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ECONOMIC AND TRANSPORT ASPECTS OF THE AFRICAN UNION

Summary. The paper addresses the changes on one of the largest continents, Africa, in aspect of transport systems and the economy. The African Union is a chance to integrate this area from many points of view. Infrastructure, the economic grow rate and transport development were also analysed.
Keywords: African Union; transport.

1. INTRODUCTION

Africa is the second-largest continent in the world, yet the economy of most African countries should be characterized as underdeveloped. In 2016, the overall GDP of Africa was as low as 1.5% [24], while the GDP per capita was the lowest among all continents (USD 1,809). Some exceptions to the above rule are the cases of the North and South African regions, where one can observe diversified production. Despite numerous challenges, such as terrorism, drought and pandemics, many African countries, especially those located in the sub-Saharan region, focus on upgrading their economies by implementing adequate policies intended to stimulate retail trade, transport, telecommunications and production. Owing to such efforts, the average GDP growth in the decade 2004-2015 equated to about 5% [7], although 2016 saw an economic slump in Africa, mainly in countries strongly dependent on the export of minerals and energy-producing raw materials, where the value of this kind of export was conditioned by prices in

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global markets. In this day and age, nearly half of all African countries have already oriented themselves towards the diversification of national economies [26].

One should also bear in mind that, even though the African continent is particularly abundant in natural resources, more than 60% of its population is involved in agriculture (the share of agriculture in Africa's GDP is about 32% [10]).

Table 1
Breakdown of continents according to GDP per capita in 2016 [18]

Continent	GDP per capita (USD)
North America	37,477
Oceania	35,087
Europe	25,851
South America	8,520
Asia	5,635
Africa	1,809
Global average	10,300

Direct trade between African countries accounts for as little as 14% of the total trade in goods. It is a relatively low percentage value compared to the Association of South East Asian Nations (ASEAN) or the EU, whose intra-regional trade comes to 25% and 60%, respectively.

In terms of population, Africa is only outranked by Asia: in 2016, inhabitants of Africa accounted for 16.4% of the global population (59.8% attributed to Asia) [12].

2. AFRICAN UNION

Despite the economic and political instability of African countries, most of their leaders strive for improved dynamism in integration for the sake of a more profound pursuit of the idea of pan-Africanism. There are numerous regional organizations currently operating in Africa, also referred to as regional economic communities, incorporating different countries, with a single country able to participate in several such organizations. Their collaboration pertains to the unconstrained transport of goods and people or free trade zones.

One of the most important among such international organizations in the past, with nearly all African countries except for Morocco as members, was the Organization of African Unity (OAU) established in 1963 in Addis Ababa, Ethiopia, which ceased to exist in 2002. It was replaced by the African Union (AU), which was founded for numerous purposes including acceleration of the process of economic and political integration of the whole continent. Its main challenge is to maintain unity and peace in African countries, and further its principal tasks include fighting poverty and pursuing major economic improvements on the continent [8]. The AU's vision is an "integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the global arena", while its main objectives are the following:

- promoting the idea of democracy and democratic institutions (contrary to the above, believed to be a club of dictators)
- intensified protection of human rights on the African continent

- implementation of mechanisms of mutual influence, aimed to put an end to military conflicts and prevent them in the future
- building and sustaining an all-African outlet market (by following the global trend of large trade blocs being established)
- reducing trade with former colonial powers in favour of intra-continent trade (fighting dependence)
- increasing the inflow of foreign capital

The AU is composed of all African countries. It was decided at the AU summit held in 2017 in Addis Ababa to readmit Morocco to the organization. It used to be the only African country that neither participated in the OAU, nor in the AU, after it withdrew from the latter in 1984 as a consequence of the dispute over Western Sahara, a former Spanish colony. Morocco considers Western Sahara to be its province, while the OAU recognized its independence.

