

**PRODUCTION BY SECTOR IN AFRICA, 2000-2005**

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**Abstract:** We analyze the evolution of production by sector in 38 countries of Africa, during the period 2000-2005. Although there have been some improvements in a few African countries, we notice that, unfortunately, little progress has been reached regarding industrial production per capita in the majority of the African countries. International cooperation to development should be addressed not only to social programs related with education, health and other basic conditions for wellbeing but also to foster investment in industrial sector because it has positive impacts on economic development, not only due to its direct effect but also important indirect effects which increase production of services and other non industrial sectors, as well as foreign trade. International cooperation for investment in infrastructures, industry, education and other important factors of production needs support, not only from non profit organizations and institutional donors but also from individual savings and business companies. Significant improvements may be achieved, under a reasonable framework of international guarantees addressed to diminish economic risks and guarantee recovery.

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## **1. Introduction**

In section 2 we review the priorities for economic development in Africa accordingly to some selected recent studies and reports. In section 3 we present an overview of the evolution of real Gdp per capita in African countries for the period 2000-2005. Section 4 analyses the evolution of production by sector, with particular focus on industry, having into account the positive impact that industrial production has on non industrial sectors. Finally section 5 presents de main conclusions.

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## 2. An overview of the main priorities for development in Africa

Economic development researchers from several countries have shown concern with the lack of enough international support to the eradication of poverty in less developed countries (LDCs). For the period 2000-2005, as seen in Guisan and Exposito(2007) and other studies, the average increase of real Gdp per inhabitant in 38 African countries amounted only to \$ 215 while World average was \$ 1212.

The period 2000-2005 was a new failure in the process of convergence of Africa to World average, although some interesting initiatives have emerged in this period which need international support for the next years. In year 2005 the average real Gross Domestic Product per capita in 38 countries (around \$ 2333 at prices and purchasing power parities of year 2000) is only a 27% of world average (8541), which is really a very low value.

Artadi and Sala-i-Martin(2003) show a deep concern for the economic tragedy of poverty in Africa during the 20<sup>th</sup> century. Unfortunately the first 5 years of the 21<sup>st</sup> century also show little evolution of economic development in those countries.

Bobel(2005) also show concern on poverty and recommend micro-credits, free access to schooling, with support from international donors in countries which do not have enough public resources for it. He states: *“The goal is to try to give inputs on a global problem: eradicating poverty on a global scale. That is, to find evidence and discuss complex problems regarding cronic poverty, a major source of instability in our world today, and to put forward what could be some possible solutions. The aim of this endeavour is to further sensitize public opinion to a major, chronic and exponential problem that is affecting an increasing number of the population world wide. The focus is on (sub-Saharan) Africa and its (past and present) problems. Sub-Saharan Africa is the region which has the greatest percentage of its population in poverty and also the greatest depth of poverty....all questions related to how the threat of global poverty can be averted, and how the world can be*

*shaped for the benefit of future generations.”* This authors also recommends urgent improvements in water availability in order to increase the low percentage of arable land devoted to Agriculture. It is of uppermost importance the increase in water supply and the quality of water not only for production but also for human health and wellbeing.

Agenor et al (2005) analyze some of the main macroeconomic policies which should be developed in Sub-Saharan Africa in order to achieve the Millenium Development Goals (MDGs). The find that several reports reveal that progress in achieving the MDGs reveal that progress has been mixed and slow and that the report by the Millenium Project (2005) noted that although several countries are on track to achieve some of the goals, many others did not particularly in Sub-Saharan Africa. They also find that other reports as those by the UN(2005) and World Bank(2005) also reach similar conclusions.

Guisan, Aguayo and Exposito(2001) analyze the important consequences of increasing industrial value-added per inhabitant in developing countries, in a wide cross-section study of 98 countries from all over the World. The main conclusion of that study is the important effect of education on the diminution of the average fertility rate and the positive impact of the diminution of high rates of population growth of poorest countries on the increase of their industrial investment and production per capita. Basu(2002) analyzes why education leads to lower fertility.

It is good news to see that some interesting initiatives to develop infrastructures and investment have been launched in the last years. In this regard ICA(2007) refers to the importance of the creation of the Infrastructure Consortium for Africa, The Consortium is a tripartite relationship between bilateral donors, multilateral agencies and African institutions. The membership of the Consortium from the African side is led by the African Development Bank while AU Commission, NEPAD Secretariat and Regional Economic Communities participate as observers in meetings of the

Consortium.. They say that *“This arrangement ensures ownership and alignment of Consortium activities on African priorities. Membership will be open to other donors making significant financial contributions to infrastructure in Africa. The inaugural meeting of the Infrastructure Consortium for Africa (ICA) was held in London on 6 October 2005 and included representation from key African institutions and donors.”*

The report by UNECA(2007) presents an interesting selection of data, relevant to analyze the problems of economic development in Africa, and claims for new approach to growth policies. The authors, following the conclusions by Rodrik(2004) and Gottschalk(2005) recognize that emphasis on macroeconomic stability, defended by some advisors and policy makers from international institutions during the last decades of the 20<sup>th</sup> century, has been misleading in many cases, and that *“after decades of the stabilization experiment, it is clear that this premise is naïve at best”*. Accordingly to a previous reports by UNECA(1999) priorities for this organizations include, among other things, *“to promote faster human and institutional development, accelerate privatization, develop the private sector, promote exports to enhance economic diversification, lower transaction costs, increase competitiveness, manage natural resources revenues for growth and increase mobilization of domestic and external resources for development financing.”*

