regions, or at least the cornerstone of their industrialization". To this end, a harmonized action plan should be devised to safeguard the macroeconomic stability of these regions. Unlike the other RECs, ECCAS and EAC have an atypical weakness when it comes to promoting productive and infrastructural dimensions. They are not signatories to any operational bilateral investment treaty.

The ARII report (Author, 2019) recommends a harmonized action plan to safeguard the macroeconomic stability of these regions, and disciplinary measures

13. Indeed, the lack of a bilateral investment treaty¹⁰ also highlights the equally important aspects of quality in these two regions, justifying in part the option of researching the factors that underpin quality. All of which will help take stock, through the three levers identified (regional integration,

⁹ Central and East Africa.

¹⁰ A bilateral investment treaty offers advantages to companies such as protection against discriminatory, arbitrary or abusive measures by the host state, guarantees of fair and equal treatment, legal security and compliance with international standards, compensation in the event of direct or indirect expropriation of their investments, freedom to transfer investment capital and income, and access to international arbitration in the event of a dispute with the host state, enabling them to avoid local courts which may be biased or ineffective.

industrialization policy and quality policy through its infrastructure), of Agenda 2063 challenges, of including quality.

1. DIAGNOSTIC ASSESSMENT OF THE CHALLENGES FACING REGIONAL INTEGRATION POLICY IN THE TARGET RECS

14. This assessment provides an overview of the overall situation, by stakes and through the main challenges, in order to determine the weaknesses of the three determinants of this communication (integration, industrialization and quality in relation to "Made In Africa").

1.1. REGIONAL INTEGRATION, THE BASIC DETERMINANT

15. As stated by the African Union as part of its integration policy aimed at creating an economic community, it is essential to promote and expand intra-continental trade. As such, it is crucial that "Made In Africa" products are consumed more by Africans themselves. In general, creators and innovators worldwide use intellectual property to transform their ideas into assets. These assets yield economic and social benefits that improve the lives of people around the world. It is with this in mind that the ECA (Economic Commission for Africa) and ARSO (African Standards Organization) have teamed up with other partners to enhance the "Made In Africa" initiative and give it the utmost attention, particularly where quality is concerned.

1.2. ASSESSMENT OF THE CHALLENGES OF REGIONAL INTEGRATION IN TARGETED RECS AREAS

16. This diagnostic assessment is based on a cross-referencing of five related challenges drawn from the main reference frameworks, enabling an evaluation of the targeted RECs according to table 1, in order to identify any lagging factors.

17. The following assessment of the targeted Regional Economic Communities (ECCAS and EAC), as part of the integration process, leads to the following conclusions: For ECCAS, the COVID-19 crisis diverted States from their initial option of Africa's Agenda 2063. For example, the ECCAS Community, which holds the CEMAC bloc, is more focused on its recovery program than on exports and imports. Its main objective is to return to a balanced budget, which its members consider to be a priority. For EAC in East Africa, this agenda is still the same, but without service statements. However, it is expressing a specific demand for better integration of its historic agreements. The following section will help us understand the causes of the delay gaps and consider better proposals.

Table 1: Assessments of regional integration policy in targeted RECs (ECCAS and EAC)

Key challenges	Observation	Evaluation	ECCAS/CEMAC Area	EAC Area
Economic integration	The establishment of the African Continental Free Trade Area (AfCFTA) to boost intra-African trade in March 2018, entered into force in May 2019, with trade starting in January 2021.	The state of play reveals a low average level of integration on the continent, with an average score of 0.327. Value chain organization is still lagging behind.	Is CEMAC /CEEAC coexistence a handicap? Diversification has been chosen as the solution for recovery through structural adjustment with a master plan. Central Africa has an industrialization and economic diversification master plan (PDIDE-AC).	The average level of integration according to the draft Agenda 2063 is a good African performance, with a rate of over 80%, but operationalization is lagging behind. The EAC has an industrial strategy, you will find their priority value chains by clicking on the link below: https://www.eac.int/industry/eac-and-industrialisation/priority-sectors
Infrastructures (logistical challenges of input and output fluidity)	Relates to mobility for the fluidity of raw materials and products, logistics issues, which also concern response times and the intensity of trade.	Overall infrastructure performance is weak, with a score of 0.220. The costs involved depend on how straightforward the procedures are, and on the availability of dedicated infrastructure.	With a score of 0.373 and a gap that is difficult to bridge given its central geographical position. Transporting goods between Douala and N'Djamena is six times more expensive than between Shanghai and Douala.	At 0.555, East Africa is one of the top performing RECs in this area.
Stimulating inter-African trade	Major challenge of AU policy for inclusive growth	Trade integration index is 0.383, rated with low performance	Its score in the CEMAC zone, made up of 6 states, is 0.357, lower than the average, compared with 0.730 for the best performance held by Eswatini.	The EAC area had a score of 0.440, the best performance being 0.481. Holding the second-best score, the area excels in inter-African exports and imports and informal cross-border trade.
Legality (WTO measures and existing agreements, AfCFTA measures)	A number of treaty commitments and other agreements pre-exist at REC level at the launch of the AfCFTA, and their fate needs to be determined	Explicit recognition of the free trade areas (FTAs) of the Regional Economic Communities (RECs) as constituent elements of the African Continental Free Trade Agreement.	The CEMAC/ECCAS rationalization agenda focuses, among other things, on the budgetary and financial recovery of the six CEMAC states, and the spin-offs of this economic mission are included in the PREF CEMAC agenda.	Article 1 recognizes the eight RECs of the AfCFTA and Article 18 (3) is in harmony and emphasizes that the AfCFTA does not nullify, modify or revoke the rights and obligations arising from pre-existing trade agreements between the States Parties and third parties.
Cross-cutting issues	Relate to the Sustainable Development Goals (SDGs) in relation to informal gender activities, investment, intellectual property, public procurement and competition.	The AU Agenda has taken these issues into account with regard to SDG1, for which development is inclusive.	Some countries do have standardization agencies, as technical barriers to trade under EPA agreements, but these standards are of limited scope. However, 'no country has a quality infrastructure consistent with Agenda 2063.	Gender, youth employment, technology, people with disabilities, the environment and health are all taken into account in the EAC's positioning strategy for the AfCFTA.

Source: Author, content analysis of various AfCFTA program documents (2019 to 2023) in bibliography

2. DIAGNOSTIC ASSESSMENT OF THE STAKES AND CHALLENGES OF ECCAS AND EAC INDUSTRIALIZATION POLICY

2.1. THE INDUSTRIALIZATION STRATEGY OF ECCAS-CEMAC AND EAC

18. It should be recalled that Africa's development strategy is based on the quest for competitiveness to boost intra-African trade (BIAT) and expedite Africa's industrial development (AIDA) through quality policy. This strategy highlights the importance of industrialization in achieving Africa's development goals. The AfDB (2022) confirms this through the 2021 Africa Industry Index, i.e., industrialization is pivotal to Africa's development prospects. And as industrialization is the most promising large-scale strategy for promoting inclusive growth, it needs to be aligned with target 9 of the SDGs; for inclusive and sustainable industrialization.

19. The AfDB (2022) points out in its report that Central Africa is one of the continent's richest regions in terms of natural resources, but that this has not spurred its industrial development due to an appetite for trading in natural resources, exposed to a frenzy of conflict and insecurity. 11. On the other hand, East Africa as a whole recorded one of the best industrialization trends over the period 2010-2021 (Djibouti, Ethiopia, Rwanda, Tanzania, Uganda). Despite this positive trend, the region is rated as having the continent's lowest average All score in 2021.
20. According to the 2022 index, East Africa (EAC area) benefits from high levels of regional integration and investment in infrastructure, as well as trade promotion. This is notably the result of the development of competitive value chains in the textile and horticulture sectors, namely in Ethiopia, Tanzania and Kenya (AfDB, 2022). These countries have particularly benefited from the advantages of Special Economic Zones (SEZ) as a tool for promoting economic development. In addition, the sub-region, and Kenya in particular, is a leader in digitization. Moreover, countries such as Rwanda and Tanzania have redefined their industrialization priorities in their latest development plans.
21. The assessment of Central Africa, particularly in the CEMAC zone, follows on from the communiqué of the 2016 Extraordinary Summit of CEMAC Heads of State. The leaders pledged to work together towards macroeconomic stabilization in the short term, and to step up measures and actions to diversify the economies of member states. All the more so as, despite an average real GDP growth rate of around 5% between 2000 and 2014, industrialization has not kept pace with this trend, just as the development of intra-regional trade has barely accounted for more than 2% of the region's overall trade. The living conditions of the population have not improved substantially, and have even been aggravated by the double shock of the COVID-19 crisis followed by the Ukrainian crisis.
22. At the heart of this expected industrialization lies the organization into value chains. Indeed, IEC (2017) reports on the experience of other RECs and industrial policy institutions (IPIs), regional industrialization strategies, industrialization master plans (IMPs), special economic zones (SEZ) including industrial parks (IPs)¹², project preparation and execution units and, finally, project preparation facilities with value chains at their core, and one of the reports outlines a proposal, spanning in perspective the main production areas of the AfCFTA RECs. However, the Central African Industrialization and Economic Diversification Master Plan (PDIDE-AC), which was officially presented to ECCAS in Libreville on 21 July 2023, has still not been adopted. It is against this backdrop that we examine industrialization in these two regions, as shown in Table 2.

2.2. DIAGNOSTIC ASSESSMENT OF THE CHALLENGES OF ECCAS-CEMAC AND EAC INDUSTRIALIZATION POLICY

23. The assessment focuses on the intersection of four challenges linked¹³ to the evaluation of the areas of intervention of the targeted RECs, as illustrated in Table 2.

¹¹ The Central African Republic, Chad and the eastern Democratic Republic of Congo in particular, have contributed to the underdevelopment of infrastructure and an unfavorable business climate. Equatorial Guinea, which in 2010 was one of the ten best-performing countries on the continent, now lags behind Gabon.

¹² EIC, (2017), Industrial Parks in Ethiopia: Incentives Package, Document.

¹³Local processing of raw materials, brands for made in Africa and property rights, Traceability and rules of origin for goods, AfCFTA adjustment fund

Table 2: Assessment of the industrialization strategy

Key challenges	Observation	Evaluation	ECCAS-CEMAC Area	EAC Area
Local processing of raw materials through value chains	Apart from South Africa and the Maghreb states, nearly 80% of Africa's exports are raw materials. Production of manufactured goods is residual, accounting for no more than 3%.	The trend has remained unchanged through the globalization strategy implemented by globalization. Africa is tantamount to a focus area serving as a reservoir of raw materials	No industrialization plan has been adopted, replaced by a project conducted by the ECA (PDIDE-AC). Likewise, an industrialization and economic diversification master plan was adopted as the basis for state recovery.	The expansion of EAC trade and investment in Africa will underpin the industrialization and structural transformation process, and promote sustainable development.
Brands for Made in Africa and intellectual property rights	The AfCFTA's services protocol, aimed at creating a favourable environment for the recognition of African industrial property, has not always been a success.	A few initiatives backed by national legislation have been implemented without much success (Ghana, Nigeria, Gabon, Mozambique...).	Label local products "CEMAC Origin" as part of the recovery process, without aligning with AU policy. Improving competitiveness in the value chain	Commitment to execute the AfCFTA by the States, including these provisions, but implementation is lacking.
Traceability and rules of origin on the status of origin of goods	The launch of the AfCFTA Rules of Origin Manual is effective, which implies accreditation as an indicator of technical skills and responses to procedural and organizational system requirements.	Low intensity of convergences, many products not always liberalized, "non-existence of accreditation bodies? "Accreditation bodies like those in the Arab world and West Africa.	Quality agency bodies exist, but are not consistent with AU policy. Whereas other RECs, notably West Africa, have a proven and operational model.	The legal, institutional and human capacities required to implement commitments relating to sanitary and phytosanitary measures and technical barriers to trade are sorely lacking. Members of this REC wish to amend Articles 12, 14 and 37 and Sections 112(1)A and 112(2) of the ECCAS Customs Union Protocol.
The AfCFTA Adjustment Fund	The adjustment fund management agreement was signed with Afreximbank and the AfCFTA on 9 February 2022.	Helps the public and private sectors cope with short-term disruptions resulting from the implementation of the AfCFTA Agreement, and develop skills to produce high-value-added goods and services for the emergence of priority CV chains.	RECs' capacity building to be competitive would be ignored. CEMAC at ECCAS level to remain on the recovery plan.	State's commitment to implement the AfCFTA agreement, including its management adjustment provisions, with the establishment of a monitoring and evaluation framework and financing strategy.