The most important AU body is the Assembly of the AU, comprising heads of individual governments, heads of states as well as their representatives. The assembly is convened at least once a year to decide on the organization's future endeavours. Other bodies functioning under the AU are:

- Executive Council - composed of ministers or authorities appointed by governments of member states and reporting to the assembly
- Pan-African Parliament and supporting bodies - intended to ensure empowerment of African peoples as well as their participation in economic development and integration of the African continent (a detailed protocol concerning the composition, prerogatives, functions and organization of the Pan-African Parliament has been signed by the member states and is currently ratified)
- Economic, Social and Cultural Council - an advisory body composed of representatives of diverse social and professional groups from the AU member states
- Court of Justice
- Specialized Technical Committees (STCs) - operates at the interface with different ministries: i.e., STC on Agriculture, Rural Development, Water and Environment; STC on Finance, Monetary Affairs, Economic Planning and Integration; STC on Trade, Customs and Immigration; STC on Industry, Science and Technology, Energy, Natural Resources and Natural Environment; STC on Transport, Communication and Tourism; STC on Health, Labour and Social Affairs; and STC on Education, Culture and Human Resources.

The constitution of the AU stipulates that three financial bodies should be established: the African Central Bank (commissioned to build a single monetary policy and a single African currency as the means to accelerate economic integration), the African Monetary Fund (intended to facilitate economic integration of African economies by eliminating restrictions in trade and ensuring more improved monetary integration) and the African Investment Bank (assumed to support economic growth and accelerate economic integration in Africa).

Systematic and efficient implementation of the AU's programmes requires adequate, foreseeable and regular financing. Each year, the AU member states deposit about 67% of the estimated contribution. However, there is still a discrepancy between the budget and the actual financing needs resulting from either incomplete or non-existent contribution payments by about 30 member states, which makes the AU's operations all the more difficult. In 2016, it was decided that all member states were obliged to contribute 0.2% of

their respective import value, and that the funds thus obtained were to be transferred to the AU budget.

3. CONDITION OF INFRASTRUCTURE VS. ECONOMIC GROWTH RATE

The transport and power industries are sectors of key importance to the development of infrastructure in Africa. In order for them to grow in a relevant manner, they require far more extensive investments than are observed nowadays. According to the 2016 Africa Infrastructure Development Index (AIDI), a ranking prepared by the African Development Bank [25], despite the progress observed all over the continent, the growth rate reported by individual countries was inconsiderable.

Compared to the 2013 AIDI index, the top 10 ranking highlighting the countries with the most highly developed infrastructure had not changed. These are the Seychelles, Egypt, Libya, the Republic of South Africa (RSA), Mauritius, Tunisia, Morocco, Algeria, the Republic of Cabo Verde and Botswana, although their individual indicators have changed from time to time. The 10 countries ranked last are: Mozambique, Sierra Leone, Madagascar, Eritrea, the Democratic Republic of Congo, Ethiopia, Chad, Niger, South Sudan and Somalia (Figure 1). The most considerable acceleration was observed in the area of ICT (e.g., owing to the development of telephony, Mali went up nine places in the ranking, i.e., from 44th in 2013 to 35th in 2016, while Tanzania advanced by two places - from 45th to 43rd place).

4. DEVELOPMENT OF TRANSPORT

AU member states are characterized by relatively low-level transport development; however, the transport infrastructure has suffered heavy stagnation over recent decades in Africa. The deficiencies in transport infrastructure hamper the growth and decentralization of dynamically developing industries, increase transport costs and reduce the capacity to build a sustainable chain of food supply, thus generating waste in sellable goods and causing delays in delivery.

The African network of roads is very poorly developed. The road accessibility index of this continent is as low as 34% (in other developing regions of the world, it is 50%) [22]. In many countries, concentration of roads is only typical of urban areas or direct vicinities of seaports whose trade were routes created in colonial times for the purposes of goods shipment overseas. Far fewer roads connect adjacent countries to form regional networks [5]. In this respect, the current status of the RSA, North Africa, Nigeria and Zimbabwe seems most positive. However, there are many parts of Africa where 85% of roads are unfit for use during the rainy season.

Over recent years, road conditions have improved in most African countries as an outcome of various policies implemented by governments aimed at increasing the density of roads and performing institutional reforms. Extraordinary effort has been invested in the development of institutions dedicated to the management and maintenance of African roads, yet they are still largely insufficient in many countries [1].

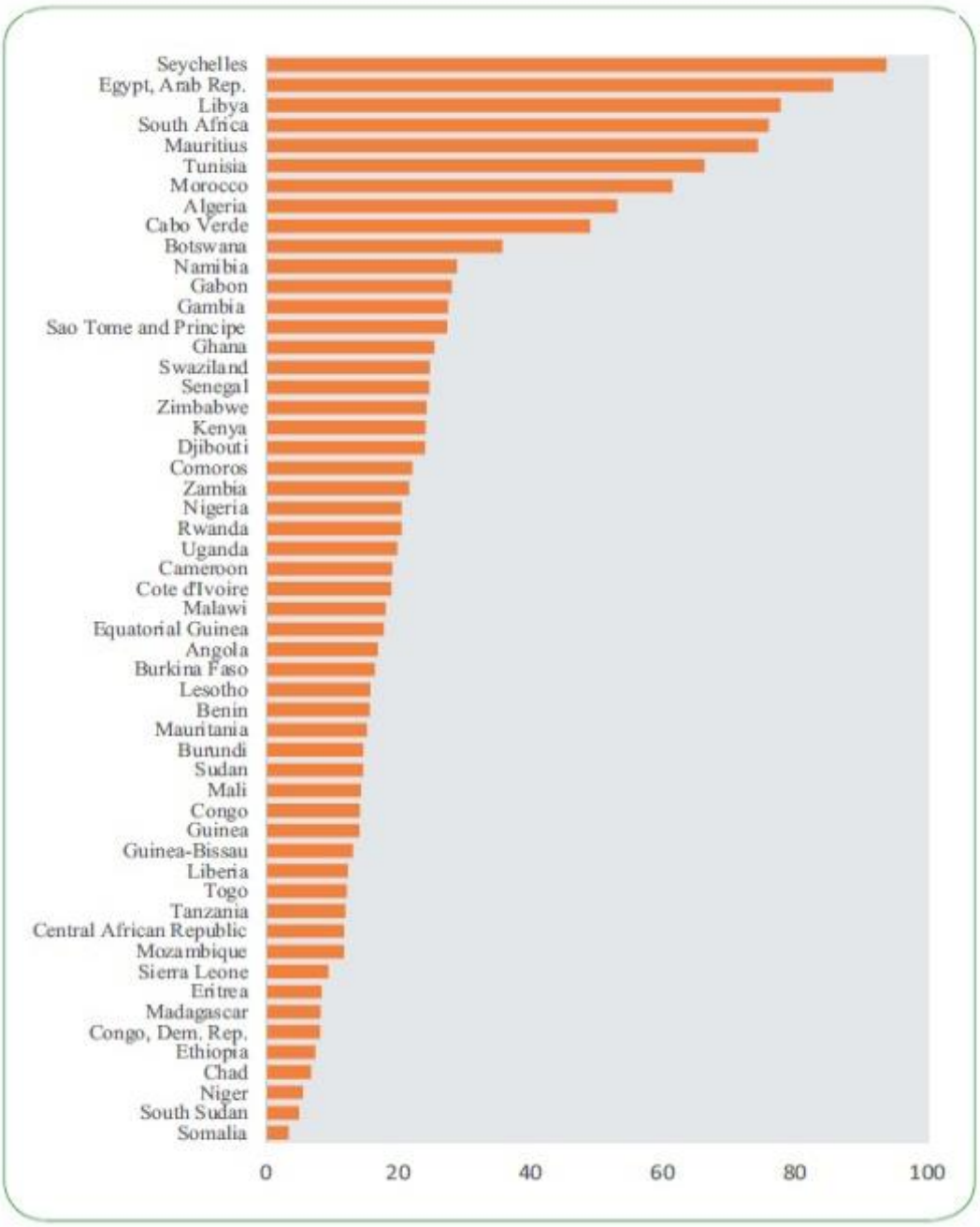

Fig. 1. Status of infrastructure development in African countries (transport, electricity, ICT, water supply and sewage disposal systems) [16]

In 1971, the initiative of the UN Economic Commission for Africa (UNECA), supported by the African Development Bank and the OAU (as the African Union equivalent up to 2002), launched a project of construction for a network of transcontinental roads (trans-African highways), also known as trans-African corridors, comprising nine routes designed to link capital cities and other large urban and industrial centres (Figure 2).

According to original assumptions, the network of transcontinental roads was to be 59,100 km long [27]. However, in 2011, 21% remained undeveloped, while, in midland countries, this ratio came to 65%. Since 2014, none of the existing transport routes has had

a link through Central Africa. Among the main obstacles to the construction of the roads were the rain forests and equatorial climate, where air humidity tends to exceed 90%.

The importance of the African railway network has dwindled over the last 30 years due to the liberalization of rail transport in individual countries and the improvement to road infrastructure. One can actually speak of a properly operating railway network only with regard to certain contemporary countries of South Africa (RSA and Zimbabwe), North Africa (Egypt and Morocco) and West Africa (Kenya and Tanzania). In individual cases, the small traffic volume results from low demand, while, in others, it is due to rolling stock deficiency, particularly in terms of locomotives. The predominant type of railway is the narrow-gauge system (1,067 mm) with low permissible axle loads.

As railway traffic has dropped in volume, very few carriers can generate revenues high enough to cover the necessary investments. Revamping the ageing railway networks and adequately restoring their technical condition would require a one-time injection of funds equal to USD 3 billion. In 1993, several governments started granting concessions for the use of railway lines, which was directly linked with a revitalization programme financed by international institutions. However, insofar as the concessions have led to significant improvements in the quality of services and helped to reverse the trend of traffic volume decline, they have not generated high enough revenues to cover the railway network upgrading, that is so desperately needed. The only railway lines truly meaningful to the African economy are those used to transport minerals from mines to seaports [2].

More than 90% of imports to and exports from the AU is handled by sea. In terms of sea transport, the RSA plays the most crucial part. Since the mid-1990s, both bulk and container cargo transferred through African ports have grown threefold in terms of volume. However, further growth will require additional investments, since the capacity of these ports still remains considerably below international standards. Although a decisive majority of ports have been deregulated, many AU countries have maintained high tariffs for harbour charges [3].

The busiest and largest African ports are: Durban in the RSA (the largest container terminal receiving about 4,500 vessels a year with total turnover exceeding USD 45 billion), Mombasa in Kenya (providing connections with about 80 ports all over the world, where about 500,000 TEU are handled per annum), Djibouti (connecting East Africa with Europe and Asia), Lagos in Nigeria, Abidjan in the Republic of Côte d'Ivoire (with an annual throughput of 610,000 TEU), the 163-m long Suez Canal in Egypt (total tonnage in 2014 came to 962.7 million tonnes, with revenues of USD 5.45 billion) and Tangier, Morocco [20]. The largest container terminals handling general cargo shipments are compared in Table 2.

The multitude of projects aimed at facilitating the development of African ports may imply some positive prospects concerning the region's increasing production capacity, but the hampering factor is the considerable uncertainty of economic growth.

Air transport has significantly developed over recent years in the AU, yet, even in this sector, one may observe large disproportions between individual regions. Availability of air transport services has particularly contributed to the growth of exports. However, air transport is expensive and connections are irregular in Africa, while safety is an additional issue due to such problems as low standards of pilot training and air traffic control and supervision. In many countries, air connections have been significantly limited in numbers on account of the abruptly growing operating costs related to increasing prices of fuels. The political efforts undertaken by national governments include the tightening of regulatory oversight and pursuing full liberalization of the air transport sector [4].

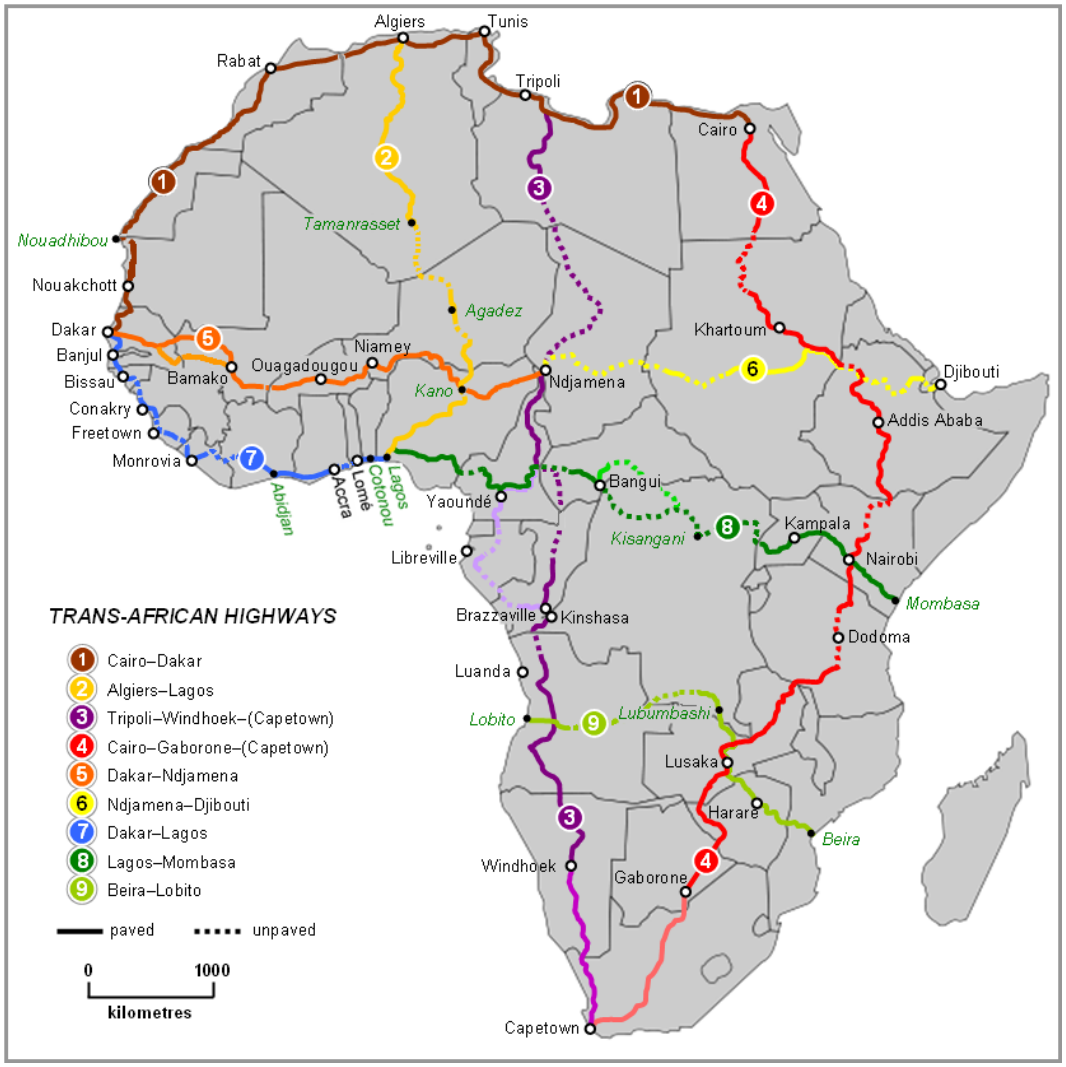

Fig. 2. Trans-African road transport corridors [17]

The largest African airports are: Oliver Tambo in Johannesburg (RSA), Cairo International Airport (Egypt), Cape Town International Airport (RSA), King Shaka International Airport near Durban (RSA), Sharm El Sheikh International Airport (Egypt), Hurghada International Airport (Egypt), Casablanca Mohammed V International Airport (Morocco), Murtala Muhammed in Lagos (Nigeria), Jomo Kenyatta International Airport in Nairobi (Kenya) and Port Elizabeth International Airport (RSA).

Africa holds its largest petroleum deposits in the northern and south-western part of the continent, while it is most abundant in natural gas in North Africa. Both kinds of fuel are transported to maritime trans-shipment hubs by pipelines (Figure 4).

Most pipelines cut through Algeria (27,042 km), Egypt (15,088 km), Nigeria (12,590 km) and Libya (10,748 km) [13].

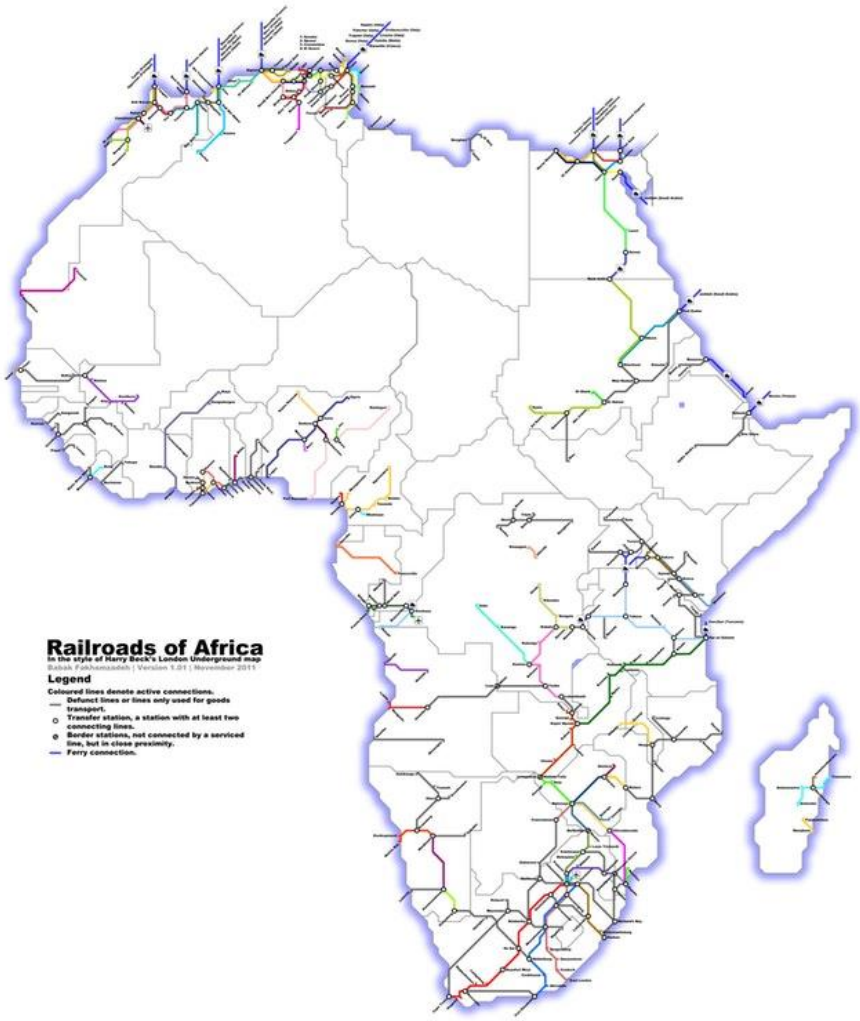

Fig. 3. Railway system in Africa [23]

Algeria is the largest natural gas producer in Africa. The mid-1980s saw the commissioning of an important partially undersea gas pipeline leading from the Algerian deposits in Sahara, through Tunisia, the Strait of Sicily and the Strait of Messina to Italy. Another connection between Africa and Italy is the Greenstream pipeline supplying gas from Libya. This fuel is also transferred by two pipelines to Spain, one which cuts through Moroccan territory and the other laid on the bottom of the Mediterranean Sea

The extraction and sale of power-producing raw materials contribute to the good economic results attained by the AU countries. The development of East Africa has been boosted over recent years by the discovery of rich deposits of petroleum in Uganda and Kenya as well as equally extensive deposits of natural gas in Tanzania. Ghana has also already attempted the construction of infrastructure required to utilize the natural gas deposits at hand, while it plans to increase the rate of its economic growth by consistent implementation of fully integrated and cost-effective operations of the gas industry [14].

Table 2

Largest container terminals handling general cargo shipments in the AU

Port name	Country	Location	Annual transfer capacity	Characteristics
Durban Container Terminal	RSA	Durban Port	3.6 million TEU (target capacity: 4 million TEU)	- Currently under expansion works aimed at dredging to 16 m - Only African terminal with container cranes capable of lifting 80-tonne loads, which enable servicing of ships with 24 containers on board
Suez Canal Container Terminal	Egypt	Port Said - northern entrance to the Suez Canal	About 2.8 million TEU (target capacity: 5 million TEU)	- Currently under expansion to enable handling of the largest container ships: dredging to 16.5 m, installation of 23 Post-Panamax container cranes
Tangier Med	Morocco	Tangier Port	2.5 million TEU	- State-of-the-art container cranes - Dredged fairway
Alexandria International Container Terminals	Egypt	Alexandria Port	1.5 million TEU	- Facility comprising two terminals: in Alexandria and in El-Dekheila
Cape Town Terminal	RSA	Cape Town	900,000 TEU (target capacity: 1.6 million TEU)	Equipped with special cooling containers for transportation of frozen fruit and other products

Fig. 4. Pipelines in Africa [19]

Table 3

Length of pipelines in African countries in 2013 in km

Country	Gas pipelines	LPG pipelines	Petroleum pipelines	Pipelines for transport of petroleum refining products	Total
North Africa					
Algeria	16,415	3,447	7,036	144	27,042
Egypt	7,986	957	5,250	895	15,088
Libya	3,743		7,005		10,748
Sudan	156		4,070	1,613	5,893
Tunisia	3111		1,381	453	4,945
Cross-border pipelines: Algeria-Italy (2,592 km), Algeria-Morocco, Algeria-Spain (200 km), Algeria-Tunisia (775 km), Egypt-Jordan (260 km), Libya-Italy (516 km), Libya-Tunisia (260 km), Morocco-Spain (257 km), Nigeria-Algeria (4,400 km)					
West Africa					
Côte d'Ivoire	256		118		374
Gabon	807		1,639		2,446
Angola	352	85	1,065		1,502
Democratic Republic of Congo	62		77	756	895
Chad			582		582
Cameroon	53	5	1,107		1,160
Ghana	394		20	361	775
Nigeria	4,045	164	4,441	3,940	12,590
Cross-border pipelines: Angola-Democratic Republic of Congo, Chad-Cameroon (1,045 km), Ghana-Côte d'Ivoire, Nigeria-Ghana (1,033 km)					
East Africa					
Kenya			4	928	932
Uganda				No data	No data
Tanzania	311		891	8	1,210
Zambia			771		771
Cross-border pipelines: Kenya-Uganda (320 km), Tanzania-Zambia					
South Africa					
RSA	1,293		992	1,460	3,745
Mozambique	972			278	1,250
Zimbabwe				270	270
Cross-border pipelines: Mozambique-Zimbabwe					

5. DEVELOPMENT PERSPECTIVES

All AU member countries have fully recognized the importance of sustainable infrastructure for economic and social growth; therefore, individual national governments actively strive for the appropriate coordination of state interventionism, which contributes to the improvement of internal trade and boosts economic results in trade worldwide.

In 2010, the AU launched a common initiative referred to as the Programme for Infrastructure Development in Africa (PIDA), intended to support the development and implementation of investment schemes in the areas of regional and continental infrastructure (energy, transport, ICT as well as cross-border water resources) from a short-, medium- and long-term perspective until 2020 [6]. The programme was approved in 2012, while the institution appointed to implement it is the African Development Bank Group.

Numerous road and railway construction projects are currently being delivered across the AU under the PIDA scheme. An example of such endeavours is the construction of more than 9,400 km of motorway connecting Algiers and Lagos (Nigeria), also known as the Trans-Sahara Motorway. The transport corridor cutting through the desert, the completion of which is scheduled for 2018, will facilitate trade between North Africa and sub-Saharan Africa by linking Algeria, Tunisia, Mali, Niger, Chad and Nigeria [9].

Another transport project planned for implementation in East Africa is the Lamu Port-South Sudan-Ethiopia (LAPSSET) corridor, including standard railway and road connections between the largest Kenyan port of Lamu and Ethiopia and South Sudan. It also covers construction of a pipeline for the transport of petroleum and petroleum derivatives, the construction of a refining plant and the expansion of the Kenyan airports of Lamu, Isiolo and Lokichogio [21]. The RSA has also joined the project and, by building a road from Johannesburg, strives for a prospective connection with Cairo.

Assuming that all the projects planned will be successfully completed, it is highly probable that the AU's economic growth will rocket upwards. For instance, one can observe a sudden growth in the number of projects implemented in West Africa, these being mainly driven by Chinese investments in infrastructure. Expansion of the second-largest port in Ghana, Tema, is scheduled for completion by the end of 2019, with the project comprising the construction of a new deep-water port capable of servicing ships of the latest generations (up to 18,000 TEU). The investment to be completed under the public-private partnership format, with the participation of Meridian Port Services, a joint venture company incorporating Bolloré Transport & Logistics, APM Terminals and the government of Ghana operating via the Ghana Ports and Harbours Authority, is expected to consume USD 1.5 billion [11]. Yet another Ghanaian port, Takoradi, is currently being modernized. The investment of USD 197 million is co-financed by the governments of Ghana and China, while the implementation itself is supervised by Chinese engineering companies [15].

There are also numerous uncertain projects, hindered by the general economic and political situation, as well as the obstacles to container trade. Although some of them will probably be completed, others may require further foreign capital support, especially from carriers expected to invest in the railway infrastructure.

6. CONCLUSIONS

The deficiency in infrastructure in Africa is a widely recognized problem. Member states of the AU are among the least competitive countries in the world, while their infrastructure

seems to be one of the most significant factors that hamper their economic and social development. The latter issue, however, applies to the entire AU and thus requires a pan-continental solution.

There are many small African countries with populations below 20 million and budgets of less than USD 10 billion. Their infrastructural systems, similarly to their borders, are reflections of the continent's colonial past, while their roads, ports and railways were built for raw material extraction purposes and as means of political control, rather than for the sake of economic and social consolidation of different territories. Regionally shared infrastructure seems to be the only efficient solution to the problems of small size and unfavourable location. The positive valued added by African regional infrastructure is in its effect on trade, while the common goal, in terms of stimulating economic growth, is to develop the technologically advanced transport corridors.

Therefore, whether or not Africa will maintain the current growth trend depends, to a large extent, on how quickly it will be able to move from its dependence on traditional commodity markets towards a modern economy based on technological development. Such is the task set by African countries for themselves and the rationale behind the establishment of the AU.

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