In our view the main emphasis, among the priorities for African countries, should be the following ones:

1) To increase the educational level of population, in order to achieve the positive direct and indirect effects that this variable has on economic development, accordingly to Guisan, Aguayo and Exposito(2001), Guisan and Neira(2006) and other studies. 2) To increase industrial production and foreign trade with other African countries, as well as with other areas of the world, in order to benefit from wide markets and complementary factors of production for industry, services and other sectors.

For achieving these two objectives it is important to improve social capital, infrastructures and many other complementary factors of development, and it is necessary to favor international cooperation, not only through donors and official aid but also from many business enterprises which could be interested in investment if international organizations could increase the level of guarantee and diminish the level of investment risk.

Although many authors and several international institutions have shown great concern about poverty in Sub-Saharan Africa and other areas, the question is that economic policies of international cooperation have not experienced enough development in three of the main priorities: education, infrastructures and industrial development. For that reason it is convenient to insist upon these questions in order to avoid more delays in the implementation of effective policies to improve the level of wellbeing of the people in those countries, particularly for the poorest ones.

### 3. Evolution of African countries in the period 2000-2005

Table 1 shows the evolution of exponential rates of annual growth of real Gross Domestic Product (GDP), Population and real GDP per inhabitant in Africa and the World as well as the difference between both, for the periods 1990-1999 and 2000-2005.

Table 1. Annual rates of growth of real Gross Domestic Product, Population (POP), and GDP per inhabitant (GDPH) in Africa and the World, 1990-99 and 2000-2005 (%)

	Average rate 1900-1999			Average rate 2000-2005		
	GDP	POP	GDPH	GDP	POP	GDPH
Africa	3.12	2.12	1.00	4.07	2.14	1.93
World	2.96	1.40	1.56	4.26	1.20	3.06
Difference	0.16	0.72	-0.56	-0.19	0.94	-1.13

Note: Percentage of annual change, accordingly to exponential rates. The last row is the difference between Africa and the World. Source: own elaboration from Maddison(2001) and WB(2007).

The average rate of annual growth of real GDP per inhabitant in Africa has been very low for the period 1990-99, with only 1%, 0.56 points below world average. There was an improvement in Africa for the period 2000-2005, with an average of 1.93% per year, although 1.13 points below World average.

We may notice that the rate of growth of real GDP for the period 2000-2005 was very similar in Africa (4.07) to World average (4.26). The small difference of 0.19 in these rates only accounts for 17% of the difference in GDPH (1.13 points) between Africa and World while the difference in the rates of population growth (0.94) amounts for the remaining 83% of the African gap in the rate of growth of real GDP per inhabitant.

Table 2 shows the rates of annual growth rates of GDP, Population and GDP per capita, in percentage, of 38 African countries for the period 2000-2005.

Table 2. Rates of growth of GDP, POP and GDPH, 2000-2005 (%)

Country	Rate of GDP	Rate of POP	Rate of GDPH
Algeria	4.72	1.51	3.21*
Angola	6.62	2.83	3.79*
Benin	4.02	3.18	0.84
Botswana	4.64	0.13	4.51*
Burkina Faso	4.98	3.16	1.82
Burundi	3.03	3.03	0.00
Cameroon	3.05	1.88	1.17
Central African R.	-1.07	1.34	-2.41
Chad	16.51	3.42	13.09*
Congo D.R.	3.09	2.79	0.30
Congo R..	2.45	3.02	-0.57
Cote d'Ivoire	-0.73	1.63	-2.35
Egypt	3.95	1.91	2.04
Eritrea	4.15	4.26	-0.11
Ethiopia	4.80	2.06	2.75
Ghana	4.68	2.14	2.54

Guinea	2.81	2.17	0.64
Kenya	2.67	2.20	0.47
Lesotho	3.13	0.08	3.05
Madagascar	2.21	2.78	-0.57
Malawi	2.62	2.25	0.37
Mali	6.50	2.98	3.52*
Mauritania	5.80	2.97	2.83
Morocco	3.79	1.61	2.18
Mozambique	8.60	2.00	6.60*
Namibia	4.23	1.40	2.83
Niger	3.75	3.39	0.37
Nigeria	5.88	2.24	3.64*
Rwanda	5.14	2.38	2.76
Senegal	4.76	2.39	2.36
Sierra Leone	12.77	4.06	8.70*
South Africa	3.57	0.53	3.04
Tanzania	6.43	1.95	4.48*
Togo	2.33	2.72	-0.39
Tunisia	4.37	0.94	3.43*
Uganda	5.15	3.40	1.75
Zambia	5.40	1.73	3.67*
Zimbabwe	-5.56	0.65	-6.21
AFRICA	4.07	2.14	1.93

Note: GDP is Gross Domestic Product at current prices, POP is Population and GDPH is GDP per inhabitant. