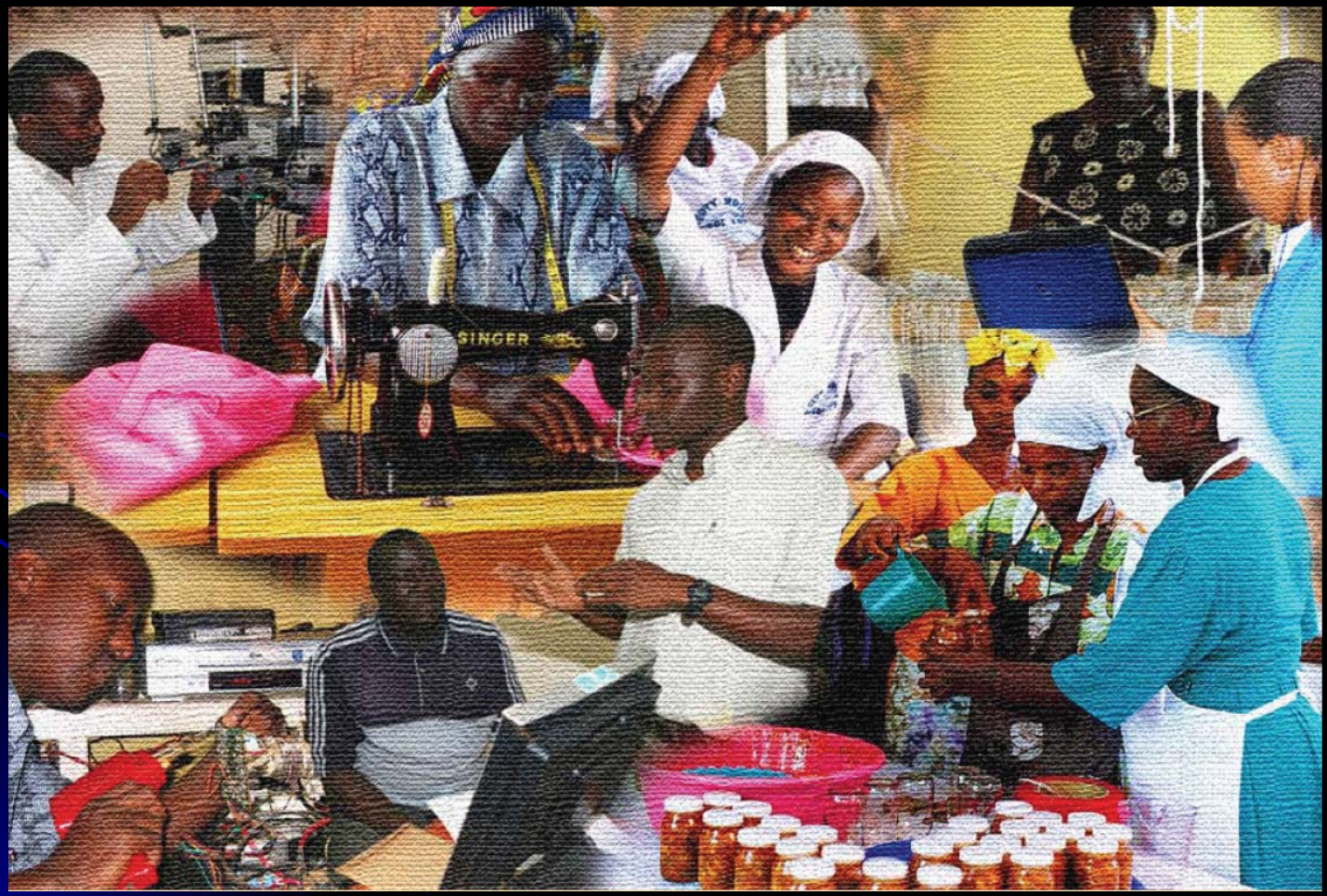
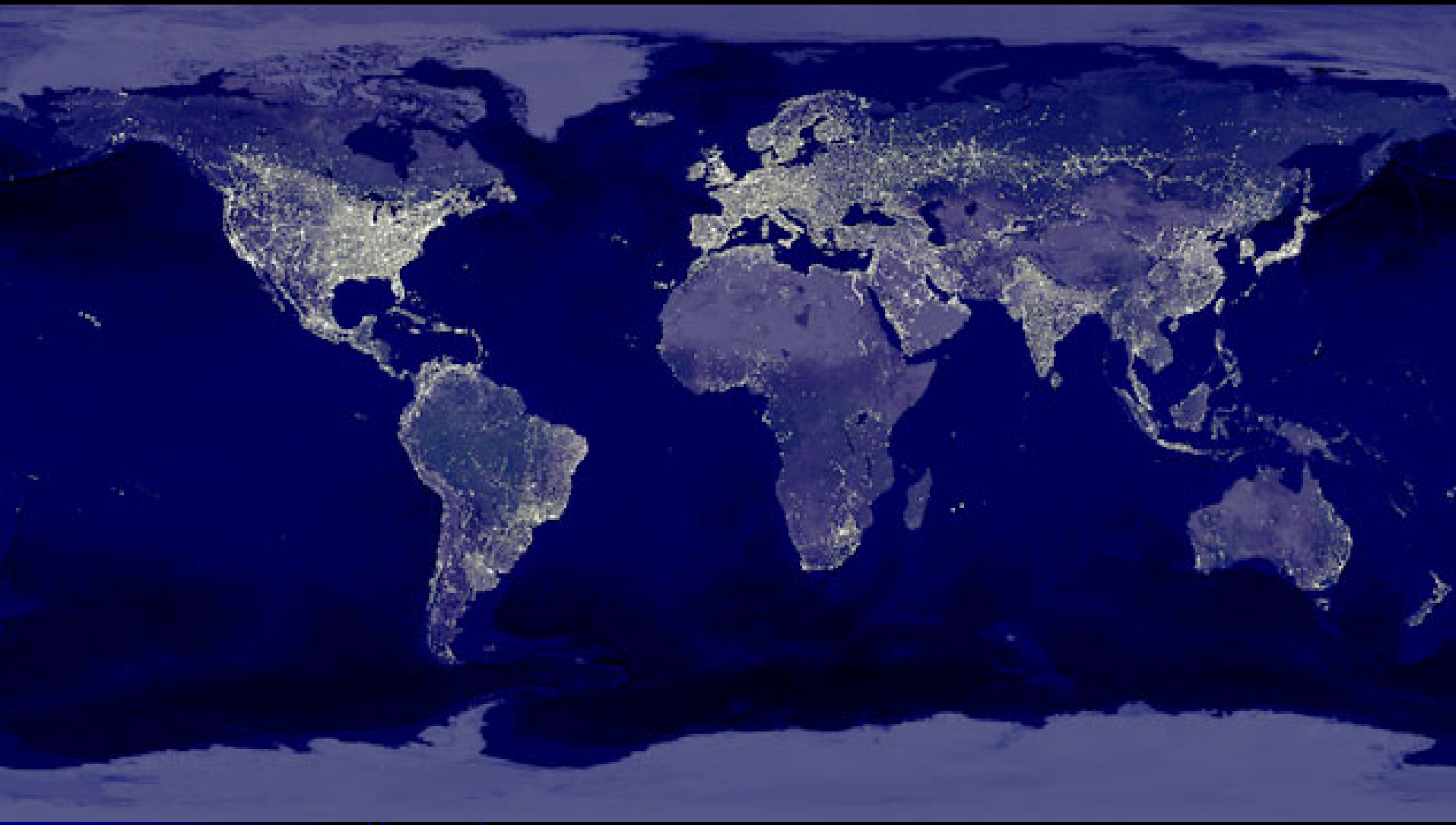
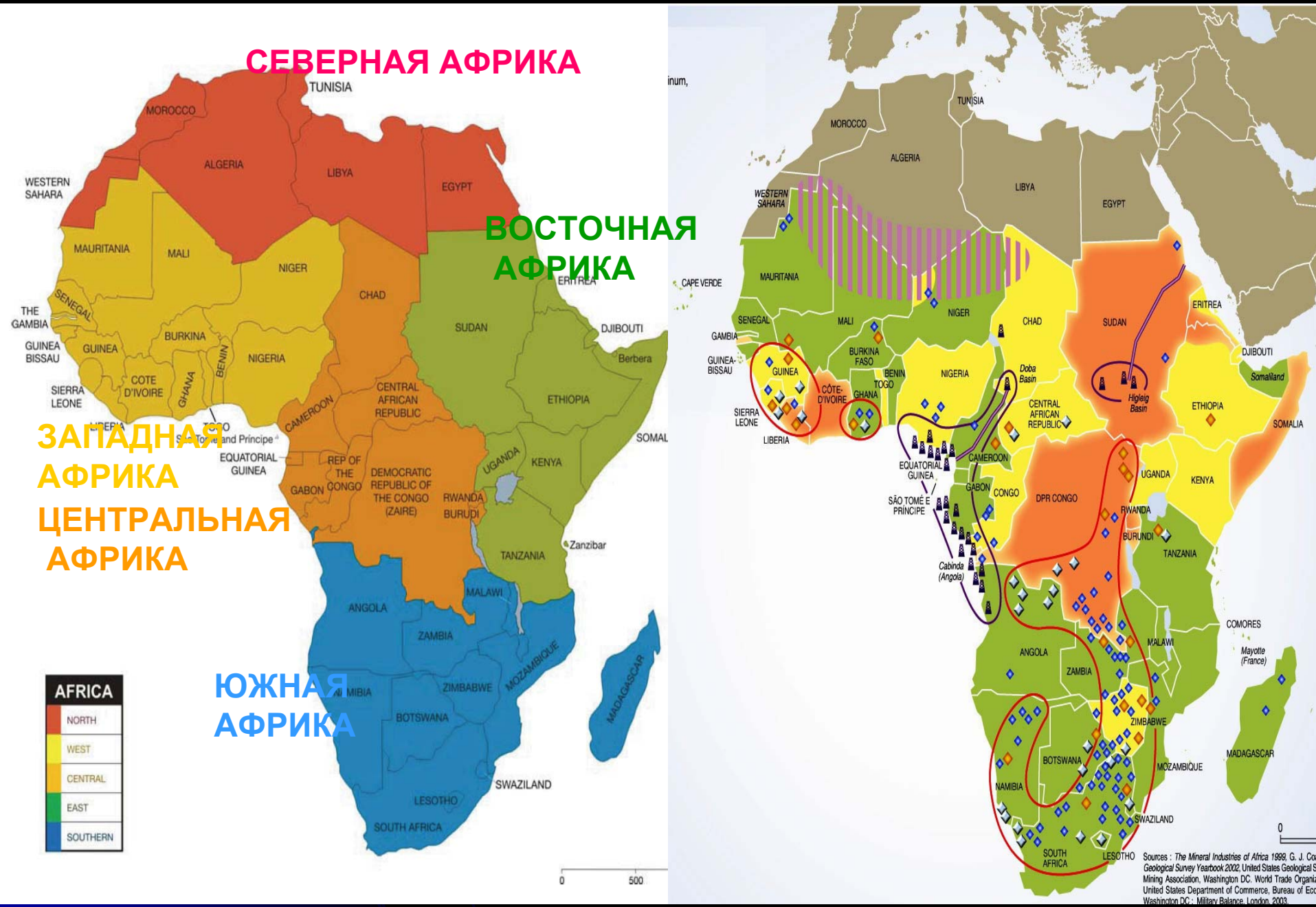
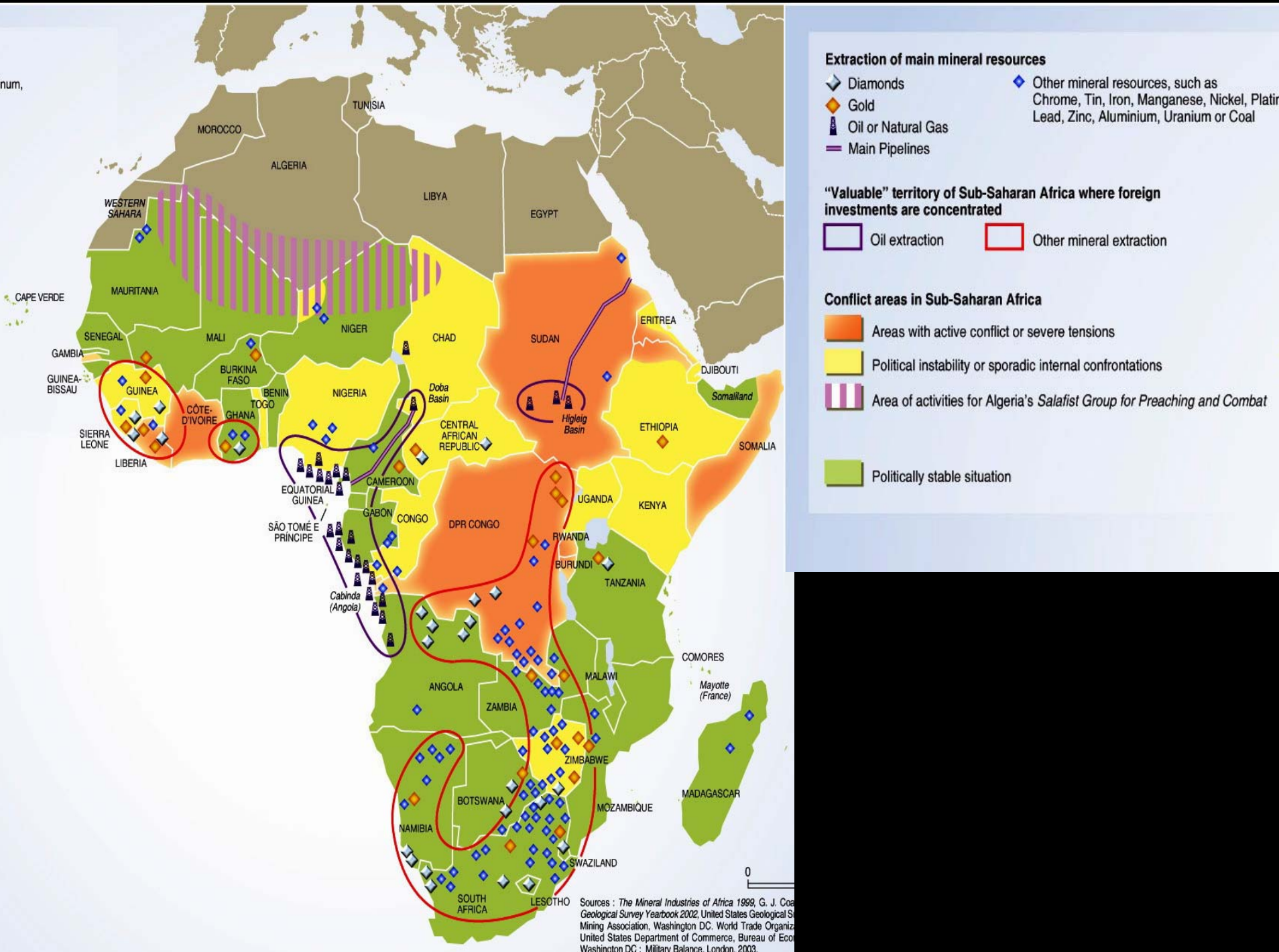
ПРОМЫШЛЕННОСТЬ АФРИКИ





ОСНОВНЫЕ СУБРЕГИОНЫ АФРИКИ
Северная Африка (географический критерий)
Южная Африка (географический критерий)
Восточная Африка (географический критерий)
Западная Африка (географический критерий)
Тропическая Африка (социально-экономический критерий)
Центральная Африка (географический критерий)


СЕВЕРНАЯ АФРИКА
ВОСТОЧНАЯ АФРИКА
ЗАПАДНАЯ АФРИКА
ЦЕНТРАЛЬНАЯ АФРИКА
ЮЖНАЯ АФРИКА
AFRICA
NORTH
WEST
CENTRAL
EAST
SOUTHERN
TUNISIA
MOROCCO
ALGERIA
LIBYA
EGYPT
WESTERN SAHARA
MAURITANIA
MALI
NIGER
CHAD
SUDAN
ERITREA
DJIBOUTI
SENEGAL
THE GAMBIA
GUINEA BISSAU
GUINEA
BURKINA
BENIN
NIGERIA
SIERRA LEONE
COTE D'IVOIRE
GHANA
TOGO
CAMEROON
CENTRAL AFRICAN REPUBLIC
ETHIOPIA
SOMAL
Berbera
EQUATORIAL GUINEA
REP OF THE CONGO
GABON
DEMOCRATIC REPUBLIC OF THE CONGO (ZAIRE)
RWANDA
BURUNDI
UGANDA
KENYA
TANZANIA
Zanzibar
ANGOLA
ZAMBIA
MALAWI
MOZAMBIQUE
ZIMBABWE
BOTSWANA
MADAGASCAR
SWAZILAND
LESOTHO
SOUTH AFRICA
0
500
CAPE VERDE
GAMBIA
GUINEA-BISSAU
BURKINA FASO
Doba Basin
Higleig Basin
Somaliland
SÃO TOMÉ E PRÍNCIPE
Cabinda (Angola)
DPR CONGO
COMORES
Mayotte (France)
NAMIBIA
Sources : The Mineral Industries of Africa 1999, G. J. Co
Geological Survey Yearbook 2002, United States Geological S
Mining Association, Washington DC. World Trade Organiz
United States Department of Commerce, Bureau of Ec
Washington DC ; Military Balance, London, 2003.


Extraction of main mineral resources
Diamonds
Gold
Oil or Natural Gas
Main Pipelines
Other mineral resources, such as Chrome, Tin, Iron, Manganese, Nickel, Platinu
Lead, Zinc, Aluminium, Uranium or Coal
"Valuable" territory of Sub-Saharan Africa where foreign investments are concentrated
Oil extraction
Other mineral extraction
Conflict areas in Sub-Saharan Africa
Areas with active conflict or severe tensions
Political instability or sporadic internal confrontations
Area of activities for Algeria's Salafist Group for Preaching and Combat
Politically stable situation
TUNISIA
MOROCCO
ALGERIA
LIBYA
EGYPT
WESTERN SAHARA
MAURITANIA
CAPE VERDE
SENEGAL
GAMBIA
GUINEA-BISSAU
MALI
NIGER
CHAD
SUDAN
ERITREA
DJIBOUTI
Somaliland
GUINEA
BURKINA FASO
BENIN
TOGO
NIGERIA
Doba Basin
Higleig Basin
ETHIOPIA
SOMALIA
SIERRA LEONE
LIBERIA
CÔTE-D'IVOIRE
GHANA
CENTRAL AFRICAN REPUBLIC
EQUATORIAL GUINEA
CAMEROON
GABON
CONGO
DPR CONGO
UGANDA
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SÃO TOMÉ E PRÍNCIPE
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SOUTH AFRICA
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Sources : The Mineral Industries of Africa 1999, G. J. Coa
Geological Survey Yearbook 2002, United States Geological S
Mining Association, Washington DC. World Trade Organiz
United States Department of Commerce, Bureau of Ecc
Washington DC ; Military Balance, London, 2003.

In the last quarter of the Twentieth Century, Africa's primary commodities trade has collapsed, as a share of overall world trade, from just over 7 percent in 1970 to less than half a percent in the 1990s.[53] Its share of manufacturing trade never really got a chance to lift off and went down from an already puny 1.2 percent in 1970 to approximately 0.5 percent today with most of its manufacturing exports originating in just three countries: South Africa, Zimbabwe and Mauritius.

Despite the enormous size of the continent and the seemingly great diversity of the countries: in size of population, in geographic location and physical resource base, in culture and colonial history, the post-independence economic trajectory has been depressingly similar. Healthy annual growth rates in the early period averaged around 5 percent per annum and were propelled in many countries by an even more dynamic growth of manufacturing production driven by strong investment performance which rose from less than 14 percent of GDP in 1965 to over 18 percent in 1973 for the region as a whole.[54] Between 1965 and 1973, manufacturing output grew by 15 percent per annum in Nigeria, 6.5 percent in Ghana, 12.4 percent in Kenya, 9.8 percent in Zambia, 8.8. percent in Ethiopia, and 8.9 percent in Cote d'Ivoire.[55]

Reversal of these progressive trends came in the middle of the 1970s when a sharp and sustained deterioration in the region's primary commodity prices (coffee, cocoa, tea, cotton, copper, sugar and tobacco) combined with a dramatic increase of import prices caused by the oil price hikes after 1973. The resulting resource gap exposed the vulnerability of a 'self-reliant' strategy in which manufacturing production was largely dependent on imported raw materials and technology. The terms of trade of the SSA non-oil producing countries fell by more than a third between 1977 and 1993 compared with a decline of just 20 percent for other non-oil developing countries.[56] Only two countries, Mauritius and Zimbabwe, escaped the terms of trade losses between 1977 and 1993, but in 16 others such losses exceeded 30%[57].

The resulting import compression had adverse effects on both public and private investments, which declined throughout the period. This in turn meant that the SSA countries were unable to make positive *dynamic* structural adaptations to the changing global environment. Foreign investment almost completely dried up as international capital found more profitable outlets in the booming East Asian region. Indeed, the exclusionary logic of the present globalized world order is most dramatically attested in foreign direct investment (FDI) flows. Africa's share of all FDI flows to developing countries has dropped from 13% in 1980 to less than 5 percent today[58], the bulk of which is concentrated on the four oil-exporters: Nigeria, Angola, Cameroon and Gabon. Private finance generally now contributes less than one tenth of the resource flows into the continent, the rest being made up of various forms of public and publicly guaranteed flows.[59]. And while aggregate net resource flows and aggregate net transfers to SSA as a whole have remained positive thanks to multilateral and bilateral offical flows, these have mainly been used to offset balance of payments difficulties rather than being targeted on investment in new technological capabilities and productive capacity. For all intents and purposes, it would appear that the region is structurally irrelevant to the new global economy.

The 1980's saw 29 sub-Saharan African countries accept the IMF/World Bank medicine. Even in the stated objectives of the multilateral agencies themselves the results were very disappointing. In the region as a whole, Hewitt de Alcantara and Dharam Ghai estimated that per capita incomes declined by 30 per cent over the period 1980-8,[64] and while it is true that political crises and civil wars in many countries have contributed to this staggering loss of income, the adverse international economic environment (as partly mediated through structural adjustment and debt management policies) can be held responsible for most of it. They argue that this is so, first, because of the *simultaneous* deterioration in nearly all of the countries of the region including those relatively free from internal turmoil, and second because of the *magnitude* of the deteriorating external financial position of sub-Saharan Africa over the period. Based on UN figures, they note an annual loss of $6.5 billion over the period, even without taking account of capital flight. This total amounted to roughly one-third of total annual imports, 45 per cent of export earnings, 10-11 per cent of the region's combined GDP and 60 per cent of gross capital formation.[65]

The industrial sector represented 41.5 per cent of the African GDP in 2006, which represents a significant improvement over the period 2000-2005 (36.5%). This improvement in the contribution of the industrial sector to GDP in 2006 is due to the combined results of sustainable high world prices for raw materials, mainly oil and gas, and the importance of non-manufacturing industries (mining and quarrying) in most countries of the continent.

The manufacturing sector accounted for only 10.9 per cent of GDP, down from an average of 12.8 per cent over 2000-2005. The underdevelopment of the manufacturing sector, manifested by a lower annual increase of manufactured GDP compared to the rest of the economy, largely explains the limited contribution of industry to GDP growth.

Industrial policy remained largely unchanged in African countries over the last few years. The most diversified economies (Egypt, Morocco, South Africa and Tunisia), continued to focus on traditional industries, such as food processing and textiles, except for South Africa, which is more industrialized than any other African country. The recent shift towards more capital-intensive industries in some African countries is continued in 2006 and 2007. In Tunisia, for example, there is continued development in electrical and electronics industries, while the textiles and clothing sector is experiencing a continued decline in importance. In the oil-producing countries, there has also been gradual production development in intermediate and oil-based industries, particularly chemicals, petrochemicals, fertilizers, plastics, and energy-intensive industries.

Overall, African industry is still dominated by mining and crude oil in terms of production and exports. To promote and diversify the African industrial sector, African countries have to seek participation in regional and international trade agreements and also improve the investment climate through sound infrastructure for transport and efficient public services.

Box 6.2 The extent of private sector investment in infrastructure in Africa

Among low-income countries, Africa has been slow to mobilize the private sector for the provision and financing of infrastructure. The Infrastructure Consortium for Africa recently reported an upward trend in private infrastructure investment in Africa, from $4 billion in 2004 to $6 billion in 2006. Compared with the continent's estimated investment requirement of nearly $20 billion per year, however, private investment remains insufficient. Most private flows (84 per cent) have gone to telecommunications and energy. Better progress seems to be taking place in the private operation of infrastructure. Concessions have been awarded to operate and rehabilitate many African ports and railways and some power distribution enterprises, but financial commitments by the concessionaire companies are often small.

Важнейшие отрасли промышленности стран Африки

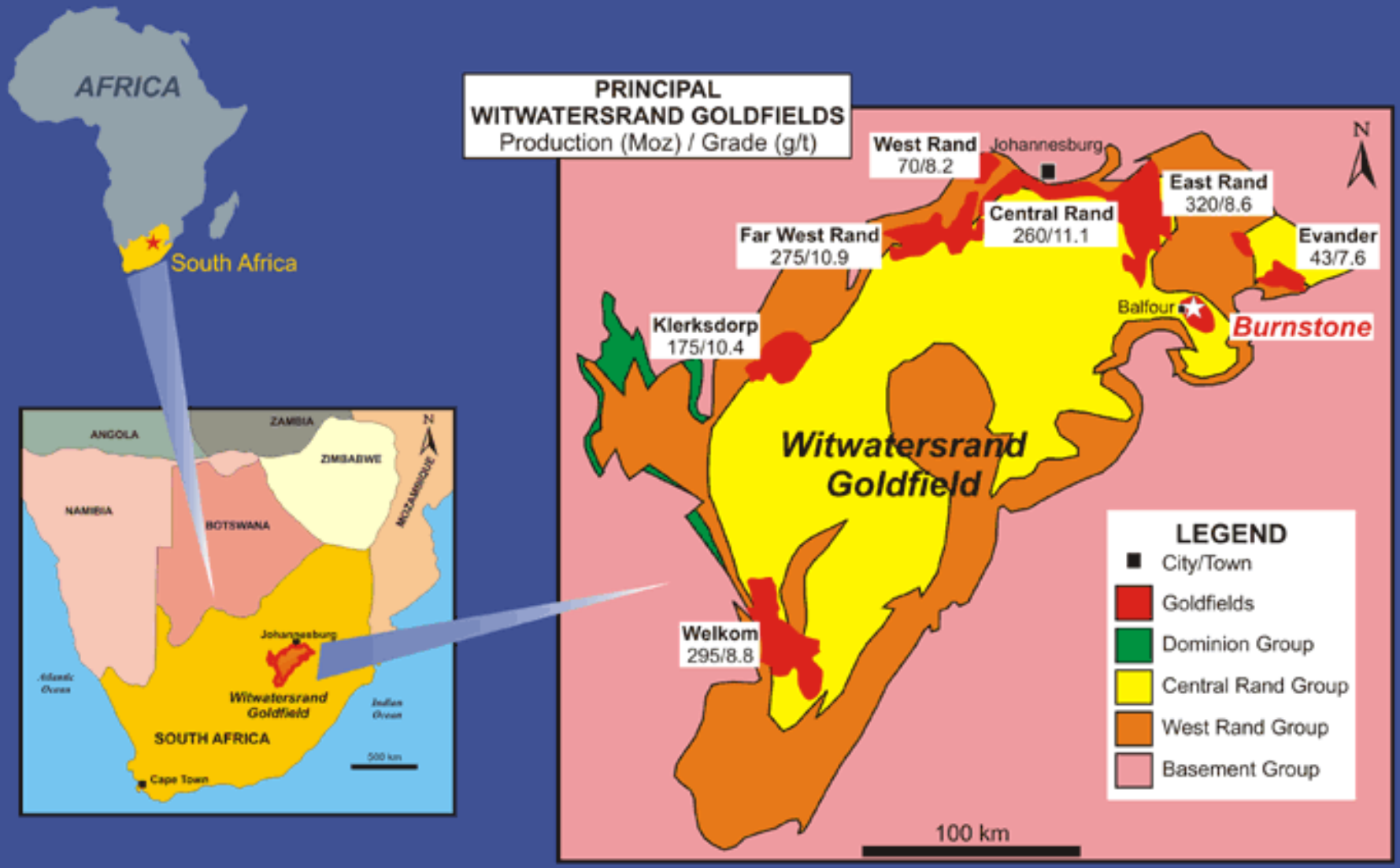
На развитие промышленного производства стран Африки оказали следующие факторы:

1. Колониальная политика метрополий и, сформировавшаяся в результате колониальной эксплуатации, специфическая роль Африки, как источника минерального и сельскохозяйственного сырья, в международном разделении труда
2. Зависимость экономики стран Африки от внешних источников финансирования
3. Низкий уровень развития и бедность населения(узкий рынок и ресурсная база)
4. Дефицит профессиональных кадров и предпринимательских ресурсов

В результате, **основные зоны промышленного производства** Африки являют собой в основном продукт **обратных вертикальных связей** с производством бывших метрополий, а не местного производства.

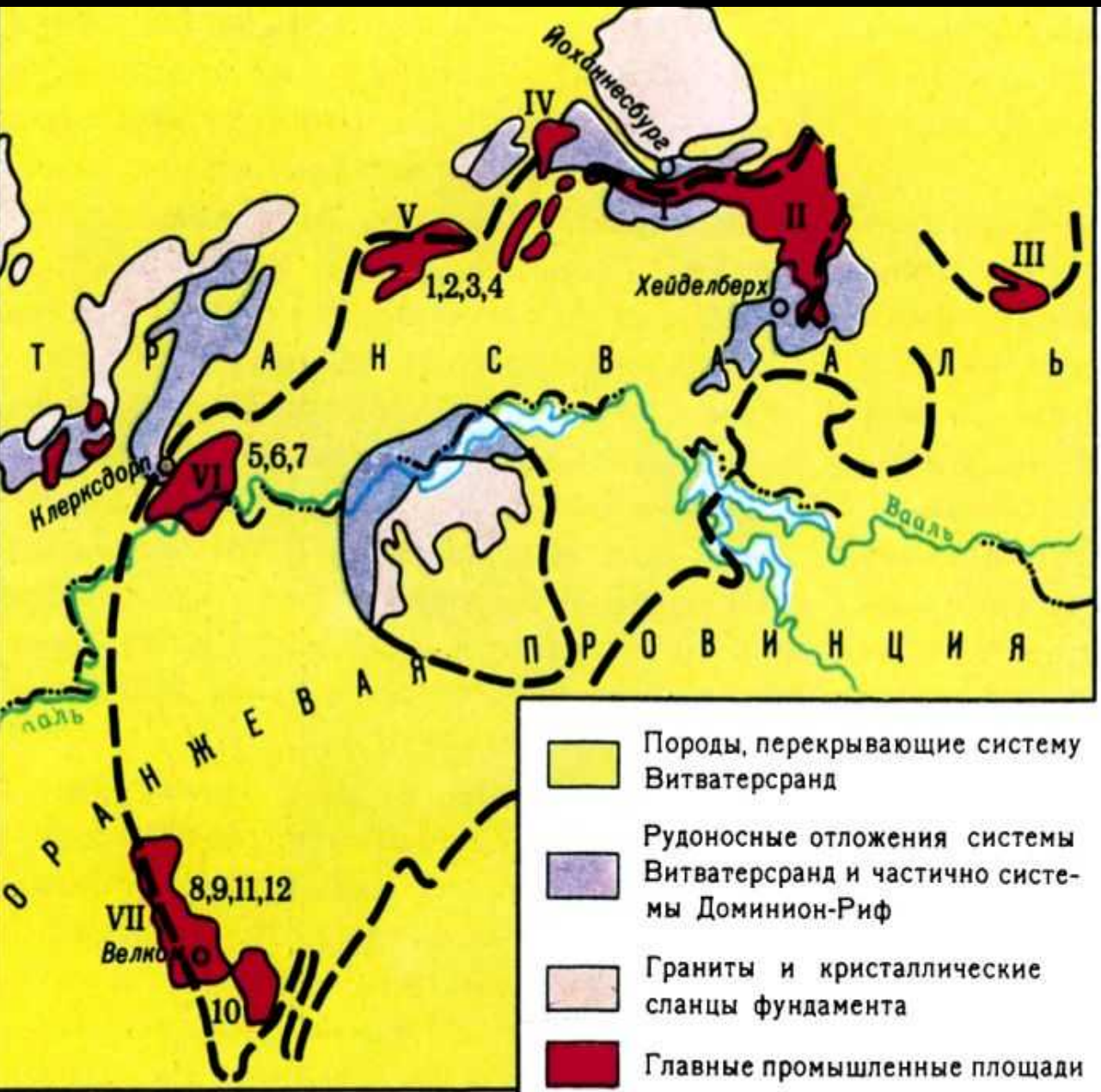
В хозяйстве Африки просматриваются два **пространственных стержня промышленного производства:**

- **Ядром** первого района является **Витватерсранд**, тесно связанный производственными и транспортными взаимодействиями с дугой промышленных городов ЮАР.
- Он также включает индустрию Зимбабве и горнопромышленный район мирового значения – медный пояс (расположенный в конголезкой провинции Шаба и замбийской провинции Коппербелт), связанных меридиональной ж/д магистралью и растяжками трёх других ж/д дорог, ведущих к Лобиту на Атлантическом побережье (Ангола), Бейру (Мозамбик) и Дар-эс-Салам (Танзания) по побережью Индийского океана.



Witwatersrand Goldfields

GREAT BASIN GOLD



Специальное содержание разработал С.Д. Шер

Породы, перекрывающие систему Витватерсранд

Рудоносные отложения системы Витватерсранд и частично системы Доминион-Риф

Граниты и кристаллические сланцы фундамента

Главные промышленные площади

Границы Верхне-Витватерсрандского бассейна

ВИТВАТЕРСРАНД

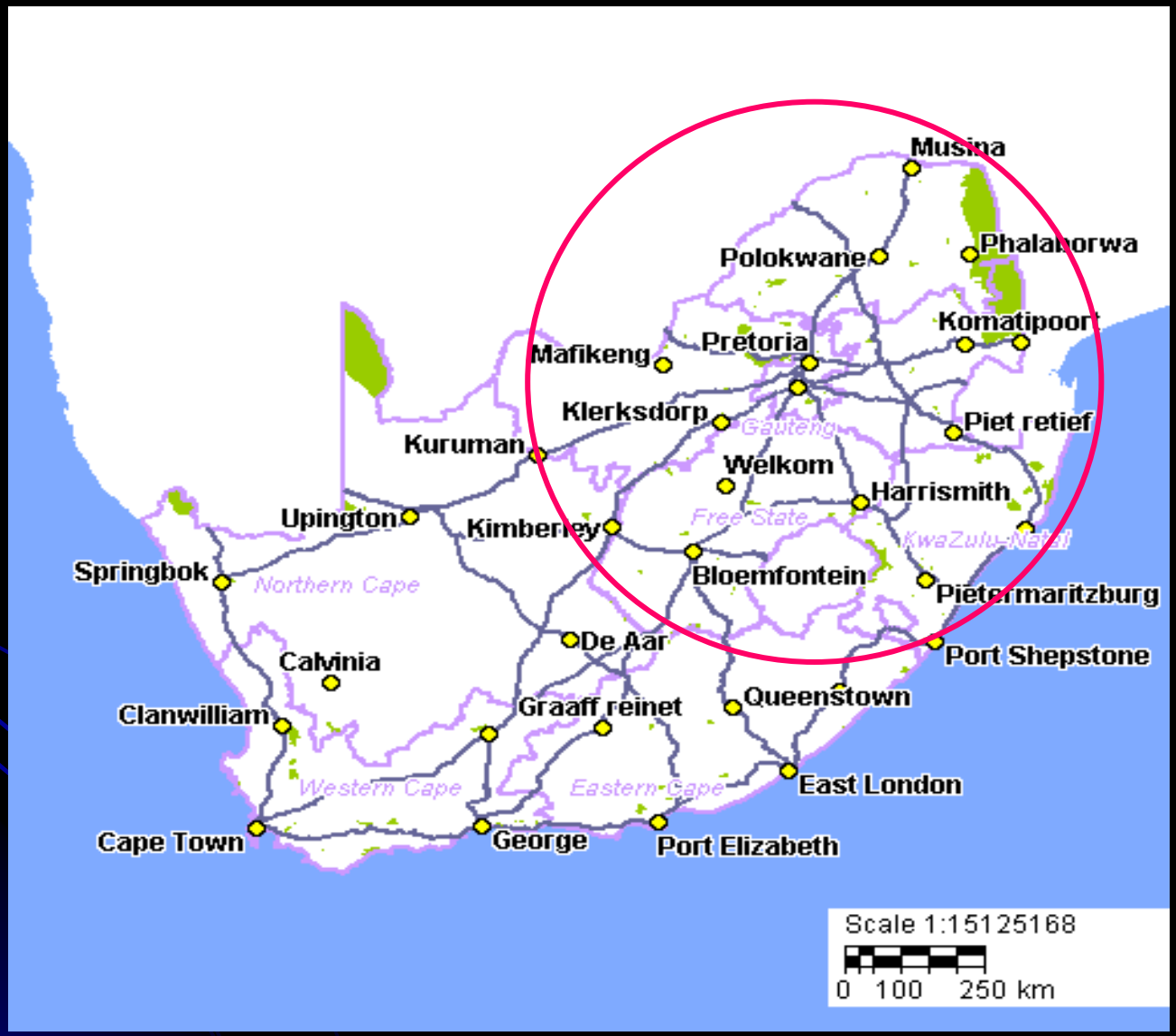
Главные промышленные площади:

I Центральный Ранд
II Восточный Ранд
III Эвандер
IV Западный Ранд
V Дальний Западный Ранд
VI Клерксдорп
VII Рудные поля Оранжевой провинции

Крупные рудники:

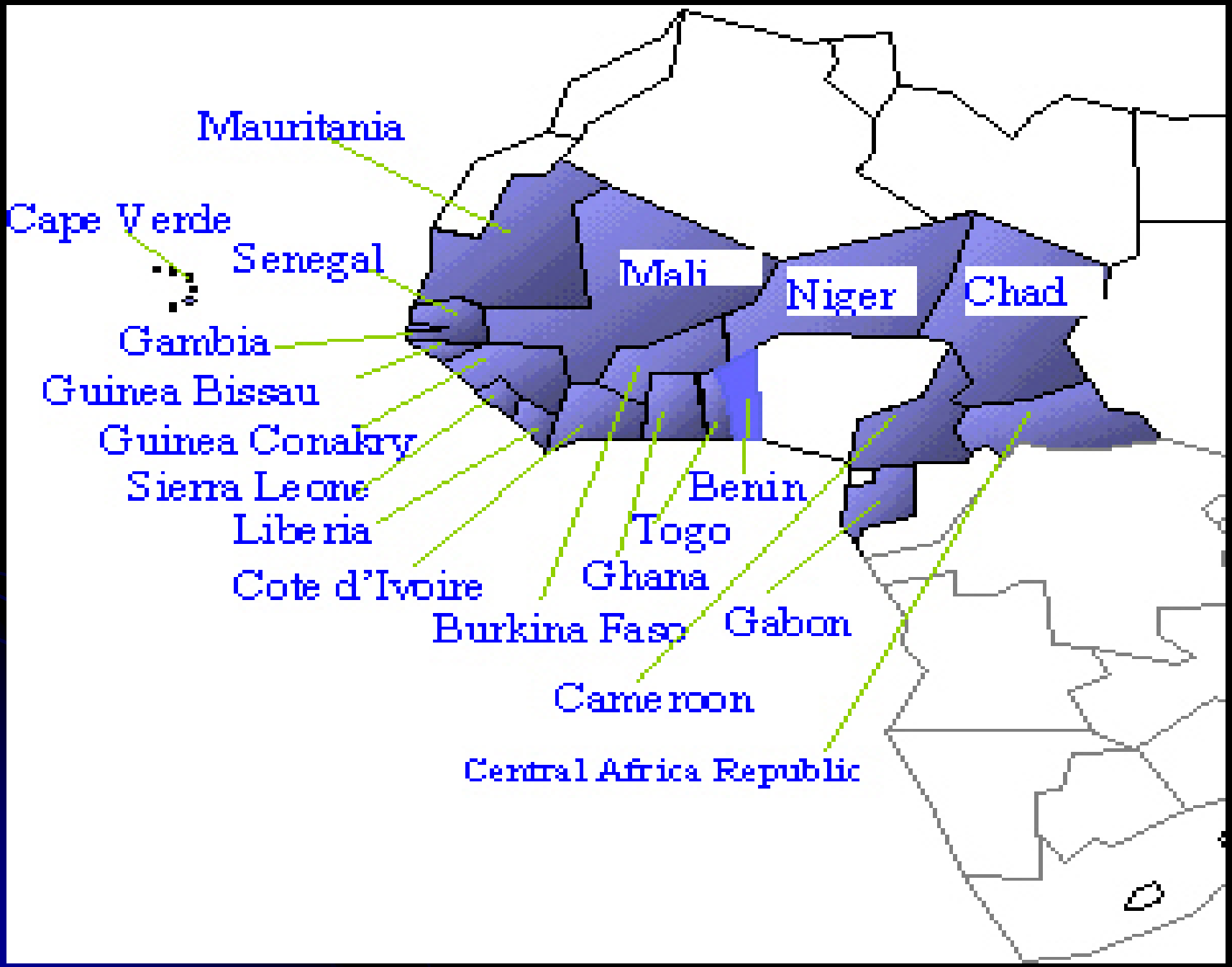
1 Уэст-Дрифонтейн
2 Ист-Дрифонтейн
3 Уэстерн-Дип
4 Клуф
5 Вааль-Риф
6 Хартбисфонтейн
7 Буффелсфонтейн
8 Фри-Стейт-Гедюлд
9 Уэстерн-Холдингс
10 Хармони
11 Президент-Бранд
12 Президент-Стейн

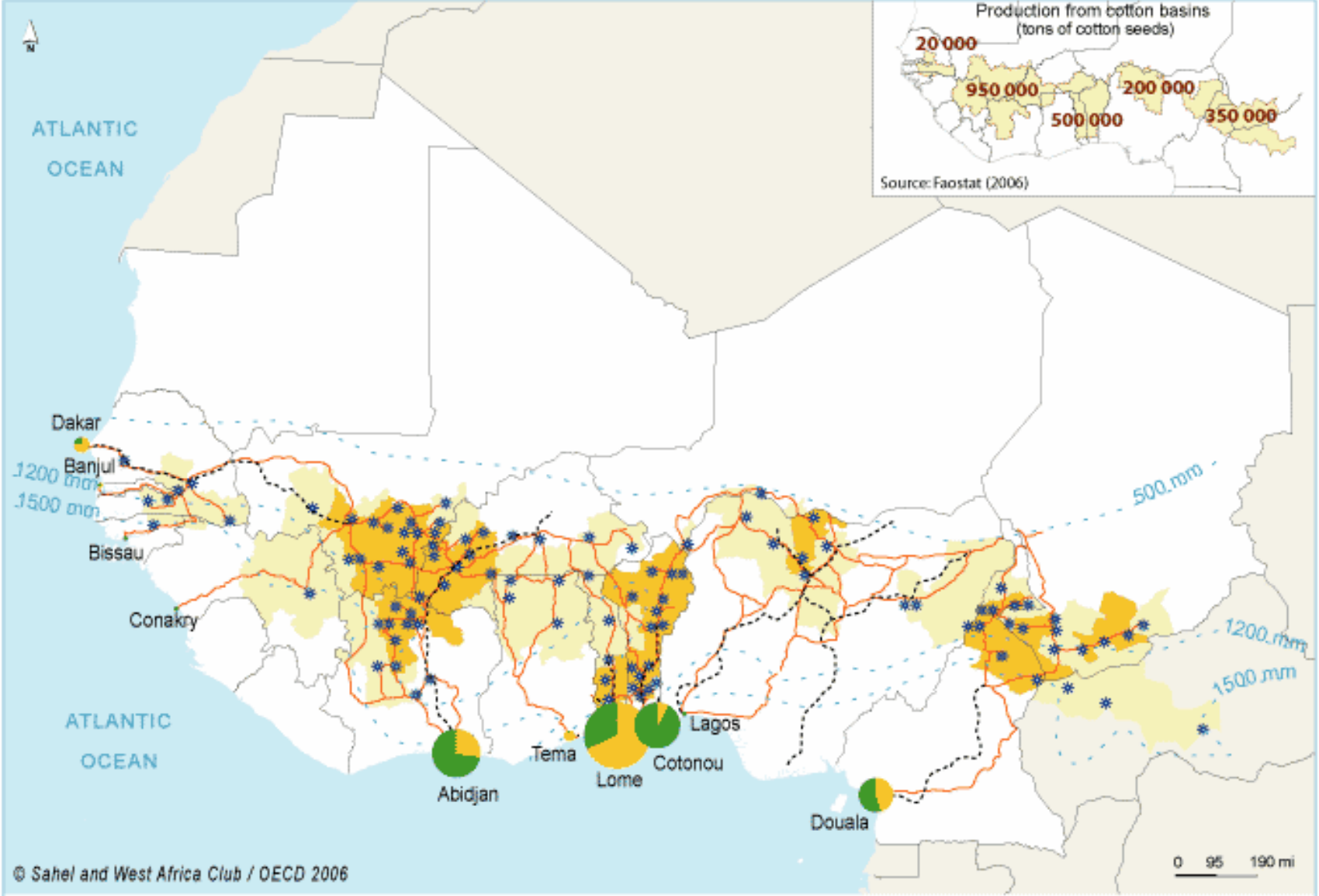
ЮАР


Musina
Polokwane
Phalaborwa
Komatipoort
Pretoria
Mafikeng
Klerksdorp
Gauteng
Piet retief
Kuruman
Welkom
Harrismith
Upington
Kimberley
Free State
KwaZulu-Natal
Springbok
Northern Cape
Bloemfontein
Pietermaritzburg
De Aar
Port Shepstone
Calvinia
Queenstown
Clanwilliam
Graaff reinet
East London
Western Cape
Eastern Cape
Cape Town
George
Port Elizabeth
Scale 1:15125168
0 100 250 km

- **Вторая промышленная макроструктура** образовалась на базе обрабатывающей промышленности **Нигерии, Кот Д'Ивуара, Габона, Камеруна** и роста добычи нефти и др. полезных ископаемых в Нигерии, Габоне. Это привело формированию важного промышленного стержня континента **от Зелёного Мыса до Кабинды**.

- На остальной территории Африки промышленные очаги расположены весьма дисперсно.


Mauritania
Cape Verde
Senegal
Mali
Niger
Chad
Gambia
Guinea Bissau
Guinea Conakry
Sierra Leone
Liberia
Cote d'Ivoire
Benin
Togo
Ghana
Burkina Faso
Gabon
Cameroon
Central Africa Republic



Cotton zones, ginning factories and exports of West Africa

Важнейшие отрасли промышленности

В структуре промышленности Африки сырьевые отрасли занимают важное место :

1. **Горнодобывающая (почти целиком ориентируется на экспорт – 90% добываемого сырья)**
2. **Переработка сельскохозяйственного сырья**

Замечание: исключение ЮАР

Доля этих отраслей в ВВП отдельных стран составляет от 40% до 70% ВВП.

- В целом наблюдаются **диспропорции в промышленном развитии**:

- А. между добывающей и обрабатывающей и
- В. между легкой/пищевой и тяжёлой.

Отставании Тропической Африки (включая ЮАР) от других регионов мира проявляется также **в снижении её доли в чистой мировой продукции обрабатывающей промышленности**, которая упала с 1% в 1980 г. до 0.8% в начале 2000-х г.

Добывающая промышленность АФРИКИ

Горно-добывающая промышленность является определяющей для континента, и **почти 90% добываемого сырья вывозится.**

Однако **ресурсозамещающая тенденция** и **снижение материалоёмкости производства** в мировом промышленном производстве оказывают негативное воздействие на спрос на африканское промышленное сырьё.

Современная Африка даёт почти все алмазы, добываемые в зарубежном мире (46 % мировой добычи - ЮАР. ДР Конго, Ботсвана и др.), более 2/3 золота (ЮАР), 3/5 руды кобальта (ДР Конго), 1/2 платины и платиноидов (ЮАР), 2/3 хромитов (ЮАР. Зимбабве), ½ марганца (ЮАР. Габон, Гана, Марокко), значительную часть добычи ниобия, тантала, германия и лития.

- На Африку приходится: 13% мировой добычи **нефти (Ливия, Нигерия, Ангола, Габон, Судан, Экв. Гвинея и др.)**

Mining production		2007	2006
Alumina	Tonnes	566,100	555,000
Aluminium	Tonnes	1,940,725	1,874,100
Antimony	Tonnes	4,725	4,500
Asbestos	Tonnes	99,865	96,956
Barytes	Tonnes	722,134	707,587
Bauxite	Tonnes	19,812,171	19,042,948
Bentonite	Tonnes	126,850	131,123
Beryl	Tonnes	168	169
Chrome Ore	Tonnes	8,501,063	8,279,434
Coal	Tonnes	258,463,558	248,551,881
Cobalt	Tonnes	36,765	36,283
Copper	Tonnes	1,900,312	1,809,632
Crude Steel	Tonnes	18,782,631	18,261,700
Diamond	Carat	95,530,453	93,634,983
Diatomite	Tonnes	1,961	1,985
Feldspar	Tonnes	528,828	512,337
Ferro-Alloy	Tonnes	3,322,783	3,169,073
Flourspar	Tonnes	647,596	626,979
Gold	Kgs	491,104	488,657
Graphite	Tonnes	14,541	14,288
Gypsum	Tonnes	2,743,730	2,649,110
Iron Ore	Tonnes	57,700,886	57,650,432
Kaolin	Tonnes	390,830	393,584
Lead	Tonnes	243,983	240,803
Lithium	Tonnes	0	0
Magnesite	Tonnes	58,736	55,939
Manganese Ore	Tonnes	10,277,740	10,120,728
Mercury	Kgs	10,200	10,000
Mica	Tonnes	922	898
Natural Sodium Carbonate	Tonnes	623,750	632,276

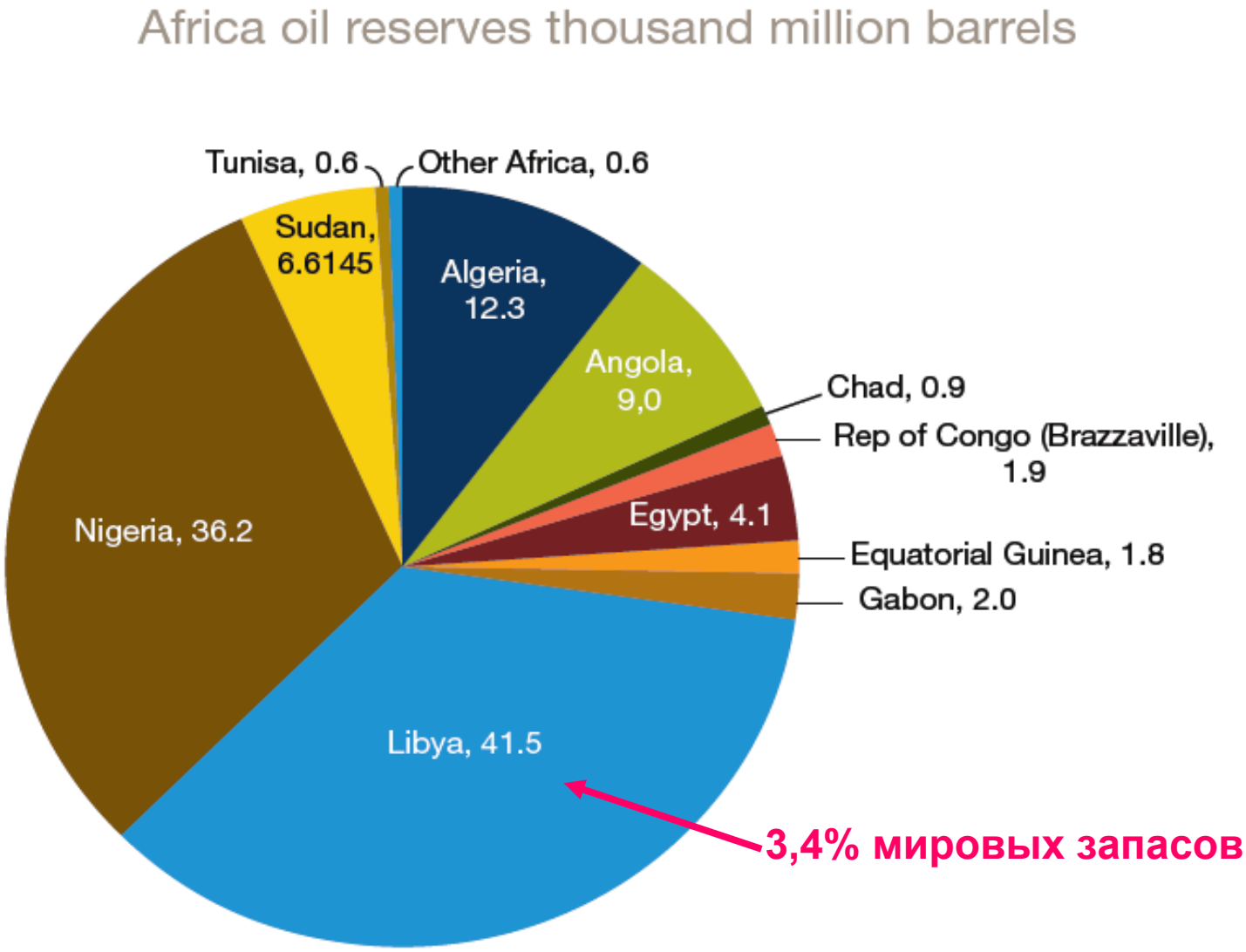
Mining production		2007	2006
Nickel	Tonnes	133,796	131,986
Palladium	Kgs	96,326	90,287
Perlite	Tonnes	1,152	1,200
Phosphate Rock	Tonnes	43,384,908	42,479,785
Pig Iron	Tonnes	15,060,210	14,934,000
Platinum	Kgs	170,110	173,123
Platinum – Other	Kgs	55,075	54,012
Salt	Tonnes	5,070,371	5,061,431
Selenium Metal	Tonnes	10	10
Sillimanite Minerals	Tonnes	227,700	230,000
Silver	Kgs	404,232	396,208
Strontium Minerals	Tonnes	2,646	2,700
Sulphur Pyrites	Tonnes	498,335	483,777
Talc	Tonnes	60,420	57,000
Tantalum/Niobium Minerals	Tonnes	591	575
Tin	Tonnes	9,893	9,622
Titanium Minerals	Tonnes	2,379,510	2,246,000
Tungsten	Tonnes	197	195
Uranium U315	Tonnes	2,810	2,782
Uranium U316	Tonnes	3,331	3,434
Uranium U317	Tonnes	564	542
Vanadium	Tonnes	248,792	241,298
White Arsenic	Tonnes	0	0
Wollastonite	Tonnes	54	55
Zinc	Tonnes	329,754	318,102
Zinc Slab	Tonnes	256,664	252,514
Zirconium Minerals	Tonnes	413,580	418,000

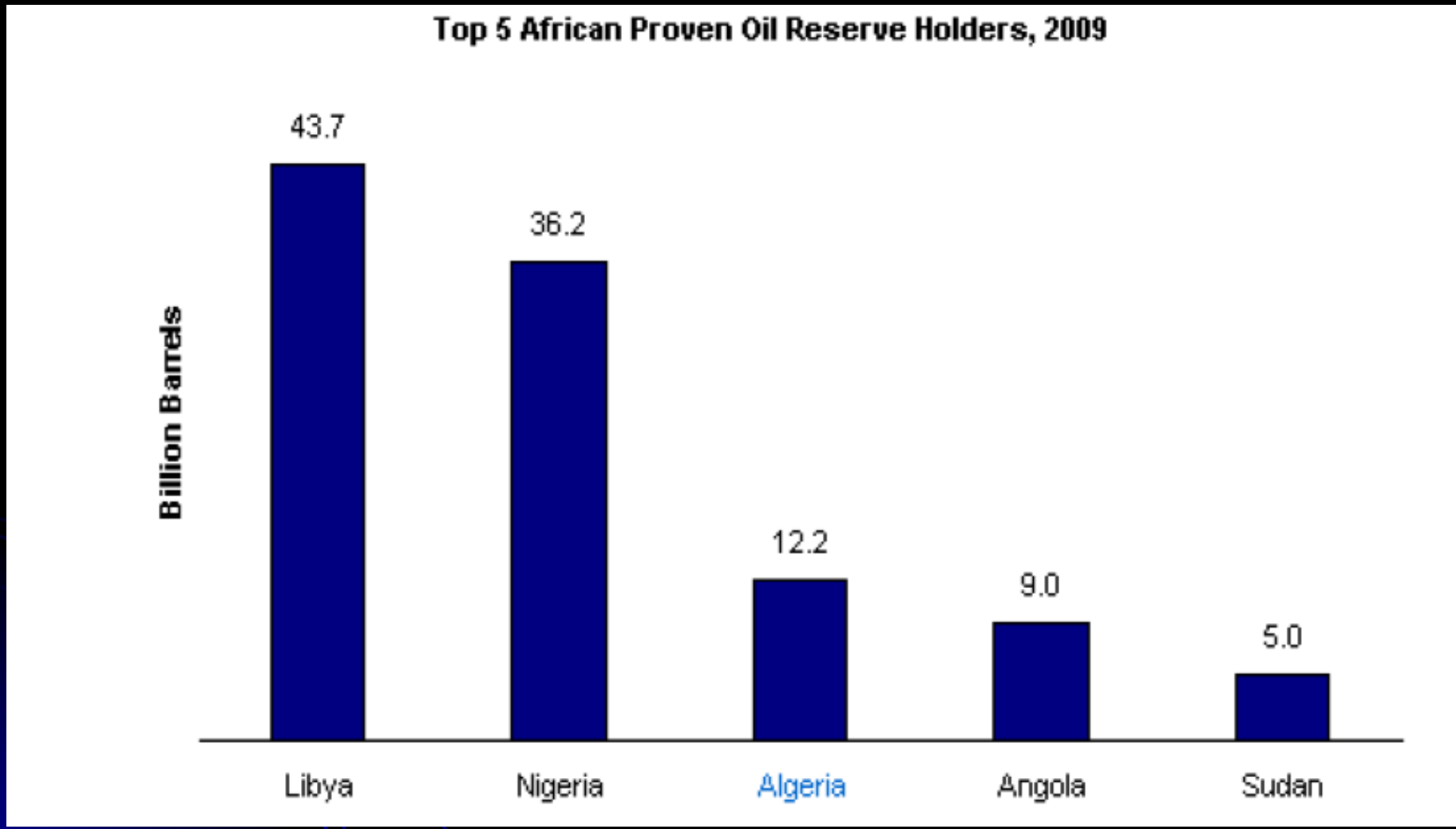
ДОБЫЧА НЕФТИ И ГАЗА

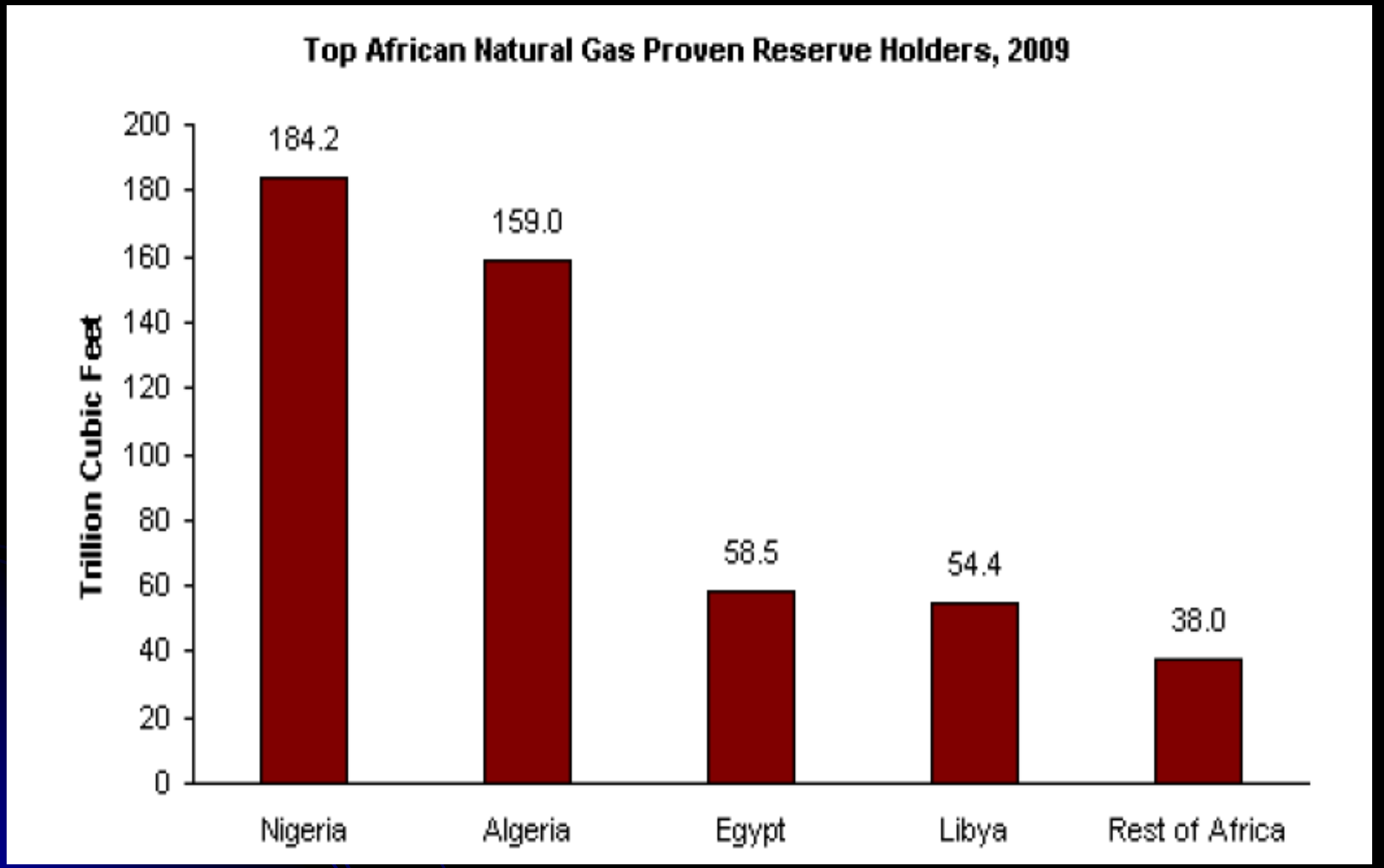
1 м³ = 1 000 000 см³ = 1 000 000 000 мм³ = 1 000 литров ≈ 35,3 кубических футов ≈ 1,31 кубических ярдов ≈ 6,29 баррелей.

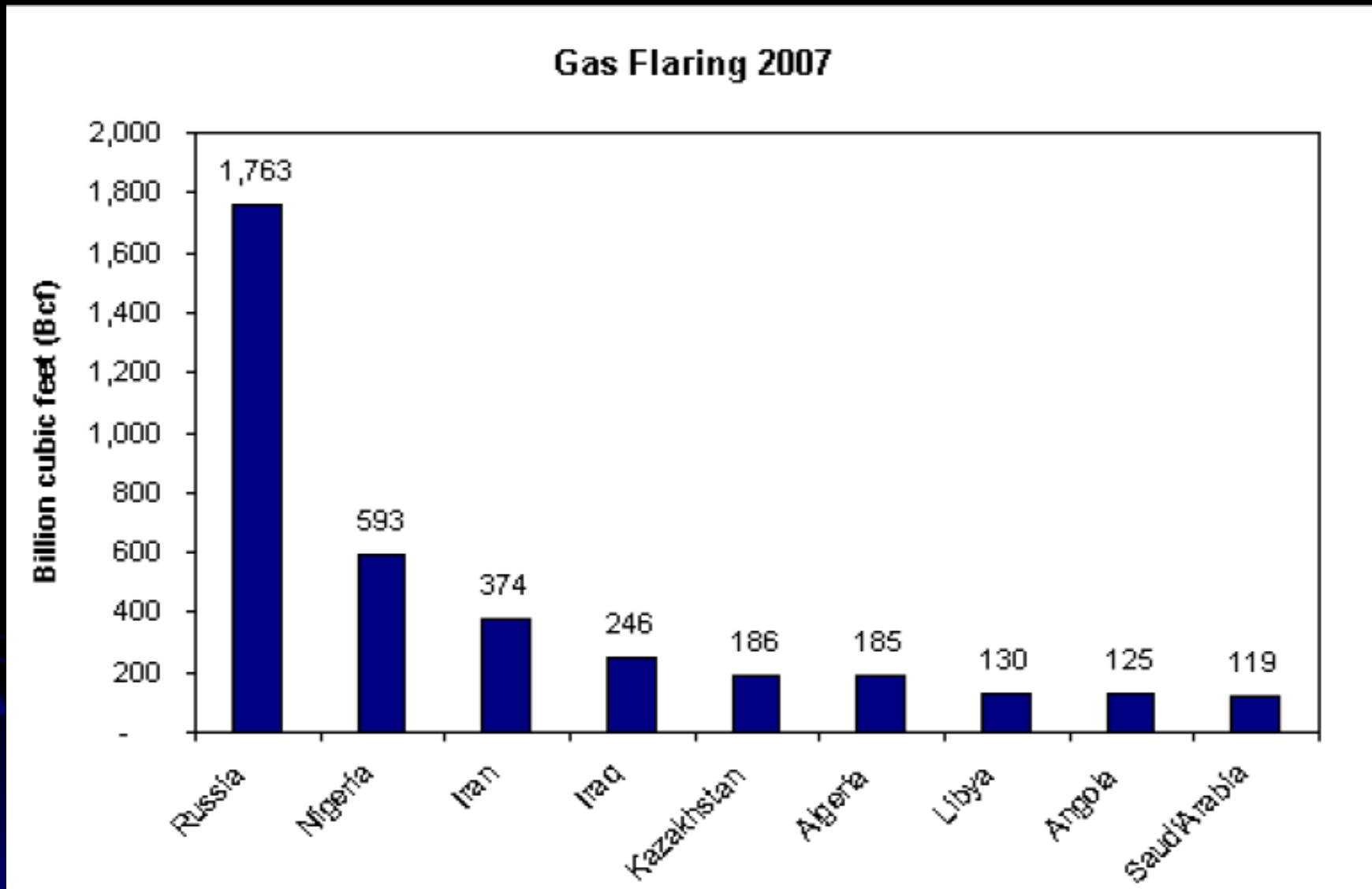
	Нефть	Газ
Алжир	1,42 млн. бар./день	3,03 трил. м³
Ливия	1,71 млн. бар./день	562 млрд. куб. футов
Нигерия	1,94 млн. бар./день	1204 млрд.куб.футов
Ангола	1,89 млн. бар./день	355 млрд.куб.футов
Судан	480 тыс. бар./день	

ЗАПАСЫ НЕФТИ




Top 5 African Proven Oil Reserve Holders, 2009
Billion Barrels
43.7
36.2
12.2
9.0
5.0
Libya
Nigeria
Algeria
Angola
Sudan


Top African Natural Gas Proven Reserve Holders, 2009
Trillion Cubic Feet
200
180
160
140
120
100
80
60
40
20
0
184.2
159.0
58.5
54.4
38.0
Nigeria
Algeria
Egypt
Libya
Rest of Africa



Source: National Oceanic and Atmospheric Administration

- Крупнейшее месторождение нефти в **Алжире**: **Хаси Мессауд** (юго-запад страны). Национальная нефтедоб. компания – **Сонатрак**
- Иностранные компании в Алжире, **Анадарко**, ведёт добычу на востоке страны, месторождения – **Хасси Беркин Сауф** и Урхуд.
- ЭНИ ведёт разработку месторождения Рурд Улад Джема (юго-восток страны)

Algeria uses seven coastal terminals to export crude oil, refined products, liquefied petroleum gas (LPG) and natural gas liquids (NGL). These facilities are located at Arzew, Skikda, Algiers, Annaba, Oran, Bejaia, and La Skhirra in Tunisia. Arzew handles about 40 percent of Algeria's total hydrocarbon exports, including all of its NGL, LPG, and oil condensate exports.

Algeria's oil pipeline network facilitates the transfer of oil from interior production fields to the export terminals. Sonatrach operates over 2,400 miles of crude oil pipelines in the country. The most important pipelines carry crude oil from the Hassi Messaoud field to export terminals. Sonatrach also operates oil condensate and LPG pipeline networks that link Hassi R'mel and other fields to Arzew. Sonatrach has expanded the Hassi Messaoud-Arzew pipeline, the longest in the country, to include a second, parallel line that more than doubles the capacity of the existing line.


PORT.
SPAIN
Mediterranean Sea
IT.
ALGIERS
Annaba
NORTH ATLANTIC OCEAN
Oran
Sétif
Constantine
Batna
Tlemcen
Sidi Bel Abbès
Biskra
Chott Melrhir
TUN.
MOROCCO
Ghardaïa
Béchar
Tindouf
LIBYA
W. Sah.
S A H A R A
Tahat
Tamanrasset
MAUR.
MALI
NIGER
0 300 km
0 300 mi

Ливия

Major Oil Terminals	Es Sider, Marsa el-Brega, Tobruk, Ras Lanuf, Zawiya, Zuetina
Major Oil and Gas Fields	Al Jurf , Amal, Beda, Bouri, Bu Attifel, Defa-Waha, El Sharara, Elephant, Ghani, Gialo, Hofra, Intisar, Kabir, Mabruk, Murzuq, Nafoora, Nasser, NC-41, NC-186 fields, Omar, Sarah, Sarir, Wafa, Zella, Zenad, Zueitina
Major Refineries (capacity, bbl/d)	Ras Lanuf (220,000 bbl/d), Az-Zawiya (120,000 bbl/d), Tobruk (20,000 bbl/d), Marsah El Brega (10,000 bbl/d), Sarir (10,000 bbl/d)


0 100 200 km
0 100 200 mi
Cabinda
Soyo
Congo
DEM. REP.
OF THE CONGO
Ambriz
LUANDA
Malanje
Porto
Amboin
SOUTH
ATLANTIC
OCEAN
Lobito
Morro
de Môco
Benguela
Huambo
Luena
Menongue
Lubango
Namibe
ZAMBIA
Zambezi
NAMIBIA
BOTSWANA

АНГОЛА

Exploration and Production

Oil production in Angola is concentrated in numerous offshore blocks. The offshore blocks are divided into three bands; shallow water blocks 0-13 (band A); deepwater blocks 14-30 (band B); and ultra-deepwater blocks 31-40 (band C). Additional blocks are now being designated in the ultra-deepwater offshore lower Congo Basin (click here to view Sonangol's concession map). Despite the expense of developing the deepwater and ultra-deepwater fields, Angolan oil production has grown rapidly over the past decade and will continue to do so in the short-term. Major existing and future developments are summarized below.

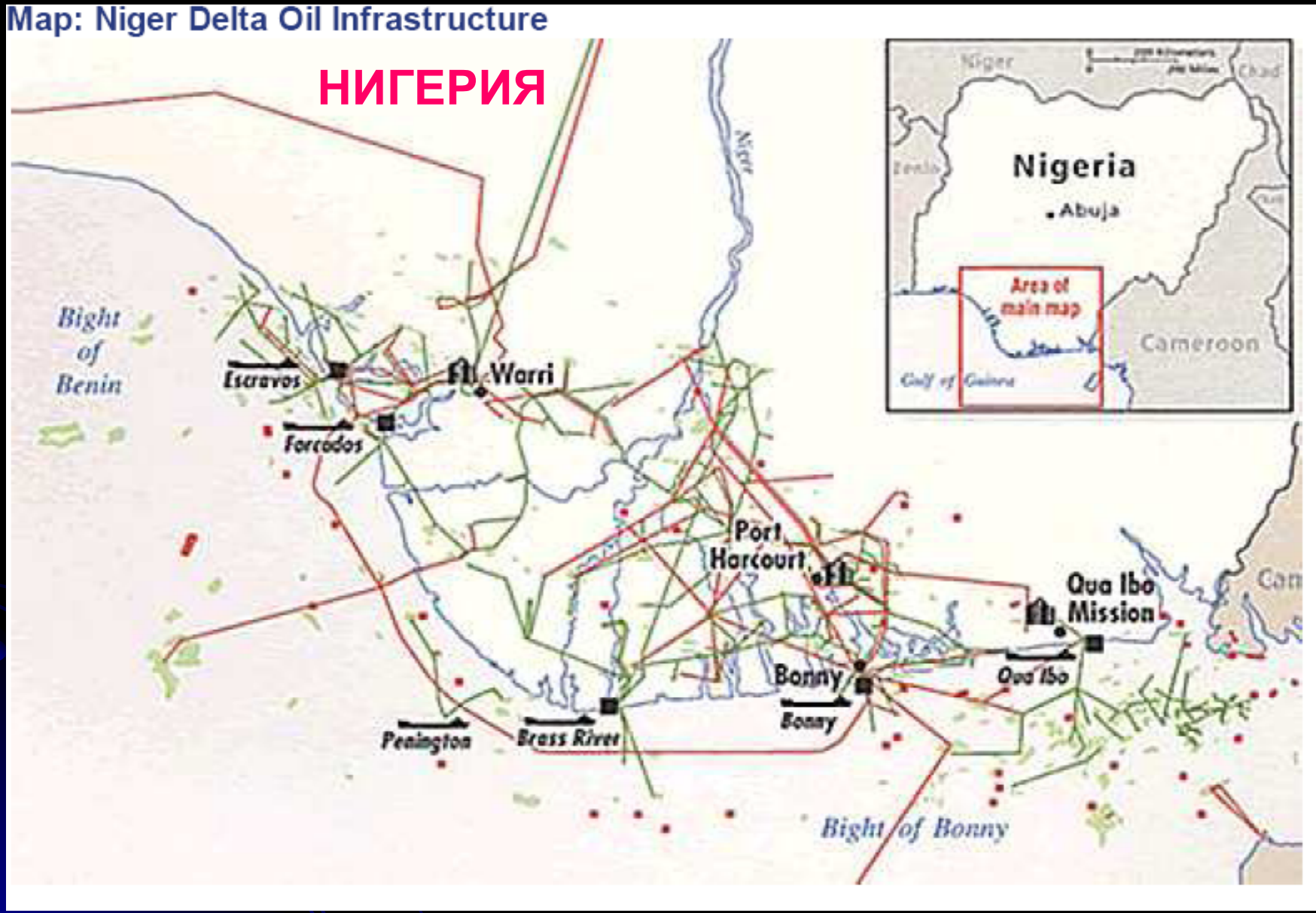
Onshore

Onshore exploration and production activities have mainly focused around the Cabinda province and were halted during Angola's civil war. The Cabinda province is home to separatist movements demanding access to oil revenues and greater participation in oil policy. While the government has appointed members to political positions, and security has improved, clashes still occur between the military and rebels in the area. Some existing wells that were drilled prior to the war and the neighboring Block Zero have proven to be extremely successful (see below).

Offshore

Block Zero: Block Zero is located offshore Cabinda province and is divided into two separate areas with 21 fields. Cabinda Gulf Oil Company (CABGOC), a Chevron subsidiary and operator of Block Zero since 1955, has a 39.2 percent share in the JV. Other partners include Total and Eni. According to Chevron, Block Zero accounted for approximately 340,000 bbl/d of production in 2008. Additional production is expected from the Block as drilling and exploration activities continue. In July 2009, Chevron also announced that the Mafumeira project was underway and the first field was to reach peak production of 30,000 bbl/d by 2011.

Map: Niger Delta Oil Infrastructure



Nigeria has six export terminals including Forcados and Bonny (operated by Shell); Escravos and Pennington (Chevron); Qua Iboe (ExxonMobil) and Brass (Eni/Agip) with deeper offshore production being exported directly from the Floating Production Storage and Offloading (FPSO) platforms. According to the Energy Intelligence Group's *International Crude Oil Market Handbook*, Nigeria's export blends are light, sweet crudes, with gravities ranging from API 29 – 47 degrees and low sulfur contents of 0.05 – 0.3 percent. Most Nigerian crudes trade at a premium to Brent, the North Sea benchmark crude.

Refining

In 2008, Nigeria consumed approximately 286,000 bbl/d of oil. According to the *OGJ*, Nigeria has four refineries (Port Harcourt I and II, Warri and Kaduna) with a combined capacity of around 500,000 bbl/d. In February 2009, a Nigerian National Petroleum Corporation (NNPC) official reported that only one of these refineries was operational but running below capacity. As a result, the country is currently importing almost 85 percent of refined products. Problems in the refining sector are attributed to corruption, poor maintenance, theft, and fire. Recent conflicts have also interrupted the flow of crude into the refineries and forced them to shut down.

In order to increase investment and improve performance of the refining sector, the government has ongoing plans to privatize the refineries and end price subsidies. Current subsidy schemes lead producers to sell crude overseas rather than to local refineries and therefore add to increasing volumes of refined product imports. However, these plans are regularly opposed by workers unions and opposition parties.

West African Gas Pipeline

Source: West African Gas Pipeline Company Ltd.



Nigeria and Algeria continue to discuss the possibility of constructing a Trans-Saharan Gas Pipeline (TSGP). The 2,500-mile pipeline would carry natural gas from oil fields in Nigeria's Delta region to Algeria's Beni Saf export terminal on the Mediterranean. In 2009 the NNPC signed a memorandum of understanding (MoU) with Sonatrach, the Algerian national oil company in order to proceed with plans to develop the pipeline. Several national and international companies have shown interest in the US$ 12 billion project including Total and Gazprom.

Oil and Gas Industry

НИГЕРИЯ

Organization	The Nigerian National Petroleum Corporation (NNPC) manages the state-owned oil industry.
Major Refineries	Port Harcourt-Rivers State (150,000), Kaduna (110,000), Warri (125,000), Port Harcourt-Alesa Eleme (120,000),


Судан
LIBYA
EGYPT
Hala'ib Triangle
Halāīb
SAU. AR.
Wādī Halfā'
Port Sudan
Red Sea
Sawākin
Atbara
CHAD
Omdurman
KHARTOUM
Kassala
ERIT.
Al Fāshir
Wad Madanī
Al Qaḍārif
Al Ubayyiḍ
Kūstī
DARFUR
Nyala
White Nile
Blue Nile
Malakāl
ETHIOPIA
Wāw
C.A.R.
Bor
Ilemi Triangle
Juba
Kinyeti
Nimule
DEM. REP. OF THE CONGO
0 300 km
0 300 mi
UGANDA
KENYA

Sudan has two major oil streams, the Nile and Dar blends. Nile is a medium, sweet crude with an API of 44. Nile blend is exported to Asian markets and trades at a discount to Indonesian Minas, the Asian benchmark crude. Dar blend is also exported to Asian markets and while production of this stream is growing, the heavy sour quality of this crude causes it to trade at a discount, often severe, to Minas crude.

Refining and Downstream

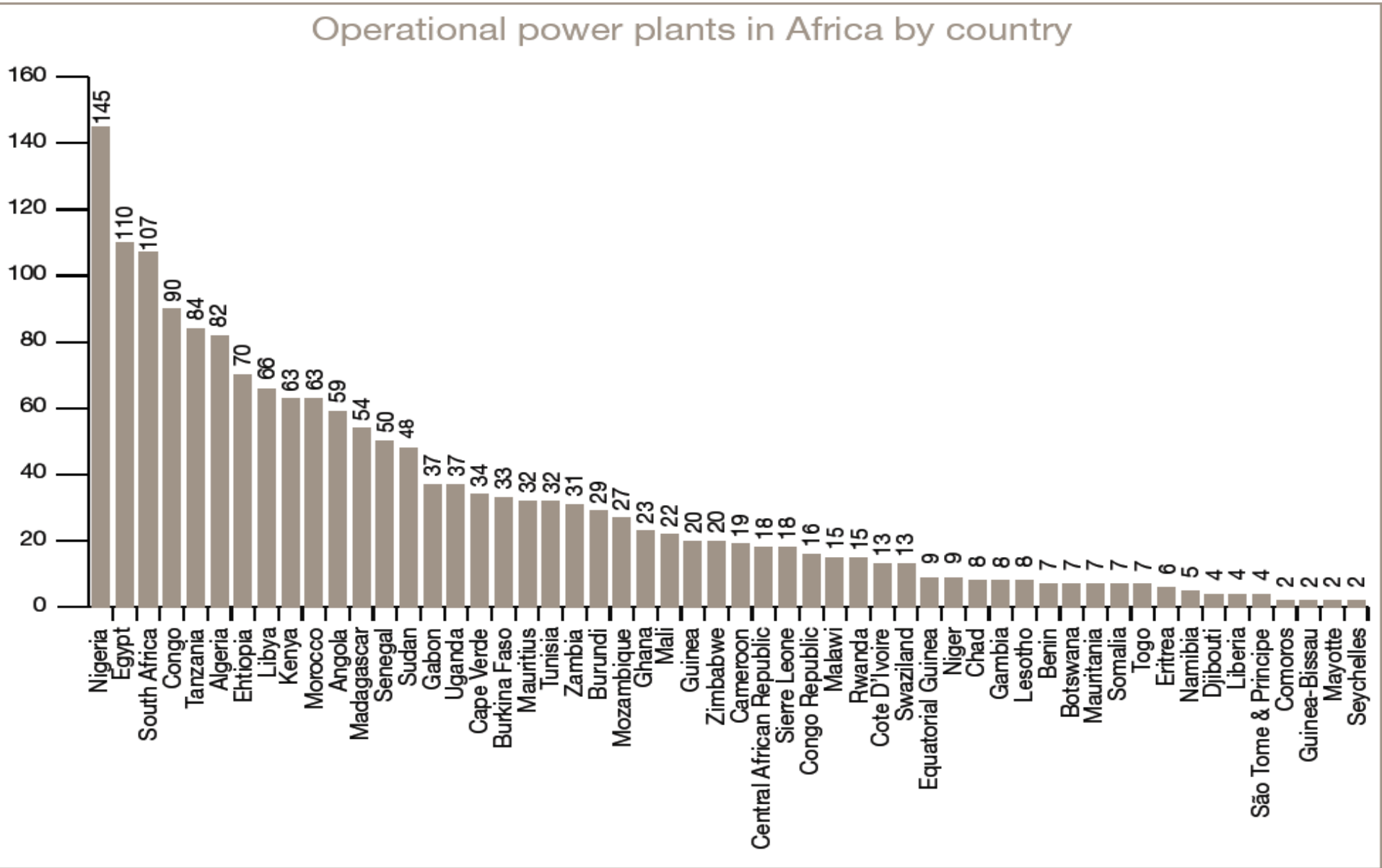
According to *OGJ*, Sudan's refineries in Khartoum and Port Sudan had total combined refining capacity of 121,700 bbl/d as of January 2009. The Khartoum refinery was expanded in 2006 from a capacity of 50,000 bbl/d to 100,000 bbl/d. The expansion allowed for the processing of both Nile and Fula blends of crude for domestic consumption as well as product exports.

The Port Sudan facility is located near the Red Sea and is Sudan's smallest refinery, with capacity of 21,700 bbl/d. In September 2005, a contract was awarded to Petronas to build a new refinery at Port Sudan. The refinery was to be designed to process the highly acidic Dar blend but this project has been postponed several times and the status is currently unknown.

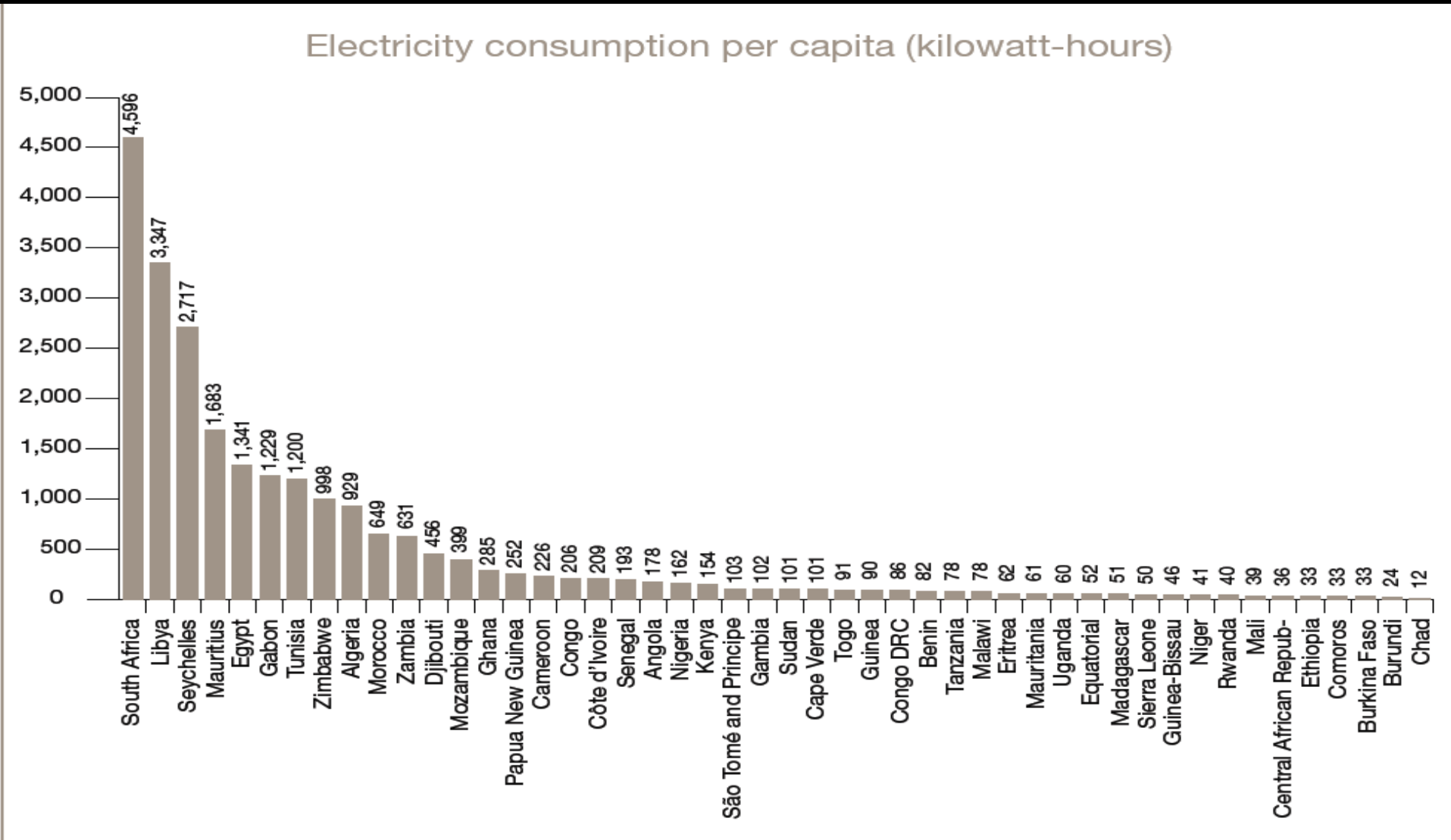
Oil and Gas Industry

Major Oil Ports	Port Sudan
Major Oil Fields	Adar Yale, Fula, Heglig, Mala, Palogue, Thar Jath, and Unity
Major Pipelines	994-mile pipeline from Heglig and Unity fields to the Suakin oil terminal – 870-mile pipeline linking Melut Basin to oil export terminal near Port Sudan and a 110-mile pipeline linking the Thar Jath and Mala fields to Port Sudan.
Major Refineries (Oil and Gas Journal 2009)	CNPC Khartoum refinery includes El-Gili (50,000) and Conocorp (50,000); Port Sudan Refinery (21,700)

ДЕЙСТВУЮЩИЕ ЭЛЕКТРОСТАНЦИИ



ПОТРЕБЛЕНИЕ ЭЛЕКТРИЧЕСТВА НА ДУШУ НАСЕЛЕНИЯ

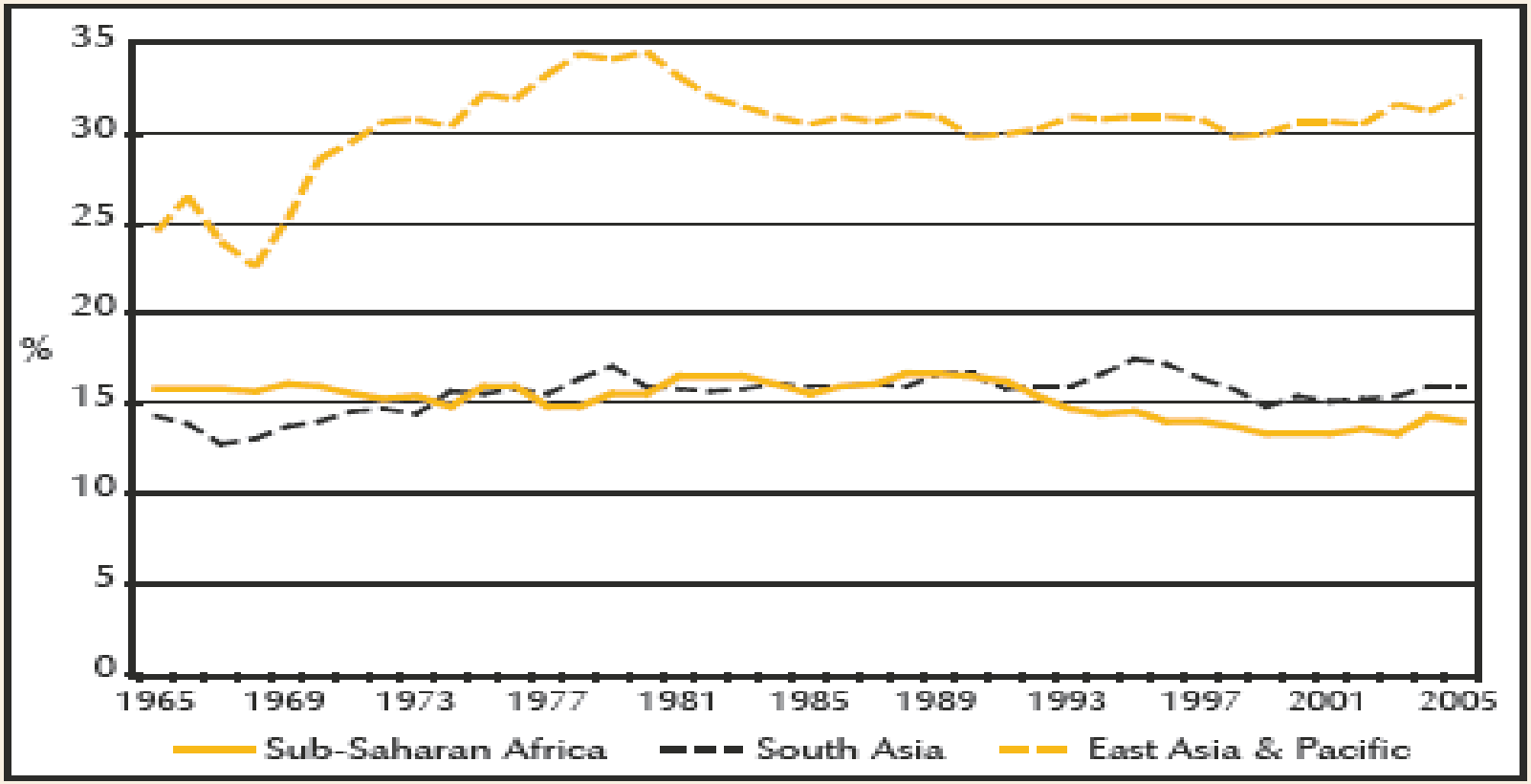


ОБРАБАТЫВАЮЩАЯ ПРОМЫШЛЕННОСТЬ

Figure 21

Manufacturing value-added to GDP

(Per cent)



Source: Based on World Bank, 2008a.

Table 9.2 Manufacturing value added[a], and average annual growth rate, by country group and region, 2000-2005

Country group and region	2000	2001	2002	2003	2004	2005	Annual growth rate, 1995–2000	Annual growth rate, 2000–2005
	(billons of dollars)						(percentage)	
World	5,774.3	5,674.7	5,765.9	5,979.6	6,296.1	6,536.6	4.3	2.6
Industrialized countries	4,289.8	4,158.5	4,171.1	4,257.1	4,433.1	4,535.2	3.7	1.1
Countries with economies in transition	80.1	85.8	88.1	101.7	104.4	108.9	1.6	7.2
Developing countries	1,404.4	1,430.4	1,506.7	1,620.7	1,758.6	1,892.5	6.5	7.0
Sub-Saharan Africa	39.7	40.9	42.0	41.9	43.8	45.8	3.0	3.1
excluding South Africa	16.7	17.2	17.7	18.0	18.8	19.7	3.7	3.5
South Asia	85.8	88.8	94.3	100.5	109.6	119.9	5.5	7.9
excluding India	20.1	21.4	22.3	23.7	26.2	28.8	5.0	8.7
Middle East and North Africa	110.5	112.6	119.8	127.1	137.4	145.9	6.4	6.4
excluding Turkey	83.5	87.8	92.9	98.0	105.3	111.9	7.2	6.8
Latin America and the Caribbean	378.4	371.9	367.7	374.9	402.8	415.2	3.5	1.9
excluding Mexico	271.2	268.8	265.3	273.8	297.7	308.7	1.8	2.8
East Asia and the Pacific	770.4	798.7	866.5	958.9	1,046.6	1,146.7	8.6	9.8
excluding China	385.5	380.9	406.7	430.8	471.8	502.3	6.2	6.1
Least developed countries	16.7	17.6	18.6	19.8	21.1	22.7	6.1	7.3

Figure 9.3 MVA[a] , by region, 2000-2005 (Billions of dollars)

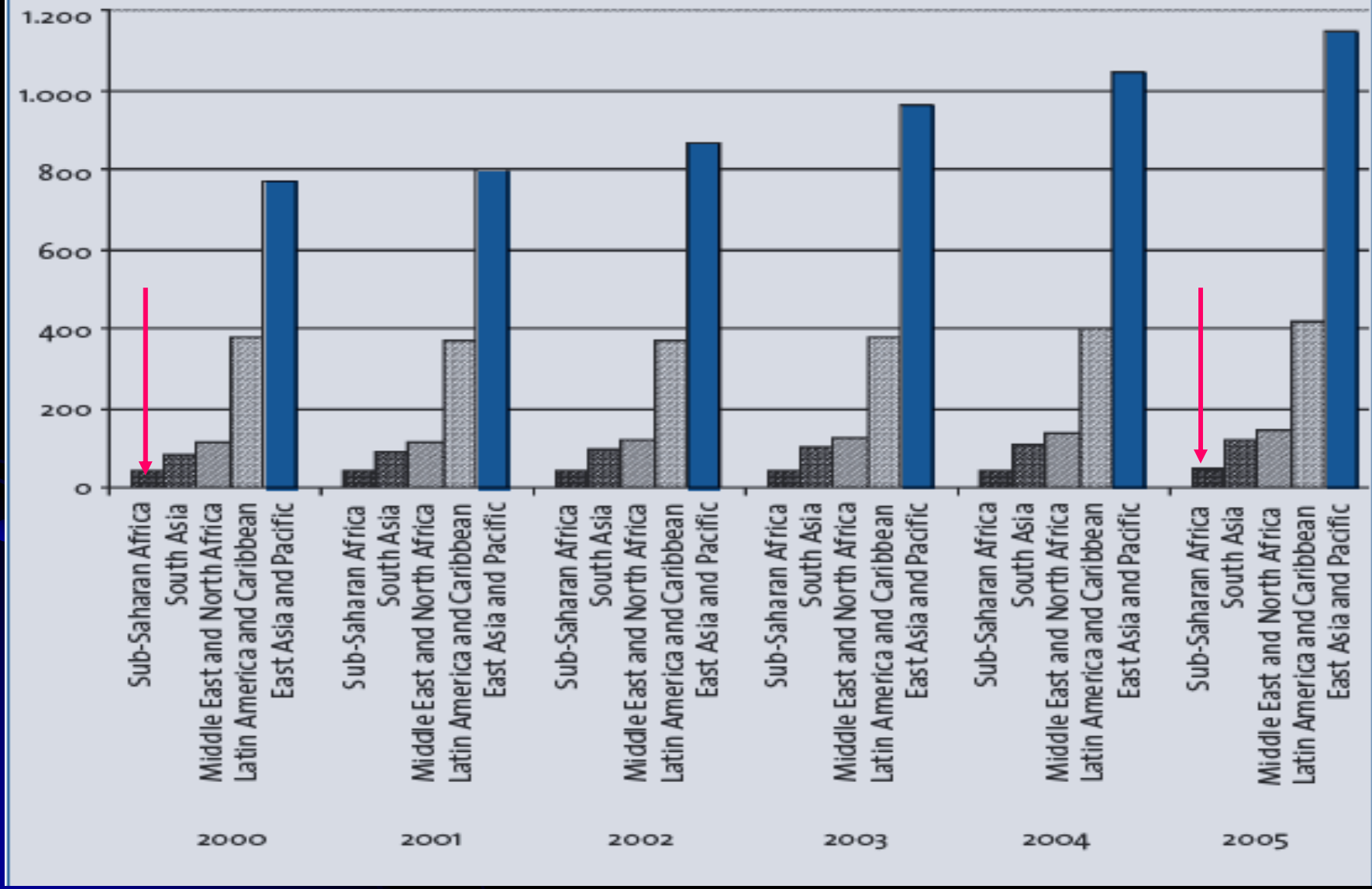


Table 9.6 Manufacturing value added[a] in least developed countries[b]

MVA (millions of dollars)				MVA per capita (dollars)				MVA as a share of GDP (percentage)			
Top 5	2000	Top 5	2005	Top 5	2000	Top 5	2005	Top 5	2000	Top 5	2005
Bangladesh	6,920.4	Bangladesh	9,632.4	Samoa	197.7	Samoa	226.6	Lao People's Democratic Republic	16.9	Lao People's Democratic Republic	20.5
Sudan	958.3	Cambodia	1,124.4	Maldives	170.8	Maldives	172.1	Cambodia	16.0	Cambodia	19.9
United Republic of Tanzania	624.3	Myanmar	1,046.5	Cape Verde[c]	113.2	Cape Verde[c]	142.4	Lesotho	15.2	Mozambique	16.2
Cambodia	585.1	Mozambique	932.5	Lesotho	73.4	Lesotho	85.9	Samoa	14.8	Bangladesh	15.7
Senegal	568.0	United Republic of Tanzania	909.8	Senegal	60.5	Lao People's Democratic Republic	81.5	Bangladesh	14.7	Lesotho	15.6
Bottom 5	**2000**	**Bottom 5**	**2005**	**Bottom 5**	**2000**	**Bottom 5**	**2005**	**Bottom 5**	**2000**	**Bottom 5**	**2005**
Vanuatu	10.7	Timor-Leste	11.2	Mali	7.2	Mali	7.6	Sierra Leone	3.3	Timor-Leste	3.3
Comoros	9.2	Comoros	10.1	Ethiopia	6.4	Ethiopia	6.5	Angola	2.9	Mali	3.2
Timor-Leste	8.7	Vanuatu	9.3	Sierra Leone	4.8	Sierra Leone	6.3	Timor-Leste	2.8	Sierra Leone	2.8
Sao Tome and Principe	2.1	Sao Tome and Principe	2.4	Kiribati	4.3	Kiribati	4.3	Djibouti	2.3	Djibouti	2.3
Kiribati	0.4	Kiribati	0.4	Democratic Republic of the Congo	4.2	Democratic Republic of the Congo	4.3	Kiribati	0.7	Kiribati	0.8

Table 9.1 Manufacturing value added share within developing country groups of selected countries, 2000 and 2005 (Percentage)[a]

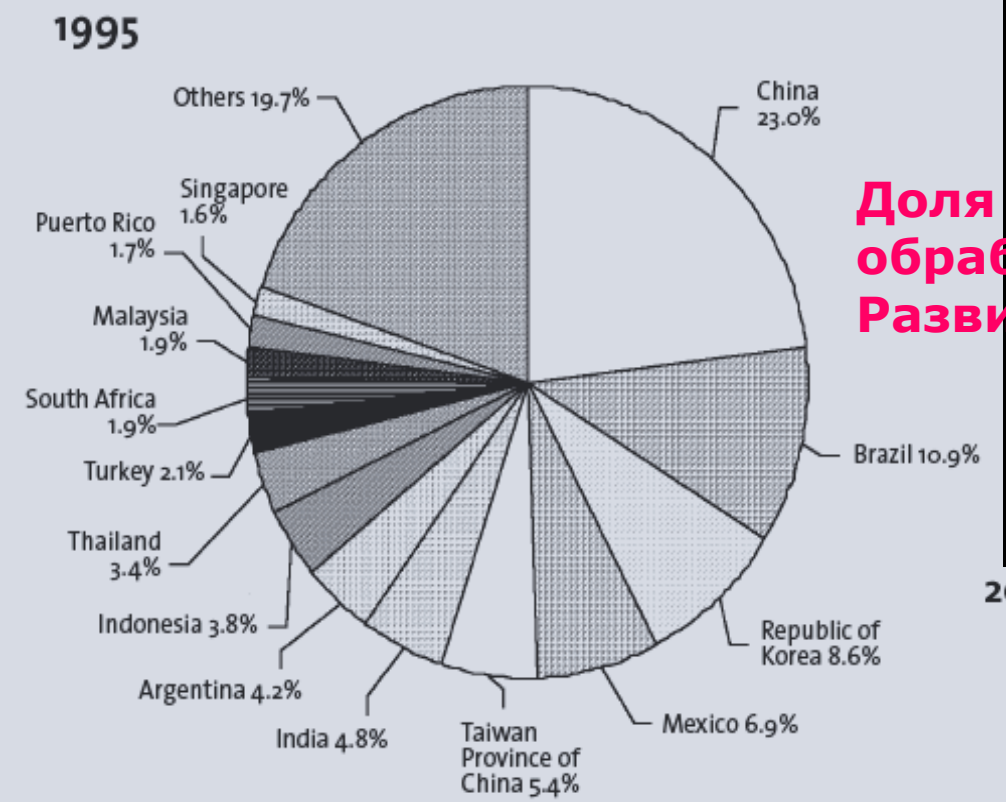
Country group and region	2000	2005
Industrialized countries	74.3	69.4
Countries with economies in transition	1.4	1.7
Developing countries	24.3	29.0
Sub-Saharan Africa	0.7	0.7
excluding South Africa	0.3	0.3
South Asia	1.5	1.8
excluding India	0.3	0.4
Middle East and North Africa	1.9	2.2
excluding Turkey	1.4	1.7
Latin America and the Caribbean	6.6	6.4
excluding Mexico	4.7	4.7
East Asia and the Pacific	13.3	17.5
excluding China	6.7	7.7
Least developed countries	0.3	0.3
World	100.0	100.0

Sub-Saharan Africa

Sub-Saharan Africa continued to be marginalized in the international industrial scene. Most of the region's countries clustered at the bottom of the CIP index and performance was dominated by countries losing in rank. Niger, Zambia, Zimbabwe and Lesotho saw the most dramatic descents (seven places for Niger and five for the others), reflecting weak performance in all dimensions of the CIP index.

South Africa was, by far, the most industrialized economy in the region and gained two positions between 2000 and 2005. There is a clear break after South Africa, with Mauritius and Swaziland following at a distance. Despite competitive pressures, both countries retained their positions from 2000, thanks to their strong performance in manufactured exports. However, MVA per capita in Mauritius declined between 2000 and 2005. Mozambique, Senegal and Côte d'Ivoire achieved rapid export growth, increasing at 57 per cent, 20 per cent and 16 per cent, respectively, between 2000 and 2005. The share of manufactures in total exports rose to more than 50 per cent in all three countries.

Доля в добавленной стоимости обрабатывающей промышленности Развивающихся стран



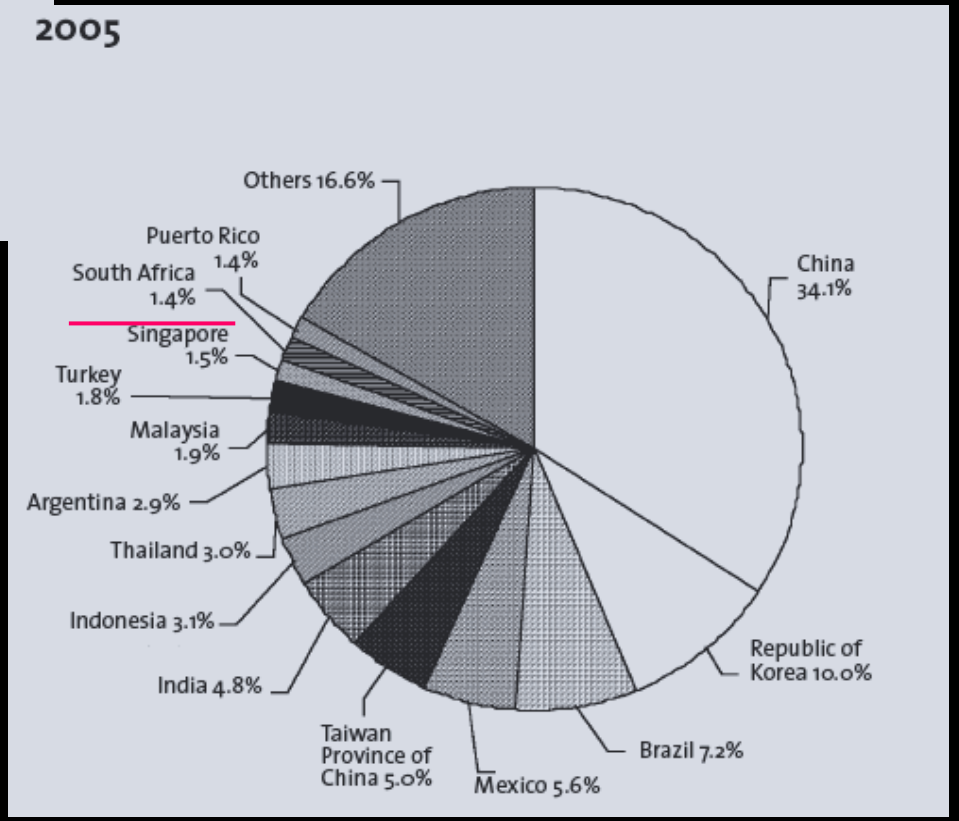
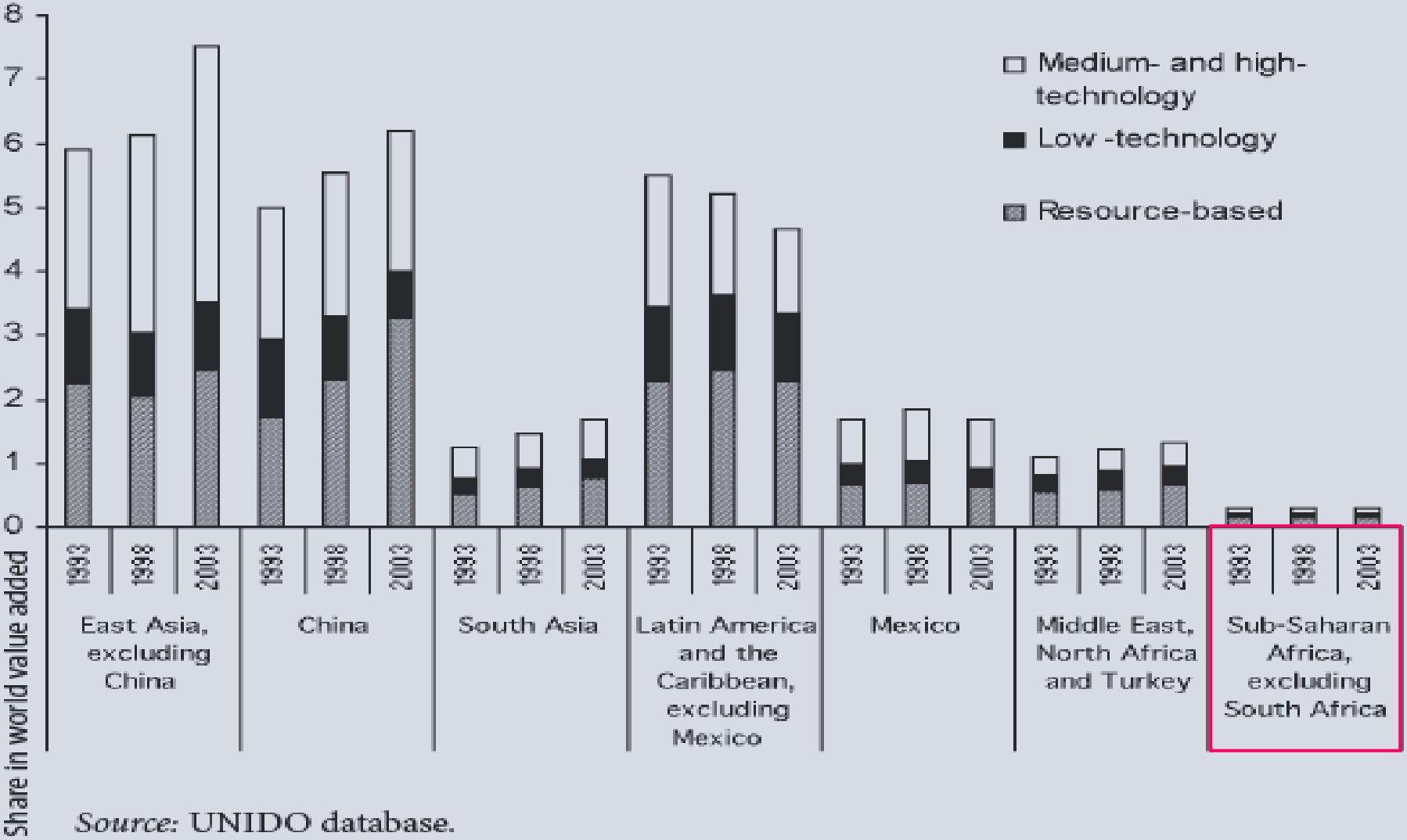


Figure 9.2 Share in world value added, by region and technology category, 1993-2003 (Percentage)



Source: UNIDO database.

African countries typically have small industrial sectors and a short history of manufacturing. They have poor physical infrastructure and limited human capital endowment, with low levels of primary and secondary education, and shortages of industrial skills. This is a weak basis on which to develop the necessary competitiveness in manufacturing production that would diversify export earnings beyond traditional primary commodities. Any comparative advantage for African countries, therefore, almost inevitably lies in agro-related industries: industries using either agricultural products as their main raw material, or those producing agricultural inputs. The further processing of agricultural products can also make an important contribution to the efficient replacement of imports. Over 70 per cent of total employment in Africa and 60 per cent of manufacturing value-added (see table 1) is in agro-related industries. These industries include many labour-intensive activities such as subsectors within food processing, as well as textiles and clothing, leather processing and footwear.

Landlocked low-income countries, especially in Africa, score the worst. They suffer from high transport costs and delays, and depend on the performance of other countries for access to markets. They also have limited access to competitive markets for logistics services. Significant differences occur even among landlocked countries in Africa. In East Africa, Uganda, Malawi and Zambia are, in order, among the top 15 performers from the 39 sub-Saharan African countries. Each is served by a fairly efficient logistics industry operating in a reasonably competitive environment. Landlocked countries in West Africa score lower on the index, owing largely to lack of competition and excessive regulation of service providers.

Table 6.1 Logistics performance index, 2007

Country or territory	Rank	Score	Country or territory	Rank	Score	Country or territory	Rank	Score
Singapore	1	4.19	Romania	51	2.91	Senegal	101	2.37
Netherlands	2	4.18	Jordan	52	2.89	Côte d'Ivoire	102	2.36
Germany	3	4.10	Viet Nam	53	2.89	Kyrgyzstan	103	2.36
Sweden	4	4.08	Panama	54	2.89	Ethiopia	104	2.33
Austria	5	4.06	Bulgaria	55	2.87	Liberia	105	2.31
Japan	6	4.02	Mexico	56	2.87	Republic of Moldova	106	2.31
Switzerland	7	4.02	Sao Tome and Principe	57	2.86	Bolivia	107	2.31
Hong Kong Special Administrative Region of China	8	4.00	Lithuania	58	2.78	Lesotho	108	2.30
United Kingdom of Great Britain and Northern Ireland	9	3.99	Peru	59	2.77	Mali	109	2.29
Canada	10	3.92	Tunisia	60	2.76	Mozambique	110	2.29
Ireland	11	3.91	Brazil	61	2.75	Azerbaijan	111	2.29
Belgium	12	3.89	Guinea	62	2.71	Yemen	112	2.29
Denmark	13	3.86	Croatia	63	2.71	Burundi	113	2.29
United States of America	14	3.84	Sudan	64	2.71	Zimbabwe	114	2.29
Finland	15	3.82	Philippines	65	2.69	Serbia and Montenegro	115	2.28
Norway	16	3.81	El Salvador	66	2.66	Guinea-Bissau	116	2.28
Australia	17	3.79	Mauritania	67	2.63	Lao People's Democratic Republic	117	2.25
France	18	3.78	Pakistan	68	2.62	Jamaica	118	2.25
New Zealand	19	3.75	Venezuela (Bolivarian Republic of)	69	2.62	Togo	119	2.25

United Arab Emirates	20	3.73
Taiwan Province of China	21	3.64
Italy	22	3.58
Luxembourg	23	3.54
South Africa	24	3.53
Republic of Korea	25	3.52
Spain	26	3.52
Malaysia	27	3.48
Portugal	28	3.38
Greece	29	3.36
China	30	3.32
Thailand	31	3.31
Chile	32	3.25
Israel	33	3.21
Turkey	34	3.15
Hungary	35	3.15
Bahrain	36	3.15
Slovenia	37	3.14
Czech Republic	38	3.13
India	39	3.07
Poland	40	3.04
Saudi Arabia	41	3.02
Latvia	42	3.02
Indonesia	43	3.01
Kuwait	44	2.99
Argentina	45	2.98
Qatar	46	2.98
Estonia	47	2.96
Oman	48	2.92
Cyprus	49	2.92
Slovakia	50	2.92
Ecuador	70	2.60
Paraguay	71	2.57
Costa Rica	72	2.55
Ukraine	73	2.55
Belarus	74	2.53
Guatemala	75	2.53
Kenya	76	2.52
Gambia	77	2.52
Iran (Islamic Republic of)	78	2.51
Uruguay	79	2.51
Honduras	80	2.50
Cambodia	81	2.50
Colombia	82	2.50
Uganda	83	2.49
Cameroon	84	2.49
Comoros	85	2.48
Angola	86	2.48
Bangladesh	87	2.47
Bosnia and Herzegovina	88	2.46
Benin	89	2.45
The former Yugoslav Republic of Macedonia	90	2.43
Malawi	91	2.42
Sri Lanka	92	2.40
Nigeria	93	2.40
Morocco	94	2.38
Papua New Guinea	95	2.38
Dominican Republic	96	2.38
Egypt	97	2.37
Lebanon	98	2.37
Russian Federation	99	2.37
Zambia	100	2.37
Madagascar	120	2.24
Burkina Faso	121	2.24
Nicaragua	122	2.21
Haiti	123	2.21
Eritrea	124	2.19
Ghana	125	2.16
Namibia	126	2.16
Somalia	127	2.16
Bhutan	128	2.16
Uzbekistan	129	2.16
Nepal	130	2.14
Armenia	131	2.14
Mauritius	132	2.13
Kazakhstan	133	2.12
Gabon	134	2.10
Syrian Arab Republic	135	2.09
Mongolia	136	2.08
United Republic of Tanzania	137	2.08
Solomon Islands	138	2.08
Albania	139	2.08
Algeria	140	2.06
Guyana	141	2.06
Chad	142	1.98
Niger	143	1.97
Sierra Leone	144	1.95
Djibouti	145	1.94
Tajikistan	146	1.93
Myanmar	147	1.86
Rwanda	148	1.77
Timor-Leste	149	1.71
Afghanistan	150	1.21