Source: Author, content analysis of various AfCFTA program documents (2019 to 2023) in bibliography

24. This assessment highlights the fact that industrialization, a driver of product quality in the region, is hindered by a number of factors. Although some East African countries are making remarkable efforts to establish SEZs and operationalize the value chain approach, they are lagging behind in setting up a coherent legal corridor for all states. Central Africa, for its part, is suffering from the historical effects of delays and a certain sluggishness caused by public finances, particularly those relating to structural adjustment in its consistent bloc, the CEMAC. The countries remain committed to an industrialization master plan, without however adopting the PDIDE-AC.

3. DIAGNOSTIC ASSESSMENT OF THE STAKES AND CHALLENGES SPECIFIC TO ECCAS AND EAC QUALITY POLICY

3.1. STANDARDS APPROACH AND OTHER TECHNICAL BARRIERS TO THE FLOW OF PRODUCTS FROM AFRICA

25. Without being exhaustive, it should be noted that the basis for the presentation that follows in table 3 is derived from the PAQI 2020 index, with a view to ranking countries in the two hubs according to their level of quality infrastructure (QI).

Table 3: Comparative status of QI implementation in the two REC target areas

Central Africa (ECCAS)					
Country	Code ISO	Index PAQI 2014	Index PAQI 2017	Index PAQI 2020	Trend
ANGOLA	AGO	1.2	1.6	2.2	↑
BURUNDI	BDI	1.0	1.0	1.2	↗
CAMEROON	CMR	1.6	1.6	1.4	↘
CONGO	COG	0.4	0.4	0.8	↗
GABON	GAB	1.4	1.4	1.4	→
EQUATORIAL GUINEA	GNQ	0.0	0.0	0.2	↗
DRC	COD	2.4	2.6	2.6	→
CAR	CAF	0.2	0.2	0.4	↗
RWANDA	RWA	1.8	2.0	2.2	↗
SÃO T & P	STP	0.0	0.0	0.6	↑
CHAD	TCD	0.2	0.2	0.2	→

East Africa (EAC)					
Country	Code ISO	Index PAQI 2014	Index PAQI 2017	Index PAQI 2020	Trend
BURUNDI	BDI	1.0	1.0	1.2	↗
KENYA	KEN	3.4	3.2	3.6	↗
UGANDA	UGA	1.8	2.0	2.4	↗
RWANDA	RWA	1.8	2.0	2.2	↗
SOUTH SUDAN	SSD	0.2	0.4	0.6	↗
TANZANIA	TZA	2.2	3.0	3.0	→

Source: Excerpt from QI classification of African countries, PAQI Index, (2020), adapted by the author.

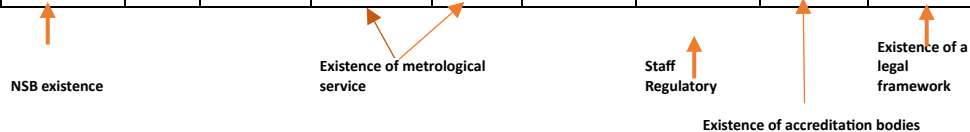
26. The findings are clear: there is a disparity in convergence on the issue of investment agreements between the two target regions (ECCAS and EAC), but these regions also diverge in terms of the integration policy of each REC. Indeed, 83% of East African countries (EAC) have a quality infrastructure consistent with the requirements of the African quality policy, against only 30% of Central African countries (ECCAS). The questioning of the quality origin of the delay in Made In Africa production is not as identical, because, concrete measures to make investment a reality in these two regions, in relation to the implementation of regional integration policies as the 2019 Index report highlights in its recommendations is quite edifying. Incidentally, quality gives meaning through its ability to provide access to different markets. The PDIDE gives meaning well upstream, even SEZs are established through established standards, including the value chains that are part of them have been well thought out in this plan.
27. For Central Africa, for example, the WTO's TBT Agreement, partnership agreements for the exploitation of patents and licenses, mutual recognition agreements for African products in relation to inputs, products and services originating from or entering other major economic groupings, the ensuing agreements on skills mobility, production and marketing standards, sector-specific standards (agriculture, agribusiness, textiles, etc.), compliance with technological requirements and social responsibility... are all multiple forms of barriers or obstacles to trade and industrialization, and leave no room for improvisation and these issues are at the root of the competitiveness of nations where standards are the basis and corollary of competitive advantages.
28. South Africa is at an advanced stage of industrialization, as is Tunisia in the textile sector. West Africa, which has established a West African Quality System (WASQS) with its Quality Infrastructure (QI), implemented with the support of UNIDO and the European Union, has enabled ECOWAS countries to each adopt a National Quality Policy (NQP) and to have a quality infrastructure allowing accreditations and conformity assessments, even in laboratories. But what conclusions can be drawn from the experiences of the sub-regions targeted by this study?
29. This diagnostic assessment is based on two main challenges: quality infrastructure and related best practices (see Table 4). Both show that certain standards exist for the export and import of raw materials in the absence of industrial production. There is a lack of boldness to go further.

Concerning ECCAS, Cameroon in the CEMAC bloc is the only signatory to an Economic Partnership Agreement (EPA), for one simple reason: to preserve the products of its agricultural diversification. A policy further geared towards industrialization is still lacking. East Africa is somewhat sheltered from this concern by certain factors, notably the sharing agreements with other parts of Africa, notably Southern Africa, from which it can benefit.

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Table 4: ECCAS policies and Quality Infrastructure (QI) - recent surveys

Country/REC	NSB Standardization	ISO/IEC member	Standards (No. oblig)	Metrology/ Industry	Legal Metrology	Metrological services providers	Evaluation Compliance	Accreditation	Market Surveillance
Angola	Yes	Yes	400	Yes	Yes	Yes	Yes	Yes	Yes
Burundi	Yes	Yes	475 (227)	Yes	Yes	Yes	Yes	No	Yes
Cameroon	Yes	Yes	6091 (390)	Yes	Yes	Yes	Yes	No	Yes
Congo	Yes	No	287 (10)	Yes	Yes	Yes	Yes	No	Yes
Gabon	Yes	Yes	943 (58)	Yes	Yes	Yes	Yes	No	Yes
Equatorial Guinea	No	No	0	No	Yes	No	No	No	Yes
CAR	No	No	0	No	Yes	No	Yes	No	Yes
DRC	No	Yes	2000	Yes	Yes	Yes	Yes	No	Yes
Rwanda	Yes	Yes	3627	Yes	Yes	Yes	Yes	No	Yes
Chad	Yes	Yes	0	No	No	No	Yes	No	Yes
CEMAC	N/Op	No	0	N/Op	N/Op	0	No	N/Op	No
ECCAS	No	No	0	No	No	0	No	No	No



Source: PowerPoint presentation ECCAS workshop, July 18-21, Libreville.

3.2. DIAGNOSTIC ASSESSMENT OF THE QUALITY POLICY FOR TARGETED REC AREAS

30. Focusing on industrial excellence as the basis for Africa's economic integration within a TQM framework. To achieve this, the AU has opted for a quality policy and the implementation of instruments through the quality infrastructure. Quality is key to a company's competitiveness, and standards are needed to enable REC members to defend themselves effectively (Table 5).

Table 5: Diagnostic analysis of the industrialization and economic diversification strategy

Key challenges	Observation	Evaluation	ECCAS Area	EAC Area
Quality infrastructure and quality policy	Quality is a cross-cutting policy of the AfCFTA project. It must be deliberately integrated into all the major axes of this project (regional integration industrialization for resource transformation, macroeconomics, and infrastructure) to ensure compliance with standards and requirements. ¹⁴	It is effective if products of African origin cross borders and establish themselves at the African level (inter-Africanity) and in the global arena, insofar as industrial excellence knows no borders.	Standardization bodies exist in 5 out of 11 countries, and the metrology and standardization system is at an early stage, but accreditation and conformity assessment, like in West Africa, the Arab world and South Africa, do not exist.	The study published by the EAC workshop reveals that the member countries are all on the way to achieving this infrastructure for all.
Best practices according to standards and norms	Africa's RECs have this infrastructure, but there is little practice in aligning it with ARSO standardization, which brings together African member states, represented by their national standards bodies worldwide. This field concerns NTBs (Non-Tariff Barriers), TBTs (Technical Barriers to Trade), SPS (Sanitary and Phytosanitary Measures)...	These standards cover the field of phytosanitary standards in a form of bilateral ONSSA and multilateral cooperation (ONSSA, FAO World Bank, FAO, UNIDO, IAEA, European Union) with a view to sanitary surveillance and control, safety, animal and plant health, inputs and products, conformity, laboratories, etc.	The legal environment exists, some basic standards also exist, but are not adapted to the new situation. Quality and environmental texts also exist, but are not implemented, lacking quality infrastructure and best practices in terms of SPS, TBT agreements...	EAC is forging ahead with the establishment of an accreditation center, and members are calling for capacity-building in these areas.

Source: Authors, various documentation for the AfCFTA program (2019 to 2023)

¹⁴ The African policy foresees that it will cover The African Continental Free Trade Area (AfCFTA); Intensification of Intra-African Trade (ICIA); Accelerated Industrial Development of Africa (AIDA); Africa Mining Vision (AMV); Comprehensive Africa Agriculture Development Program (CAADP); Program for Infrastructure Development in Africa (PIDA).

II. COOPERATION-ORIENTED SOLUTIONS APPROACH: DETERMINANT-BASED GAP ANALYSIS

31. Such identification is predicated on the performance achieved via the three determinants retained in light of the interactions between them. This explains why it is plausible to deal with them as a collective so as to have a bird's eye view of the situation. Consequently, each determinant will be dealt with as cutting across the board in the ECCAS and EAC areas of intervention.

1. LEVEL OF INTEGRATION AND COOPERATION-ORIENTED SOLUTIONS OPTIONS

32. There is no exact consensus definition of regional integration (Söderbaum, 2009). However, it is agreed that better regional integration drives development through market expansion and trade development, enhancement of cooperation, risk sharing, promotion of cooperation and regional stability. Integration is the determinant that makes it possible to harvest the fruits of globalization while at the same time combatting its negative effects. This explains why it has a bearing on quality.

33. The Istanbul Plan relating to the 2011-2020 plan of action for least developed countries "recognizes that the mandate of regional integration is to drive steady, equitable and inclusive economic growth and prevent the marginalization of the continent by building its capacity to integrate into the global economy". The Plan also points out that regional integration can facilitate the development of least developed countries through improved productive capacity (\$44), infrastructure (\$47) and trade (\$64). It is in this regard that the « European Union integration effort index » (König, 2015) of the first two dimensions and the Asia-Pacific regional integration index (Huh and Park, 2017) compared with the situation in Africa found that integration is anchored on performance in trade, production as well as on the macroeconomic and free movement dimensions. Table 5 analyses the best African integration performances of the RECs under consideration.

Table 6: Analysis of results per regional REC and of the performance of each focus area

REC	Average level Africa	Country level		other dimensions of the analysis			
		Index	Country	Rank	Production	Trade	Performance
EAC	0.537	0.444	<i>Kenya</i>	2	0.296	0.428	strong
ECOWAS	0.425	0.625	<i>South Africa</i>	2	1.000	0.627	strong
ECCAS	0.442	0.434	<i>Rwanda</i>	3	0.422	0.435	strong
CEN-SAD	0.541	0.444	<i>Kenya</i>	2	0.296	0.428	strong
COMESA	0.367	0.444	<i>Kenya</i>	2	0.296	0.428	strong
IGAD	0.438	0.444	<i>Kenya</i>	2	0.296	0.428	strong
SADEC	0.337	0.625	<i>South Africa</i>	1	1.000	0.627	strong
UMA	0.488	0.430	<i>Morocco</i>	4	0.284	0,04	strong

Source: Author

34. ECCAS area recovery is somewhat under the IMF's watch and underpinned by structural adjustment within the framework of a CEMAC raw materials import-substitution strategy to scale down imports and diversify exports. Pref-CEMAC (2020) aligns with this trend of the CEMAC block that advocates enhancement of the rule of law in order to cut market transaction costs and thus make it a decisive factor for social justice and attractiveness that would serve as the basis for diversification of production and development. Such an option is out of step with integration priorities, especially regarding the adoption of a quality plan and implementing standards in respect of the industrial option.

35. Given the highly consolidated position of the 6 CEMAC members of ECCAS, the foregoing analysis predicated on the AfCFTA programme shows that ECCAS member states belong to other African Union RECs, a phenomenon the AU refers to as multiple and overlapping membership for 4 members: Angola, Burundi, DRC, Rwanda. This phenomenon may cause not only inconsistencies in programmes implementation, but also lead to biased statistical information. The phenomenon generates two consequences: the risk for integration programmes to conflict with the African Union’s vision for the AfCFTA. Such is the case of ECCAS member states, particularly those of the CEMAC block that are under an emergency recovery programme underpinned by the IMF’s structural adjustment and not by the Africa regional integration¹⁵ agenda that seeks to establish a single market.

36. According to the AfDB report (2022) relating to the Eastern Africa integration strategy for industrialization, the region has undergone slow but steady structural transformation over the last two decades. However, the region’s industrialization is still insufficient. Overall, integration levels for the RECs under consideration remain quite low compared to the global average and to large markets (Table 7).

Table 7: Comparison of concentration and diversification indices

Economies Main export product in 2019	Exports concentration index for 2019	Exports diversification index for 2019
Eastern Africa exports (EAC)	0.89	0.87
Central Africa (ECCAS)	0.536	0.795
World	0.07	0
African developing countries	0.28	0.55
American developing countries	0.09	0.36
Asian developing countries	0.10	0.23

Source: Extract, ECA, PDIDE Analytics | Calculations by authors from UNCTAD data, <https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx>

37. In conclusion, it should be underscored that control of industrialization and quality are intimately linked with regional integration which is itself driven by these two determinants.

2. LEVEL OF INDUSTRIALISATION AND COOPERATION-ORIENTED SOLUTION OPTIONS

38. As things stand, the question of industrialization seems to be a resolved conceptual equation in light the flagship proposal to diversify economies by systematically implementing high potential value chains and their operationalization by new generation SEZs. Indeed, empirical data from UNCTAD’s UNCTADSTAT database (2019), shows that the share of manufactured articles per stage of completion and the share of commodities in exports from Central Africa (average of the 2015-2019 period) amounts to less than 3%. Still in 2019, the data indicates that crude oil was the main export product for Angola, Chad, Equatorial Guinea, Gabon, Republic of Congo and Cameroon; gold the main export product for Burundi and Rwanda; unprocessed timber the main export product for the Central African Republic; refined copper the main export product for the DRC; and gas turbines the main export product for Sao Tomé-and-Principe. In addition, there is a high concentration of the

¹⁵ industry share rose from 20 % of gross domestic product (GDP) in 2000-2005 to 24.4 % in 2021. However, the share of the manufacturing sub-sector in GDP only averaged 9.0 % in 2020. This reflects slow progress towards the goal of EAC partner States which is 25 % by 2032, thus demonstrating the willingness for rapid industrialisation.

exports of these countries to the same trading partners (China and the European Union, etc.), which heightens their vulnerability to external shocks. For its part, Eastern Africa is much more reliant on agriculture as well as imports and exports of iron (see annex).

39. Yet, integration is the foundation on which the African Union predicates its overarching agenda goals. It is the foundation for the establishment of a single market for goods and services. It is the vector that facilitates movement of persons, the best bet for deepening the economic integration of the African continent. It is a vehicle for quality through industrialization whose pillars are the products and the organization of industry into SEZs by means of regional value chains.

40. With regard to products, this study cannot cover all value chains that may lend themselves to organization. We will retain only three key products because of their great capacity to encourage broader cooperation with other states. Examples include:

- the hides-leather industry given Ethiopia's significant progress in the industry and Chad's huge livestock numbers (3,000 to 4,000 head of cattle per day, without any value chain to pick up the hide and manufacture leather) that are currently limited by barriers and obstacles to trade that some countries are unable to navigate (Chad, Cameroon, etc.);
- The cotton-textile-apparel industry: Since its base is agriculture, it is retained in the exports category and may cause many countries to join a value chain (Ethiopia and by extension, Chad, Mali, Cameroon...);
- The wood-furniture industry: Given the importance of this raw material in Central Africa and the losses recorded in respect of the wood yield levels that hardly exceed 25% in Central Africa and thus creating huge losses for those economies;
- Agricultural sectors: Lastly, agribusiness with varied export products such as cotton that can contribute to the textile and apparel industry as it can be used to manufacture a huge variety of products.

41. Above all else, RECs do not operate in silos. It is important to identify markets or the markets to be targeted in order to optimize the capacities of RECS to penetrate them given that all markets are penetrable once offer quality is accepted- European markets for a start: make clear choices of the regional value chains to be promoted. Thereafter, value chains with high potentials for integration, exports and innovation of the PDIDE-AC and of the EAC regional industrial plan shall be of special interest; operate quality policy and infrastructure – align in terms of industry and support services with the said value chains to speed up the production of exportable manufactured products and penetrate target or niche markets of specific global marketplaces to be captured. (Table 8).

Table 8: Example of value chains with high potentials for integration, exports and innovation

	A few suggested industrial projects for a start	Main focus
Wood and its derivatives	Competitive clusters dedicated to processing of wood into derivatives destined for export and for markets of the sub-region	ECCAS: All ECCAS countries and Ethiopia and by extension the East Africa area
Coton – textile-apparel	Competitive clusters dedicated to the textile and apparel industry in order to generate « Made in Central Africa » textile products destined for markets in the sub-region, Africa, Europe, America and Asia	Joint: ECCAS and EAC (Chad – Cameroon – Kenya – Rwanda – Ethiopia by extension)
Hides – leather-footwear	Competitive clusters dedicated to the leather, footwear and leather products industry in order to generate « Made in Central Africa » products for markets in the sub-region, Africa, Europe, America and Asia	Joint: ECCAS – EAC Ethiopia, Kenya, Chad - Cameroon
Agricultural, livestock and fisheries products	Competitive clusters dedicated to agribusiness industries in order to produce foodstuff destined for markets of the sub-region and Africa.	Joint: ECCAS and EAC Cameroon, CAR, and all EAC countries
Cobalt, electric vehicles, rechargeable batteries	Competitive clusters dedicated to industries that support the processing of cobalt and other critical minerals in order to generate intermediate products used in the manufacture of electric vehicles and rechargeable battery precursors.	ECCAS, EAC, and other African countries and development partners.

Source: Extract ECA, PDIDE Analytics | Strategic Taskforces (GTS) | Reference frame of diagnostic balancesheet to develop the Master Plan for economic diversification in Central Africa (PDIDE-AC)

42. These products are dealt with together to permit future organization of value chains, which further justifies the need for cooperation in the industrialization drive. Through organization in SEZs, quality will resolve problems that cut across the board such as barriers arising from quality gaps. such a solution may allow for outsourcing to various countries where SEZ sites would be the solution that permits fully integrated quality. Ethiopia could facilitate the fluidity of logistics flows and transport timeously given her air transport capacity.
43. However, the diversification approach and especially operationalization of value chains by SEZs will not be a short-term solution to quality challenges connected with the informal economy whose operators do not feel that such requirement is any of their business, whereas they wield influence in the RECs under consideration.
44. In East Africa for instance, governments and stakeholders¹⁶ each strive as much as they can to take action to address this problem that may affect quality of the origin of goods as well as their traceability and prevent EAC products from accessing large markets, and makes it possible to have unbiased statistical indicators. The problem may be solved in the medium and long-term by integrating these categories into value chains thus making it possible in the same breath to be consistent with SDG 13 to help the target categories. it is worth noting that this is not some specific problem exclusive to the EAC. It is one that also concerns ECCAS, given the intense cross-border trade between Cameroon, Gabon and Equatorial Guinea.
45. In East Africa for instance, informal cross-border transactions involve the following products¹⁷ : white grain-maize 31%; dry beans 12 % ; Rice 19% ; Sorghum 8%; Sugar 9%; wheat flour; 9% Maize flour 7%; Sesame seeds 3% and other products 2%. Some of these products are essentially export and import oriented and, given the demand for them, are amenable to inter-African trade. In

¹⁶ East Africa Grain Council (EAGC), United Nations Food and Agricultural Organisation (FAO), National Bank of Rwanda (NBR), World Food Programme (WFP), Farmgain (Uganda), Ministries for Agriculture (Kenya and Burundi), RATIN, East Africa, Tanzania Trade Development Authority (TDAA)

¹⁷ Data on transborder trade and prices are furnished by the famine early warning systems network (FEWS NET).

conclusion, given that the solutions proposed are based on SEZs with value chains, we may exemplify with the case of Ethiopia in table 8. At all events, this PDIDE-backed solution aptly demonstrates that this approach based on value chains and new generation SEZs is not a figment of the imagination. Indeed, organization into value chains is becoming a necessity for our epoch as long as it remains a crucial instrument of the desired cooperation in quality agreements and standards. This conception may constitute an implicit hypothesis for accepting this method to augmenting quality through cooperation with the best. This explains why we retained this case of good practices to be implemented in a cross-cutting sector such as agriculture or stockbreeding also adopted by the leaders of the three largest global markets¹⁸ : United States of America, Germany for the European Union and China for ASEAN.

46. Similarly, and as part of delocalization, major manufacturing players opted for value chains in the manufacturing industry with variants of groupings into SEZs (table 8). The following comparative analysis based on products that Africa may validly export authorizes us to strongly recommend that Africa should align with countries or trade blocks that are performing well in this regard.
47. Clearly, it should be recalled that quality permits access to markets when the industries are well organized into value chains and also contribute to integration to be able to benefit the important logistics fallouts thereof since ours is the just-in-time epoch where consumers seek expedient response times. However, it is worth noting that the choice of leaders (Box No. 4, annex 9) with whom we have to cooperate must be governed by multiple reasons that seek to demonstrate that quality through industrialization of agricultural sectors is a serious potential pathway, especially when predicated on agribusiness, stockbreeding and fishery that constitute a vital entry point, a core sector for Africa whose dairy products from stockbreeding can be sold to the United States, fruits and vegetables to Germany and chocolate that is a derivative of cocoa sold to China. However, it is important to meet rigorous quality requirements in terms of standards governing access to markets. While currently only Europe proposes and remains open to negotiations, in these areas through EPAs, the USA to a lesser extent with AGOA and China are not supportive of short-term demand. Perhaps Africa would need to reach out for that European « olive branch » to materialize value chains in agribusiness and stockbreeding by signing those agreements.

¹⁸ An outline of the characteristics of these leaders of trade blocks or large markets is provided in annexe 4.

Table 9: Quality requirements and value chains per leader of large markets or large trading blocks

	American (Dairy products)	Chinese (Cocoa - Chocolate)	Germany (Fruits and vegetables)
Dependency relationship	80%	NC	80%
Production	6.01 million tonnes	2.7 B EUR of imports	4.3 million tonnes
Main competitors	Italy, Spain, Netherlands, Switzerland	Switzerland, Belgium, Italy, Malaysia, USA	France-Spain-Italy-Netherlands-Belgium-Poland- non-European ¹⁹
Positioning the offer	FFOM	FFOM	FFOM
Market access 1	Grade « A » Pasteurized Milk Ordinance (PMO) ²⁰	Quality: EXW incoterm ²¹ ;	Quality : Certifications (production and tracability) ²²
Market access 2	INCOTERMS plus used for transportation of food products	Logistics Chains	logistics chains (complex cold-chain since COVID-19)
Market access 3	Customs tariff, various taxes (VAT, excise duties,) pursuant to specific agreements	Customs tariff, various taxes (VAT, excise duties...) as per the agreements	Taxes (Customs, VAT)
CV distribution link 1	Enterprises ²³	Cocoa producer	Intermediaries and distributors
CV distribution link 2	Importers and distributors	Importer/	Importers/packers or processors
CV distribution link 3	Master distributors and regional distributors	Importers/wholesalers - central purchasing bodies – regional sub-distributor / Online (notably pop shops), Industrialists, wholesalers, Trusted Partners	Importers/Wholesalers - central purchasing bodies -Industrialists
CV distribution link 4	Final client 24:	Final client ²⁵	Final client ²⁶
Contribution of the various links	Type-Concentration and leaders - Characteristics - outreach- Proposed services - Margins	Type-Concentration and leaders - Characteristics – outreach – Proposed services – Estimated margins	Type-Concentration and leaders - Characteristics – Outreach – Proposed services - Estimated margins
Trust	Adapt one's offer to demand and prioritize the State-oriented regional approach	The choice of local partner is essential, as is that of positioning and offline referencing	Flawless quality products

Source : FranceAgriMer, Data from Business France <https://www.franceagrimer.fr/> and re-processed by the authors.

- Over and above agro-industrialisation and stockbreeding that prelude real industry such as the automobile and industrial tools manufacturing industries, it is important to take into account the innovation aspect to permit processing of the raw materials of the target RECs: oil, minerals, including copper..., by laying the basis for automobile production. Germany, the United States, China...all leading industrial economies (annex 8) will permit Africa to make her first steps through agreements on manufacturing whose standards, brands and the entire quality infrastructure are not within reach, which underscores the importance of Box 2 bis of the report.

¹⁹ The demand for exotic fruits has surged over the past 10 years. Additionally to banana, the major products are ginger, avocado and mango.

²⁰ American (sanitary requirements) good practices, HACCP plan, SPS standards and measurements: Au Food Allergen Labeling and Consumer Protection Act of 2004 (FALCPA).

²¹ Recognition by competent Chinese authorities of European Organic labels, certification of the Chinese biological ORGANIC label -中国有机产品,

²² IFS, Global Gap, Grasp, SMETA, FairTrade, law on supply chains « Lieferkettensorgfaltspflichtgesetz »

²³ Seaport forwarder appointed by importers, Logisticians

²⁴ E-commerce, Convenience stores/Discounters & Wholesale clubs (central purchasing bodies), Hypermarket and supermarkets, Independent small grocers (specialty stores)

²⁵ New Retail- e-commerce sale - Marketplace (Tmall.com, JD.com, Suning.com..., Social Commerce (via Wechat, Pinduoduo, Redxiaohongshu, Tik tok...) cross-border E-commerce (JdWorldwide, Tmall Global, Suning.com...), Pure Players General and specialised practitioners.

²⁶ Large-scale distribution – specialised retail trade- commercial and corporate foodservice

48. It is thus understandable why, like other African countries, notably South Africa and the Maghreb, Ethiopia has undertaken to organize the country into SEZs (Table 10).

Table 10: Case of Ethiopia – example of establishment of industrial parks per value chain

Industrial Park	Purpose of industrial park	Cluster/Specialization	Surface area in million m ²
	02 operational industrial parks and 07 government-owned industrial parks in the offing, 04 private industrial parks		
Hawassa	Ecological	Textile and apparel	1.4
Bole Lemi (I et II)	Textile	Textile and clothing, leather and leather products	3.5
Mekele	Textile	Textile and clothing, leather and leather products	10
Adama	Textile	Textile and clothing, leather and leather products	10
Dire Dawa	For exports	All export-oriented sectors	10
Dire Dawa	Agribusiness	Agro-food processing area	10

Source: Authors

49. However, existing documentation deriving mainly from some commissioned studies is supportive of value chains organization approach. This may lead to obvious implementation difficulties. Table 11 below presents some of these challenges.

Table 11: Criticism levelled at the proposed value chains

Current (*)	Crude	Products and derivatives	Activities	Functions	outsourcing	Margins (1)	management	Indicators	Observations
Raw material 1	Yes	No	No	No	No	No	No	16	No margins no support or basic activities nor products and derivatives
Raw material 2	Yes	Limited	No	No	No	No	No	Limited	No margins, no support or basic activities nor derivatives
Capital intensive	No	No	No	No	No	No	No	10	Need expressed in principle
SEZs (2)	Yes	Yes	No	No	No	No	No	12	Need expressed in principle
Cluster	No	No	No	No	No	No	Yes	12	Need expressed in principle
PCI (3)	No	No	No	No	No	No	Yes	8	Need expressed in principle
Performance	No	No	No	No	No	No	No	12	Need expressed in principle, limited to clusters
Quality	No	No	No	No	No	No	No	No	Even the need has not been identified

Source: Authors

50. The models proposed have to do with clusters, while for a product, a value chain requires knowledge of the margins such as prices and costs that are key for assessing quality-based competitiveness. Besides, an operational value chain must identify all supporting services and trades that have a bearing on the entire core business and that underpin its success. In concluding this point, it is important to compare it with the European Union example whose determinants are contained in table 12 so that we may have a more robust critique of the model retained by Africa.

Table 12: Matrix of EU industrialization determinants

Target activity	Issues	Businesses	Practices
Trade and handicraft	Energy crisis	Steps	Studies and statistics
Digital	SDG 2030	Trade and regulations	Calls for projects
Tourism	Innovation	Standardization and accreditation	Calls for expression
Industry	European policy	subsidies and financing	brands and trademarks
Services	Acceleration strategies	Diversity and professional equality within the company	Events
Liberal professions	Economic security		Public consultations (legislations, Digital, Crises ...)

Source: Authors

51. Three activities that are not targets for Africa in general and for Central Africa or East Africa in particular are flagged in this model: handicraft, the digital and liberal professions. Businesses are at the very core of the system whereas the Africa model places the state and businesses almost at par and the businesses are named in the calls for projects. Events management is a crucial point. It makes it possible to rein in externalities such as the recent COVID-19.

3. LEVEL OF QUALITY INFRASTRUCTURE AND COOPERATION OPTIONS

52. According to the 2020 UNIDO²⁷ report, 10 economies account for 90 % of global patents and 70 % of exports directly associated with these technologies. Then, 40 other economies that adopt these technologies albeit more moderately trail them. The rest of the economies either post subdued activity or simply do not participate in the creation and use of these technologies. Brand ownership is a determinant of industrialization. However, the underlying agreements and conventions fall within the purview of quality.

53. By the way, some countries in Central and Eastern Africa have chosen to regulate only this issue in the areas of the environment, cooperation, SPSs, quality standards in short and the attendant infrastructure to demonstrate the importance they attach to the issue. However, we see that in Central Africa for instance, only 6 States in 11 have their quality organizations registered with the ISO as members, while only 3 of these countries are members of the ARSO that deals with this issue within the framework of Africa's Agenda 2063. In a nutshell, as we can see (Table 13), the economies of the area under consideration are conspicuously non-members of major institutions that define the policy guidelines governing quality. At all events, they are far from domesticating global best practices relating to standards setting and, in particular, from systematically espousing a culture of quality. Through partnership, they may demonstrate their individual or collective capacity to influence the setting of recognized industrial standards, a perfect way to sit at the same table with the heavyweights of the world of quality and thus bridge gaps.

²⁷ UNIDO (2021), Report on inclusive and sustainable industrial development in developing countries and transition economies, UNIDO, Vienna, 2020 Report.

Table 13: Quality organizations of ECCAS States that are members of ISO and ARSO

Country	ISO	ARSO
Angola	LANORQ	
Burundi	BBN	
Cameroon	ANOR	ANOR
Gabon	ANTT	ANTT
DRC	OCC	OCC
Rwanda	RBS	

Source: Authors

54. It is not so much these statistics that are essential, but the importance or the capacity for quality compliance to permit access to African and international markets. The first part showed us that the two areas under consideration, particularly Central Africa fall way behind on this issue. However, even in the areas that are more advanced, service quality is not the best. It is important to showcase the expected benefits as in the case of Vietnam. Indeed, development via industrialization is not feasible without standards that are the key to market access. In an ongoing and yet unpublished study, most Eastern African countries respond positively to the following questions: Industrial and commercial cooperation agreements, existence of standards. Sadly, the area does not yet supply quality services worth the salt.

Connecting the dots to build more robust policy systems and quality infrastructure

55. It is important to act urgently and tap into the yet unexploited vast international cooperation possibilities to fact-track cooperative organization into value chains grouped into SEZs and thus emerge as the best. Africa lags behind in the area of quality or is simply absent from the quality dinner table. Yet, there is a myriad of models on standards policy, which leaves one wondering whether Africa does not need a strategy shift in the domain. Great Britain, the United States and Germany are reference models of countries with top-end standards. In the medium range, we have countries like Singapore, Vietnam and Malaysia. The case of Vietnam annexed hereto is quite insightful and may be a source of inspiration and even enlightenment on which route Africa should go.
56. With regard to our retained benchmark, we presented case studies of the various models that we came across in our work: The USA model on the dairy products market in table 9, Great Britain's BSI-crafted model is annexed hereto in Box 4, Singapore's model is presented in annex 9 in tables 19 and 20, Vietnam (Annex 5 in table 18). The common feature in all these models is that they are open-ended and essentially cooperative and leave one wondering whether to generate our own standards or adhere to international standards and negotiate agreements on this basis. They are backed by industrialization. The models are also the hallmark of medium-sized economies as is the case of Singapore and Vietnam. They deliver results, which bring about a shift towards a new strategy for cooperation with ARSO in this domain. Lastly, they also yield results in terms of visibility of the country and generate huge resources for the country given that everything is exportable.
57. The overview does not sufficiently harp on the immense possibilities and even the shortcuts that cooperation with the private sector affords, mindful of the myriad private standardization service providers (SGS, Veritas, etc.) and the civil society whose expertise is increasingly recognized to widen the scope of cooperation solutions and speed up standards setting, adoption of practices and

recognition of good conformity practices that are mutually beneficial to stakeholders, as the ISO is just an NGO.

Box 1: Birth and establishment of the West Africa quality system

After a first successful phase from 2001 to 2005, the second phase of the West Africa Quality Programme (PQAO) was launched in 2007 for a 5-year period. The goal was to strengthen regional economic and trade integration by creating a conducive environment for complying with international trade rules and technical regulations. The programme made it possible to achieve the following tangible outcomes: the adoption of a regional quality policy as well as national quality policies, the establishment of a regional quality infrastructure blueprint, the adoption of regional standards, accreditation of 21 testing and calibration laboratories based on ISO/IEC 17025 and ISO 15189 standards, certification of 20 companies based on ISO9001/ISO22000 standards, equipment of metrology laboratories and the training of 4,000 staffers for laboratories, inspection bodies and private companies. However, in order to strengthen regional integration and consolidate the implementation of quality infrastructure, the decision was made to further support the sub-region through promotion of a West Africa Quality System.

Source: ECOWAS adapted by the authors

58. At all events, the Vietnam example is instructive here and shows us that the feasibility of this model is not the exclusive preserve of major economies, but can also work in large economies, medium-sized economies as well as the small economies that abound in Africa. What needs to be noted for the record is that Vietnam assigned itself a 15-year target to achieve an outcome of 893 of its products with access to international markets and with the label “MADE IN VIETNAM”, compliant with retraceable standards duly verified and approved and with Vietnamese companies capable of competing with the best global award winners. The case of Vietnam is illustrated in annex 4. This said, the economies of the area under study have everything to gain if they take advantage of proximity solutions and of regional cooperation starting with experience-sharing between RECs. In this connection, it is perhaps important that in addition to sharing the success stories of a few countries and reference champion blocks, we should be mindful of and share the ECOWAS experience.

Box 2: expected benefits of successfully launching regional cooperation between standardization, methodology and accreditation bodies in the agricultural sector and in the agribusiness industry

Agriculture is a key sector of the economies of Central and Eastern African States, accounting respectively for 15% and 26% of their GDP on average in 2021 (FAOSTAT, 2021). It is an open secret that the agro-food or agro-business industry of the said sub-regions is growing steadily led by urban demand and the demand for environmentally friendly agri-products, thus opening up more and more markets for exports.

As one of the sectors that hold the most promise of growth for the economies under consideration in terms of the volumes of exports of processed food products according to World Bank and other informed analysts, the agro-food or agribusiness sector plays an important role in the economies of the two sub-regions. The most important products are cereal flour, coffee, tea, oils and fats, leather, fish, and local horticultural products. Rwandan and Ethiopian coffee for instance are accessible in Japanese markets and are sold at premium prices in supermarkets.

The major agro-food export products from the ECCAS and EAC areas are the following: coffee and coffee substitutes ; tea and mate ; spices ; sugars, molasses and honey; fish preparations and canned fish; milk and dairy products; chocolate and other cocoa preparations; fruits and vegetables; vegetable preparations and canned vegetables; cheese ; candies ; margarine and cooking fats; butter and other fat extracts from milk; meat and offal preparations; cereal flour; prepared animal or vegetable oils and fats ; fruit preparations and canned fruits; etc. (UNCTADSTAT, 2022). The soil and climate of the two sub-regions and the limited use of chemical fertilisers allow for the development of organic products. Such products may be successfully introduced in international market niches using modern techniques of processing and packaging currently used to export products of Central and Eastern African origin such as coffee, tea, palm oil, fruits and vegetables, etc.

Lastly, the development of standards for safety management systems guarantees that the foods are safe at the time of consumption. Use of the same reference document across the globe dispenses with the need for multiple certifications.

With regard to new technologies in the agro-food or agribusiness industry, standardization can provide quality assurance for the products and consequently, build consumer and user trust. Here, some more advanced national agencies in standardization and compliance are already publishing several harmonised national standards for identifying and determining genetically modified organisms, thus contributing to the enforcement of such regulations. Accordingly, regional cooperation would permit sharing of costs and experiences.

Source: ISO adapted by the authors.

Box 2bis: expected benefits of successfully launching regional cooperation between standardization, methodology and accreditation bodies in the mining sector

The sub-soils and soils of the Eastern and Central African sub-regions are very rich in certain world-class natural resources and minerals. According to the most credible geological investigation sources, numerous deposits of various mineral resources have been discovered in these regions. The mining industry is one of the lead contributors to the economies of the two sub-regions and one of the export sectors that have contributed the most to growth and resilience over the last two decades marked by recurrent crises, with minerals and metals accounting for more than half of exports in some economies of the two sub-regions. Indeed, Central and Eastern Africa are home to some of the minerals and metals most sought after in the world, namely: cobalt, manganese, iron, copper, molybdenum, lead, zinc, gold, silver, bauxite, to cite just these few.

Currently, thousands of iron and gold mines are under exploitation in Central and Eastern Africa. Environmental protection is one of the main challenges of the sector. Mindful of this situation, the regional standardisation plan will prioritize standards that make use of the most cutting-edge technologies affording the highest levels of safety in mining extraction programmes. In particular, the sulphide concentrates produced are of different gradings with varying base metal contents, varying degrees of moisture, and other chemical and physical characteristics that are used to assess and define the particular properties of the concentrate. In general, the price of a concentrate depends on its base metal content. To assess a concentrate deposit, we need to determine its base metal content, the moisture content and its total mass.

It is thus important to adopt pragmatic sample collection and preparation methods that are based on scientific principles to collect and prepare samples representative of a deposit. Such samples may subsequently be subjected to trials by means of standardized and dependable methods to measure the base metal content and determine the moisture content.

ISO-type worldclass standards for sample collection and chemical analysis guarantee fair trade and competitive supplies of sulphide concentrates. ISO standards also cover environmental impacts as well as the safety and health of workers in the industry. The benefits to be garnered from fostering standardisation cooperation activities include, notably:

- ▶ The development of acceptable standardized methods validated in the most cost-effective, scientific and pragmatic fashion;
- ▶ The elimination, or at least the mitigation of barriers to sulphide concentrates trade arising from differences in standards, while at the same time contributing to achieving the objectives of the WTO agreement on Technical barriers to trade (TBT);
- ▶ The capacity for rapid response to the need for new or revised standards arising from fresh and improved metal production technologies and instruments for measuring quality characteristics.

Source: ISO adapted by the authors

3.1. Pragmatic quality and standardization nexus as the pathway to industrialization cooperation.

59. The facts are plain: No African country is among the top 10 in respect of industrialization standards (see Table 14 on the rank of the best African countries in the general ranking and the total absence of the RECS under study, in particular). However, given that in Africa’s common vision, industrialization is a must, it would be insightful to check out the top 10 in the general ranking of the best workshops in the world (annex 7).

Table 14: Global ranking of the four best African countries

Rank in Africa	Rank in world	Country	Value in USD	Year
1	33	Nigeria	64.401	2021
2	35	Egypt	62.638	2021
3	41	South Africa	49.154	2021
4	44	Algeria	42.383	2021

Source: United Nations Industrial Development Organization (UNIDO), (2021), adapted by the authors.

60. Of the 50 countries ranked as having a need for industrial standardization in relation to the required standardization, African countries are at the bottom of this ranking, with a total absence of countries from the targeted RECs. The top-ranked African country, Nigeria, is 33rd, with no countries from the targeted RECs, ECCAS and EAC.

61. The Japan Industrial Standards Committee (JISC), (2017), highlighted the importance of standardization in the industry sector. This is the weak point of African countries, which are more familiar with the standard than with its commercial aspects. To this end, this committee highlights the standard as a multiple identifier of the issues at stake in terms of the challenges of intelligent

industrialization, a path to which the world is committed for intelligent manufacturing, sharing driving and the sharing economy, social issues arising from the fact that not only must machines be “connected to machines”, they must also be connected to humans, an issue to which Japan is proposing the vision of “Society 5. 0” and environmental issues, which generally come under CSR on the one hand, and the question of leadership in this field, where it would be appropriate for the African representative, following the example of ARSO, to participate in various committees (ISO, CAB, BOS, JISC, IEC, etc.) in order to show Africa’s vision of the future.) in order to show Africa’s vision and make the most of beneficial exchanges for the industrialization of Africa, enabling Africa to harmonize its own standards and take better ownership of all the technical regulations to make better use of them, and on the other hand to also make a better assessment of conformity at the African level..

62. In this respect, it is worth pointing out that the JIS, has this axis of international cooperation for the production of relevant industry standards and has produced at the end of 2017 under the industry, 10622 active JIS with 5855 that have correspondence gateways under the cooperation and therefore acceptable in all these areas, with more than 7587 JIS that are referenced in the national laws of the country. As a result, on the above-mentioned date, Japan aligned with the WHO’s international TBT standards, with these JIS standards giving it an undeniable advantage in terms of the industrial quality of its manufacturing. Similarly, the countries in the area under review (Central Africa and East Africa), and why not the whole Africa, can also benefit from effective strategies for strengthening international cooperation frameworks in the field of quality, and thus halve or even treble the time needed to break into the select club of quality champion countries. Africa and its gemstone-exporting economies stand to lose a great deal if nothing is done to put in place certification frameworks for strategic products and critical minerals. The lack of an appropriate framework for certifying the quality of gold from Africa is also edifying (annex 5: box 3).

CONCLUSION

63. A general idea emerges: with a few rare exceptions, Africa is less robust and even non-existent compared to the best in the field of product quality. Quality through integration and industrialization options must give priority to the strategic vector of cooperation. For real, Central Africa and East Africa, and the other RECs on the continent, are lagging behind in these areas, with no immediate possibility of putting ‘Made in Africa’ products on the market: ECCAS, with the CEMAC bloc at its core, represents the beginning of a successful integration process that still needs to be consolidated in order to meet the challenge of industrialization and quality, and East Africa, through the EAC, with its leading economies such as Kenya, Rwanda and Ethiopia, is also a non-institutional bloc that is seeking to meet the challenge of quality. These two core blocks can serve as a pivot and above all a launch pad for building the first quality bridges and footbridges that are missing from the jigsaw puzzle of regional quality infrastructure.

64. However, the industrialization drive will not continue without real economic diversification, and the implementation of an industrialization plan along the lines of the EAC project, or that advocated by the PDIDE-AC approach in the ECCAS region. However, the industrialization drive will not continue without real economic diversification, and the implementation of an industrialization plan along the lines of the EAC project, or that advocated with the PDIDE-AC approach in the ECCAS region. These approaches to solutions must be part of a strategic and pragmatic rationale of accelerated

cooperation to benefit from the quality advantages of the strongest players. All of which will provide access to the range of standardization and harmonization best practices adopted and promoted by quality champions, with the aim of following in the footsteps of champions in terms of agreements, traceability, standards and quality infrastructures that are winning acclaim around the world.

65. However, It should be emphasized that some progress has been made on standards in the rest of Africa, and that the economies and RECs under review should take advantage of this in a spirit of maximizing cooperation channels to deepen integration, accelerate industrialization and embrace the quality culture so as to unlock intra-African trade in general and targeted RECs in particular..
66. Incidentally, the commitment to adopting the PDIDE solutions approach and working in dedicated SEZs with value chains with high integration, export and innovation potential is not something Africa invented. The champions of manufacturing in the world's most coveted markets have exploited this path, which Africa would do well to pursue further if it is to achieve industrialization and structural transformation as quickly as possible.

DRAFT

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ANNEXES

Annex 1: Summary list of Central Africa IWDP value chains

The list of priority industrial value chains identified and analyzed under the PDIDE - AC for the countries of Central Africa is as follows:

- **Crude oil - oil and gas products value chain: Making Central Africa a hub for the distribution of refined petroleum products.**
- **Natural gas - liquefied natural gas (LNG) value chain: *Making Central Africa a supplier of LNG.***
- **Forest - wood - panels - furniture value chain: Make Central Africa a world-class supplier of wood-based products.**
- **Cotton - textile - clothing - garment - clothing value chain: Develop a competitive textile sector connected to the global textile value chain.**
- **Hides - leather - footwear and other leather products value chain**
- **Palm oil value chain - by-products.**
- **Limestone - clinker - cement - building materials value chain.**
- **Copper value chain - copper products.**
- **Iron ore - steel - steel products value chain.**
- **Bauxite - alumina - aluminum products value chain**
- **Manganese - manganese alloys value chain.**
- **Cobalt value chain - rechargeable batteries - electric vehicles - smartphones - energy storage: Make Central Africa a leading global supplier of rechargeable batteries.**
- **Natural and synthetic rubber - tyre value chain.**
- **Automotive and motorbike industry value chain**
- **Electronics and electrical industry value chain.**
- **Agri-business value chain (agrifood industries).**

Source: ECA, PDIDE Analytics, Strategic Task Force (STF), Reference Framework for the Assessment-Diagnosis-Drafting of the Central African Economic Diversification Master Plan (PDIDE-AC)

Annex 2: Product dimension value chain approach

Following the recommended value chain and dedicated SEZ approach, a number of products with high export, integration and innovation potential (see Table 14) were identified to enable the countries of the Central African sub-region to steer their industrial strategy within the framework of a shared strategic vision and aspirations for the future.

Table 15: Products with high export, integration and innovation potential for ECCAS economies

Value chains	Products with high potential for export, expansion and innovation
Crude oil	Petrol, diesel, paraffin, fuel oil, liquefied petroleum gas (LPG), petrochemical products (synthetic fiber, packaging, adhesives, plastic lids, raw plastic sheeting, ethylene polymers, propylene polymers, polyacetals, plastic pipes, self-adhesive plastics, other plastic sheeting, plastic construction materials, plastic household items, etc.).
Natural Gas	Liquefied natural gas (LNG), gaseous natural gas via pipelines, etc.
Logs	Plywood, particleboard, fiberboard, veneer sheets, structural timber, sawn timber, wooden crates, etc.
Natural textile fibres (e.g. cotton fibres) and synthetic textile fibres	Men's suits, women's suits, knitted T-shirts, knitted pullovers, textile shoes, men's shirts, seating, household linen, women's coats, men's coats, bags, branded shoes and trainers, men's woven trousers, women's woven trousers, women's woven blouses, etc..
Leather (hides), imitation leather or synthetic leather	Leather shoes, seats, handbags, leather clothing, imitation leather jackets for women, leather jackets for men, etc.
Palm oil	Palm oil, margarine, soaps, refined palm oil, etc.
Copper	Refined copper, copper wire, copper cladding, copper bars, copper tubes, copper tube fittings, copper scrap, etc.
Iron ore	Steel, iron structures, iron fasteners, hot-rolled iron, coated flat-rolled cast iron, iron blocks, hot-rolled flat steel, iron pipe fittings, iron tubes, ferroalloys, iron household items, flat-rolled stainless steel, etc.
Bauxite – alumina	Aluminium cladding, aluminium bars, aluminium structures, aluminium foil, raw aluminium, etc.
Manganese	Metal alloys
Cobalt	Refined cobalt. Rechargeable batteries, etc.
Natural and Synthetic rubber	Rubber tyres, rubber hoses, rubber clothing, rubber belts, rubber sheets, etc.
Electronics	Electrical circuits; telephone battery chargers; LED lamps, telephone headphones and loudspeakers, electrical wires and cables; batteries for laptops, telephones and smartphones; components for electronic products (rubber components, plastic components, glass components, mechanical/electronic parts); basic electronic components - solar electronics (transistor, integrated circuit, sensors, resistors, capacitors, diodes, antennas, thyristors); materials for manufacturing electronic components (semiconductors, hard magnetic materials, soft magnetic materials, active insulators), etc

Source: ECA, PDIDE Analytics, Strategic Task Force (STF), Reference Framework for the Assessment-Diagnosis-Drafting of the Central African Economic Diversification Master Plan (PDIDE-AC)

Annex 3: Top 10 export products from EAC (East African Community) countries

Table 16: Table 16: EAC export products 2018-2022

Ranking	2018	2019	2020	2021	2022
1	Natural or cultured pearls, precious or semi-precious stones, precious metals, plated metals.	Natural or cultured pearls, precious or semi-precious stones, precious metals, plated metals.	Natural or cultured pearls, precious or semi-precious stones, precious metals, plated metals.	Natural or cultured pearls, precious or semi-precious stones, precious metals, plated metals.	Natural or cultured pearls, precious or semi-precious stones, precious metals, plated metals.
2	Coffee, tea, mate and spices	Coffee, tea, mate and spices	Coffee, tea, mate and spices	Coffee, tea, mate and spices	Coffee, tea, mate and spices
3	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral substances.	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral substances.	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral substances.	Cereals	Cereals
4	Cereals	Cereals	Iron and Steel	Salt; sulphur; earth and stone; plastering materials, lime and cement.	Salt; sulphur; earth and stone; plastering materials, lime and cement.
5	Iron and Steel	Iron and Steel	Cereals	Animal or vegetable fats and oils and their cleavage products; processed edible fats; animal fats.	Animal or vegetable fats and oils and their cleavage products; processed edible fats; animal fats.
6	Animal or vegetable fats and oils and their cleavage products; processed edible fats; animal fats.	Animal or vegetable fats and oils and their cleavage products; processed edible fats; animal fats.	Animal or vegetable fats and oils and their cleavage products; processed edible fats; animal fats.	Iron and Steel	Iron and Steel
7	Salt; sulphur; earth and stone; plastering materials, lime and cement.	Tobacco and manufactured tobacco substi	Salt; sulphur; earth and stone; plastering materials, lime and cement.	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral substances.	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral substances.
8	Tobacco and manufactured tobacco substitutes	Salt; sulphur; earth and stone; plastering materials, lime and cement.	Tobacco and manufactured tobacco substitutes	Tobacco and manufactured tobacco substitutes	Plastic materials and articles
9	Plastic materials and articles	Plastic materials and articles	Machinery, mechanical appliances, nuclear reactors, boilers and parts thereof.	Soap, organic surfactants, washing preparations, lubricating preparations, artificial.	Soap, organic surfactants, washing preparations, lubricating preparations, artificial.
10	Sugar and sweets	Sugar and sweets	Vehicles other than railway or tramway rolling stock, and their parts and accessories.	Plastic materials and articles	Tobacco and manufactured tobacco substitutes

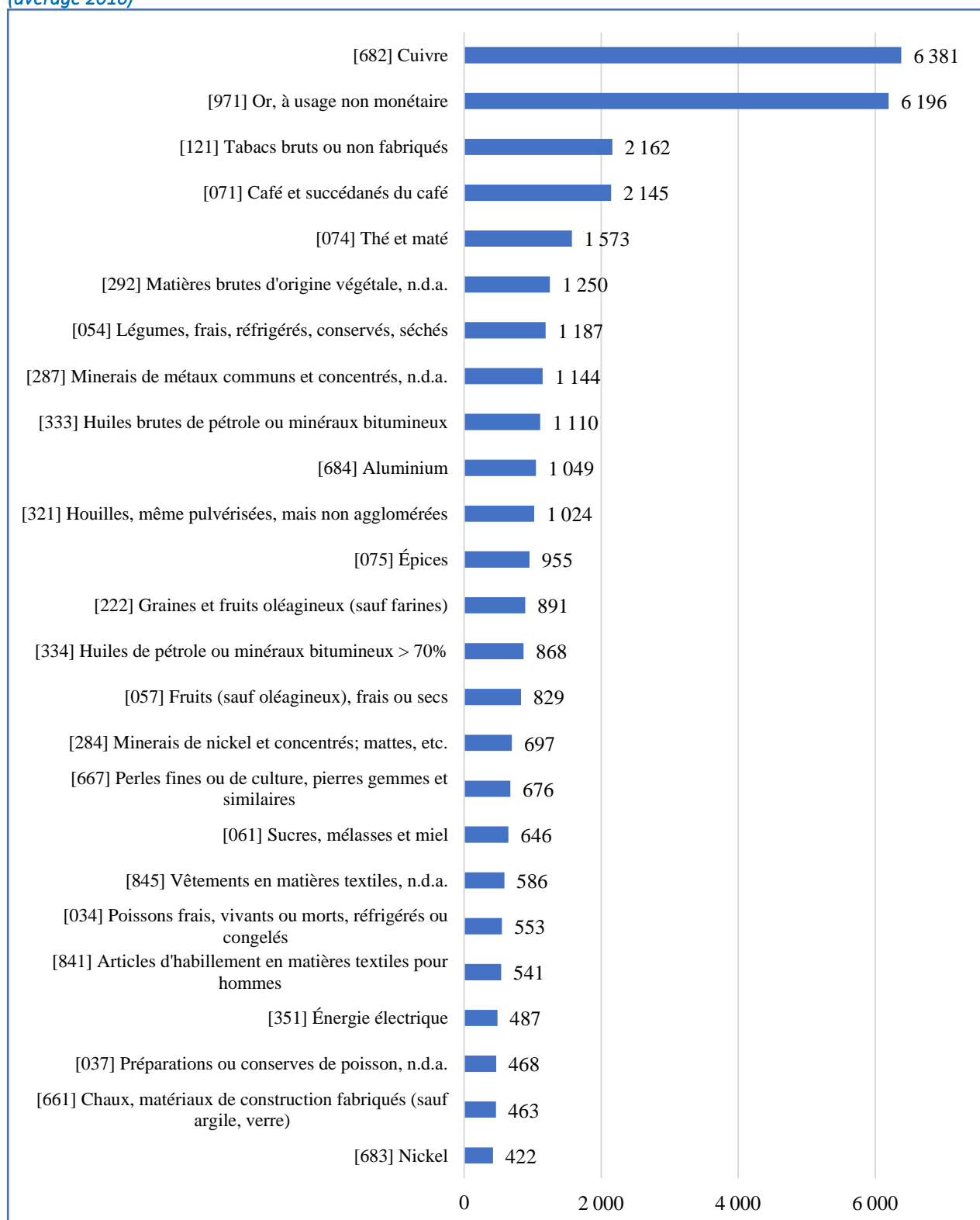
Source: ECA, PDIDE Analytics, Strategic Working Groups (SWGs), Reference Framework for the Assessment-Diagnosis-Drafting of the Central African Economic Diversification Master Plan (PDIDE-AC)

Table adapted by the authors from EAC reports and internet links. This table shows trade flows from the EAC to Africa.

Note: Cereals are in top 5 for both exports and imports. This implies the relevance of food security in AfCFTA integration. AfCFTA markets should enable access to cheaper and reliable sources of foods, but also provide better markets for EAC agricultural products. Cereals are in the top 5 of both exports and imports. This implies the relevance of food security in AfCFTA integration.

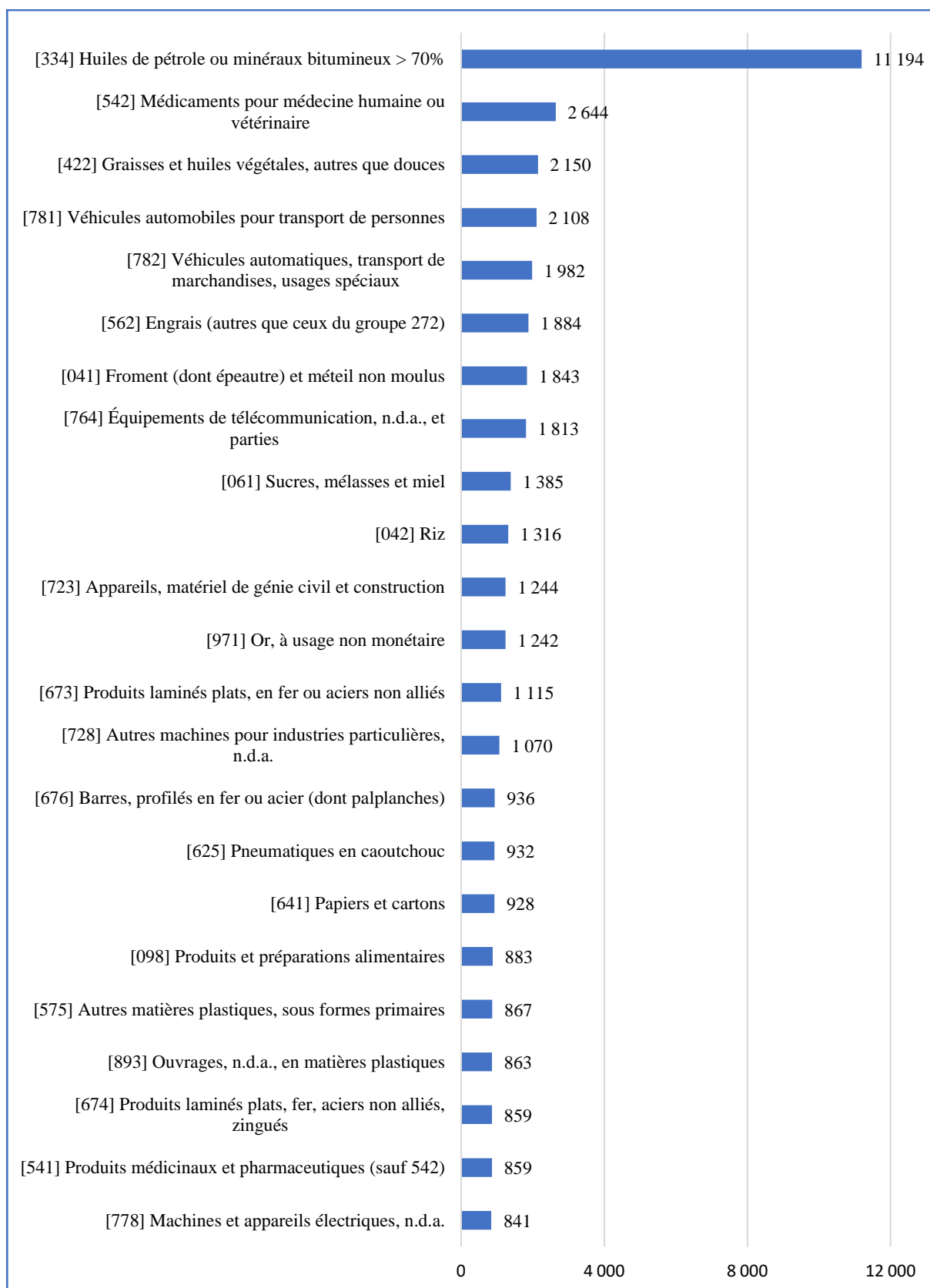
AfCFTA markets should provide access to cheaper and reliable sources of food, as well as better markets for agricultural products from the Central African (ECCAS) and East African (EAC) areas of influence.

Figure 4: 25 Main products exported by the countries of East Africa (EAC) to the rest of the world in millions of US dollars (average 2016)



Source: ECA, PDIDE Analytics, Strategic Task Force (STF), Reference Framework for the Assessment-Diagnosis-Drafting of the Central African Economic Diversification Master Plan (PDIDE-AC) Authors' calculations based on data from UNCTAD, 2022, UNCTADSTAT (database)

Figure 5: Top 25 products imported by East African countries (EAC) from the rest of the world in million US dollars (average 2016-2022)



Source: ECA, PDIDE Analytics, Strategic Task Force (STF), Reference Framework for the Assessment-Diagnosis-Drafting of the Central African Economic Diversification Master Plan (PDIDE-AC) Authors' calculations based on data from UNCTAD, 2022, UNCTADSTAT (database)

Annex 4: Leaders in the world's three major manufacturing markets elements (quality in bold)

Table 17: Other quality aspects of manufacturing champions (Quality in bold)

Indicators	American	Chinese	Germany
Surface area	9. 8 M km ²	9.6 M km ²	357 022 km ²
Population	329 5 M inhabitants	1.4 M inhabitants	83.2 million inhabitants
GDP/ inhabitant 2021	65 254 USD	10 522 USD	42918 euros
Growth rate 2021	5.70%	7.50%	5.80%
Market maturity	Widely differentiated market 52 States, i.e. 52 different markets	It is important to analyze the environment and adapt your product accordingly.	Mature and competitive
Dominant factor	The highly competitive business environment, price positioning, volumes, product origin and consumer habits to be mastered on the basis of market research;	Keeping in touch and developing a long-term relationship based on trust are essential.	Quality/price ratio/
Quality	Health products without organic additives, functional foods,	Protecting your brand is an essential prerequisite in China. It is strongly recommended that you register your trademark in local law, in Latin characters and Mandarin, to prevent any infringement and to have the necessary tools at your disposal in the event of counterfeiting.	Health dimension (Plant health standards)
Modality (Standards)	To be registered with the FDA, to adapt to 94 000 standards in force across the country, at all geographical levels	The notion of sustainability, family production, respect for the environment and the organic range are sought-after criteria that have become differentiating factors.	Certification especially at the start of business
Types of partners	Go through an importer, who will market the products to distributors and retailers.	Choosing a local partner is essential for companies not wishing to set up a structure in China, including for cross-border e-commerce.	Reliable
Consumer needs	Being structured and responsive.	Consumers are increasingly sensitive to healthy products, and the other important criteria for choosing a product are origin (traceability), price and packaging.	Safety and Transparency
Customized offer	A differentiated offering tailored to market trends	E-commerce is playing an increasingly important role in the food sector, a trend that has been reinforced since the start of the COVID 19 epidemic.	Adapting to the needs of the local market
Other offer requirements	This meets a consumer need.	Social and professional relationships (Guanxi) are crucial to business success. Keeping in touch and developing a long-term relationship based on trust are essential.	Organic products that respect animal welfare and the environment
Communication on the offer	Communicate its offer and identity through its values, via the trade press, social networks and networking platforms such as trade fairs and symposia.	New communication/sales channels are developing extremely rapidly (KOL/KOC, live streaming, tiktok/douyin, webchat, weibo, etc.).	Trade press, social networks, trade fairs, symposia
Agreements	Agreements by State for the 52 States	Reactivity and pragmatism to seize market opportunities and conclude agreements with a Chinese-style decision-making rhythm punctuated by an often-confusing negotiation phase	For a long-term partnership
Cultural dimension	Mastery of language, business culture and competitive environment.	Chinese culture and even language are assets that can make all the difference.	Mastery of language

Source: FranceAgriMer, produced by Business France <https://www.franceagrimer.fr/> and reprocessed by the authors

Annex 5: Vietnam

Table 18: Vietnam - Example of the implementation of an effective quality programme

Criteria	Actions	Results
Subject	Facilitating conformity assessment procedures through the recognition of conformity assessment results	Compliance being one of the measures to strengthen national brands and improve competitiveness in 15 years, the quality of products and goods has increasingly improved.
Orientation	Setting up a national quality system	For socio-economic development and international economic integration goals, the renovation of mechanisms, policies and laws on quality activities, the renovation of quality management methods with a view to creating a favourable environment for production and business.
setting	By setting up a legal corridor comprising:	1 framework law on quality was introduced
Organization	An entire ministry dedicated to the cause, the Ministry of Science and Technology	Establishment of quality management agencies and an incentive policy through the creation of a national quality prize
Phase 1	Implementation of a guidance document system	<i>57 decrees, 7 decisions and 208 circulars, guides for implementing the law, directives, etc.</i>
Phase 2	Specialized inspection and examination activities to provide timely information on the quality of products and goods and between management agencies	<i>More than 900 QCVN projects were assessed</i>
Phase 3	Modernization of practices and modern control tools	More than 13 000 Vietnamese standards with a high rate of harmonization with international standards and support for management agencies in energy efficiency, promoting the use of clean energy, renewable energy replaces traditional fuels by promoting the use of recycled fuels to reduce environmental pollution.
Phase 4	Compliance with standards and technical regulations by setting up bodies to assess conformity with the conditions specified in the guidance and standards,	<i>The aim of these controls is to maintain its reputation and to develop its products over the long term: conformity assessment bodies approved by the relevant ministries for the timely monitoring of product quality on export and import markets</i>
Phase 5	Requirements for economic integration through international cooperation activities between Vietnam, regional countries and the rest of the world	<i>Implementation of the WTO TBT Agreement with progressive improvement through the promulgation of technical regulations, with 271 technical measures taken to this effect</i>
Phase 6	To promote trade in goods between economies to participate actively in regional organizations, forums and worldwide, and to promote the signing and implementation of agreements	<i>Mutual recognition agreements in the framework of ASEAN and APEC, bilateral MRAs between countries, giving priority to signing MRAs with countries of high trade value with the technology country that has deployed the MRA on electrical and electronic equipment (EE MRA) in ASEAN; bilateral MRAs on standards and conformity assessment with Russia, Ukraine, China, Taiwan (China) and Belarus</i>
Phase 7	Mutual recognition agreements at national level signed by technical organizations	Numerous agreements have been signed to strengthen technical cooperation, help companies cut costs and facilitate trade in goods between countries.
Phase 8	Quality excellence through prizes	1 312 companies received this award, of which 224 companies received the Prime Minister's Certificate of Merit and 49 companies received GPEA awards, an international Asia-Pacific quality award.
Phase 9	Implementation of the productivity and quality programme, with a view to improving the productivity and quality of the products and goods of Vietnamese companies	Applying technical standards and regulations, management systems, models and tools to improve productivity and quality: <i>6 productivity and quality projects chaired by the ministries and 57 local productivity and quality projects were approved and implemented.</i>
Phase 10	Implementation of barcodes, line codes (MSMV) and GS1 codes in management, production, business and commerce,	893 products are in circulation on domestic and foreign markets, helping to improve the prestige, quality and competitiveness of Vietnamese products with customers at home and abroad. <i>Overall, over the period 2006-2021, 48 785 GS1 company codes were issued; 57 abbreviated codes (EAN8); certification for 1 005 foreign codes and, over the period 2018-2021, 724 global location identifiers.</i>
Phase 11	Using traceability to identify the origin of goods and products	<i>23 national standards (TCVN) on traceability; and implemented the construction of the National Product and Goods Traceability Portal to determine the origin of products and goods</i>

Source: Adapted by the authors from reports, links and data from the link <https://tcvn.gov.vn/nhung-diem-sang-trong-qua-trinh-thi-hanh-luat-chat-luong-san-pham-hang-hoa/22/05/2023/> et site ISO.

Annex 6: Some of the expected benefits of compliance

Box 3A: Benefits expected from successful compliance in the mining industry

The subsoil and soils of Africa under review are very rich in certain world-class natural and mineral resources. Without being exhaustive, more than 10 000 deposits of various mineral resources have been discovered here, according to the world's most credible sources of geological investigation.

With minerals and metals accounting for more than half of exports in some of the countries under review, the mining industry is one of the leading contributors to the economies of both sub-regions and one of the sectors that has made the greatest contribution to the stability and resilience of the economies through the rebounds in the prices of mining product exports in recent years of crisis. In particular, Central Africa has some of the most sought-after mineral and metal deposits in the world: cobalt, manganese, iron, copper, molybdenum, lead, zinc, gold, silver and aluminium, to name but a few.

Thousands of iron ore mines are currently in operation in Central and East Africa. Protecting the environment is one of the main challenges facing this sector. Given this situation, the regional standardisation plan will give priority to standards dealing with the latest technologies offering the highest level of safety for mining extraction programmes. In particular, sulphide concentrates are produced at different particle sizes, base metal contents, moisture contents and other chemical and physical characteristics which are used to evaluate and define the particular properties of the concentrate. The price of a concentrate generally depends on the base metal content. To assess a concentrate deposit, the base metal content, moisture content and total mass must be determined.

It is therefore essential to have practical methods for taking and preparing samples, based on scientific principles for collecting and preparing samples that are representative of a batch. These samples can then be tested, using reliable standardised methods to measure the base metal and determine the moisture content.

World-class ISO-type standards for sampling and chemical analysis guarantee fair trade and a competitive supply of sulphide concentrates. ISO standards also take into account the environmental impact and the health and safety of workers in the industry. The benefits expected from encouraging cooperation activities in the field of standardisation include in particular :

- The development of standardised methods that are acceptable and validated in the most economical, scientific and practical way;
- The elimination, or at least the mitigation, of these barriers to trade in sulphide concentrates due to differences in standards, while helping to achieve the objectives of the World Trade Organisation (WTO) Agreement on Technical Barriers to Trade (TBT);

The capacity to respond rapidly to the need for new or revised standards, resulting from the development of new and improved technologies and metal production instruments for measuring quality characteristics.

Source: Endorsed by actors from reports and links on the ISO site <https://www.iso.org/about-us.html>

Annex 7: Some of the expected benefits of upgrading - continued

Box 3B: Benefits expected from successful compliance in agribusiness

Agriculture is a key sector in the economies of Central Africa and East Africa, accounting for an average of 15% and 26% of their GDP respectively in 2021 (FAOSTAT, 2021). It is no longer a secret that the agrifood or agri-business sector in these sub-regions is a sector of sustained growth, driven by urban demand and the demand for ecologically 'green' agri-products, which are offering more and more export opportunities.

As one of the most promising sectors in terms of export volumes of processed products, according to the World Bank and many other informed analysts, agrifood or agribusiness plays an important role in the economies of two sub-regions. The most important products are cereal flour, coffee, tea, oils and fats, leather, fish and local horticultural products. Rwandan and Ethiopian coffee, for example, are accessible on Japanese markets and are bought there at premium prices in supermarkets.

The main exports of agrifood products from the ECCAS and EAC regions are : coffee and coffee substitutes; tea and maté; spices; sugar, molasses and honey; prepared and preserved fish; milk and dairy products; chocolate and other cocoa preparations; fruit and vegetables; prepared and preserved vegetables; cheese; sugar confectionery; margarine and cooking fats; butter and other milk fats; prepared meat and meat offal; cereal flour; prepared animal or vegetable oils and fats; prepared and preserved fruit; etc. (UNCTADSTAT, 2022). The soil and climatic conditions of the two sub-regions and the limited use of chemical fertilisers favour the development of organic products. These products can be successfully introduced into niche international markets, using the modern processing and packaging techniques currently employed to export products of East and Central African origin such as coffee, tea, palm oil, fruit and vegetables, etc.

Finally, the development of standards for safety management systems ensures that food is safe when it is consumed. For example, using the same reference document throughout the world avoids the need for multiple certifications.

For new technologies in the agri-food or agri-business sector, standardisation work can provide assurance about products, thereby building consumer and user confidence. In this area, some of the most advanced national agencies in the field of standardisation and conformity are already publishing, for example, several harmonised national standards for the identification and determination of genetically modified organisms, thereby contributing to the application of such regulations. In this way, regional cooperation will enable costs and experience to be shared.

Source: Adapted by the authors from reports and links on the ISO site <https://www.iso.org/about-us.html>

Annex 8: Top 50 manufacturing countries worldwide, 2021

List of countries by manufacturing output			
Rank	Country or region	Millions of \$US	Year
	World	16,350,207	2021
1	 China	4,865,824	2021
2	 United States	2,497,131	2021
3	 Japan	995,309	2020
4	 Germany	• 772,252	2021
5	 South Korea	456,600	2021
6	 India	446,504	2021
7	 Italy	319,843	2021
8	 United Kingdom	279,389	2021
9	 France	269,797	2021
10	 Russia	256,958	2021
11	 Mexico	232,107	2021
12	 Indonesia	228,325	2021
13	 Ireland	184,306	2021
14	 Turkey	179,229	2021
15	 Canada	170,222	2018
16	 Spain	161,426	2021
17	 Brazil	155,192	2021
18	 Switzerland	153,132	2021
19	 Thailand	136,682	2021
20	 Poland	116,672	2021
21	 Netherlands	110,460	2021
22	 Saudi Arabia	108,820	2021
23	 Bangladesh	88,397	2021
24	 Malaysia	87,553	2021
25	 Australia	85,859	2021
26	 Singapore	83,662	2021
27	 Argentina	81,585	2021
28	 Sweden	79,251	2021
29	 Belgium	79,004	2021
30	 Austria	79,001	2021
31	 Iran	76,313	2021
32	 Philippines	69,504	2021
33	 Nigeria	64,401	2021
34	 Czech Republic	63,625	2021

List of countries by manufacturing output			
Rank	Country or region	Millions of \$US	Year
35	 Egypt	62,638	2021
36	 Venezuela	58,237	2014
37	 Denmark	50,299	2021
38	 Puerto Rico	51,269	2021
39	 Israel	49,657	2021
40	 Romania	49,288	2021
41	 South Africa	49,154	2021
42	 Finland	45,676	2021
43	 United Arab Emirates	43,030	2021
44	 Algeria	42,383	2021
45	 Pakistan	41,479	2021
46	 Colombia	36,218	2021
47	 Hungary	33,889	2021
48	 Portugal	29,501	2021
49	 Chile	27,447	2021
50	 Norway	26,743	2021

Source: United Nations Industrial Development Organization (UNIDO)

Annex 9: Quality standards by State Champion

Box 4: BSI, the British standards model

PRESENTATION OF THE BRITISH BODY (BSI):

BSI Standards is part of the BSI Group, a service to independent companies and global organizations providing standards-based services and solutions that inspire business confidence and provide assurance to the market and consumers.

GLOBAL VISIBILITY:

With its long-standing international reputation, BSI has a unique global perspective covering all industry sectors. Its aim is to inform the industry by working globally and locally, helping customers and partners in the creation of standards.

HOW AND WHY DO PROFESSIONAL ORGANISATIONS WORK WITH BSI ON STANDARDS?

- By working with companies to provide them with standards, BSI helps them to develop their own bespoke solutions to solve their problems in the marketplace,
- By sponsoring standards with publicly available specifications (PAS).
- By developing an innovative online information solution that makes life easier for civil and structural engineering companies;
- Spreading the standards message in government circles;
- Working to improve regulation over time to explore ways of using standards as an alternative to regulation;
- By creating a specification for BIS that brings significant cost savings to the construction industry;
- Working with professional associations to produce standards guidance documents and informal standards;
- Creating partnerships with universities and colleges to raise the profile of standards on campus;
- Combining knowledge and expertise with the EPSRC (Centre for Innovative Manufacturing in Through-life Engineering Services) in creating TES, "TES (Through-life Engineering Services) are the technical services necessary to ensure the desired and predictable performance of a complex engineered system throughout its expected operational life, with optimal life-cycle costs;
- By creating standards that enable organizations to become leaner and more productive;

BSI was the first to develop a quality management standard, BS EN ISO 9001, which is used and recognized throughout the world:

- By creating the conditions for better collaboration, BS 11000-1 helps organizations realize the many benefits of working together more easily and effectively
- Working with government and industry to create standards that will reduce costs by improving access to construction supply chain data;
- "FAIT Simple" design to highlight the BS 8887 series of standards and their influence on sustainable design in the UK and beyond through an integration of "Most of the environmental impact of a product during its life cycle is determined at the design stage";
- Ensuring sustainability, by helping organizations to assess and manage their economic, environmental and social impact (Environmental footprint on natural resources through the development of PAS 2050, Responsible procurement to avoid social and environmental impacts, Organizational improvement through BS EN ISO 14001 continues to offer organizations a proven route to improving their environmental management systems);
- Gaining energy efficiency by using the BS EN ISO 50001 standard has enabled London South Bank University to reduce its energy consumption. Sustainability has long been a key area of focus for LSBU (London South Bank University), which is one of the city's largest and oldest universities.

ACHIEVEMENTS:

"Progress in standardization is only possible through the collaborative effort of BSI's valuable network of standards experts and stakeholders: Key to success; Collaborative effort.

RESULTS: 34 000 standards in our current portfolio; 2 500 standards published each year; 7 000 standardization projects under development;

ORIGIN OF INTERNATIONAL STANDARDS: 44% of published standards; 49% in Europe and 7% at national level;

CHANGE: This changing environment is marked by the emergence of new standards and new ways of doing things to support their use. Since 2013, ensuring industrial excellence. Not just in these difficult times, but also to make excellence a habit in everyday activities.

TOP 10 BSI STANDARDS IN 2012:

1 Quality management systems. Requirements, BS in ISO 9001. .

2 Emergency lighting, BS 5266-1.3 ESEE installation. Improving the energy efficiency of existing buildings. Specification for the installation, management and service of provision processes, PAS 2030.

3 Installing EEM. Improving the energy efficiency of existing buildings. Specification of the processes for installing, managing and servicing provision processes, PAS 2030.

4-5 Medical electrical equipment, BS EN 60601-1. Systems quality management. Regulatory requirements BS EN ISO 13485.

6 Information technologies. Service BS ISO/IEC 20000-2.7

Trees in relation to construction. BS 5837. Recommendations.

8 Societal safety. Business continuity management systems. BS ISO 22301 requirements.

9 Explosive atmospheres, BS EN 60079-11.

10 Fire extinguishing systems

Source: Actor based on data and links <https://www.bsigroup.com/en-SG/et> https://en.wikipedia.org/wiki/BSI_Group

Table 19: Singapore Enterprise quality model

RMA Group	Subject	Results
Innovation centre	Facilitating expansion into foreign markets, strengthening leadership capabilities	600 enterprises
Financial support for businesses (making Singapore a leading start-up and trading centre).	Seeking growth, and continuing efforts to strengthen confidence in products and services through quality and standards,	1600 enterprises
Market guides	Support to improve competitiveness, create companies with new technologies, improve productivity, facilitate expansion into foreign markets and strengthen leadership capabilities.	23 industry transformation cards. 21 900 businesses to increase their productivity, i.e. 3 times more than in 2020
Accelerated digitization and sustained business continuity	Singapore strengthened as a hub for innovation and start-ups	Partners with incubators, angel investors and government agencies to develop Singapore's start-up ecosystem
	Startups that are members of technology unicorns	11 start-ups in Singapore
	Broaden the investor base to	68 by appointment
	Access to financing	2 300 start-ups have had access to funding, incubation and mentoring
	New accredited mentor partners and 2	20
	New accelerators for the Start-up SG Accelerator programme	2
	Attraction capacity	15 000 participants from 45 markets at Singapore Week of Innovation and Technology (SWITCH) 2021
Improving business competitiveness through quality and standards	Support for projects that have adopted standards	298
	Developed standards	122 standards impacting 5700 organizations
	Accreditation certificates issued	37 new accredited certificates
	Facilitate access into foreign markets	28 mutual agreements of recognition with more than 100 partners in the world
	Surveillance checks carried out	4000 control checks
Development of Singapore	Growth rate 2018	7.60%
	Prospects	But beyond these immediate challenges, we are positive about the long-term prospects - and our companies have learned valuable lessons about economic resilience throughout the pandemic.
	Innovation centre to set course for the new economy	Accelerating digital transformation and strengthening innovation capabilities
	Productivity	Wholesale and manufacturing
FAQ: Business excellence	Operational excellence; SQC-certified organization and use of the SQC logo	SQA/IEA/PEA/SEA winning organizations, Use of logos or not at respective awards?
	Subjects of similar interest, in particular FAQs	Programmes: - Corporate Finance - Project Loan (EFS-PL) FAQ - Energy Efficiency FAQ - Sustainable Enterprise Development (EDG) FAQ to catalyze sustainability in Singapore SMEs FAQ- Corporate Finance Plan - Commercial Loan (EFS-TL)

Source: Author from link data <https://www.enterprisesg.gov.sg/Inspiring-Stories/Standards/Knowing-what-to-do-when-disaster-strikes>

Table 20:: Singapore model Company convenience management

Question	Dedicated organization	Subject	Objective
How do I know which standard is right for my business?	RMA Group	Standard SS ISO 22301	How do I know which standard is right for my business?
	SME Centres	Getting help to understand your problem better	Understand your business needs and explore the standards that can help you achieve your objectives
How can I get my company to start adopting a standard?	Singapore Accreditation Council	Products and services still have to be tested and inspected by a conformity assessment body before they can be certified.	The assessment body itself meets recognized standards thanks to a list of accredited organizations
		If your company was certified	Keeping pace with changes in the industry and standards to remain certified
Will the adoption of standards increase my operating costs?	Singapore business continuity	SS 540 standard	Standard SS 540, replaced by standard SS ISO 22301

Source: Author from link data <https://www.enterprisesg.gov.sg/Inspiring-Stories/Standards/Knowing-what-to-do-when-disaster-strikes>

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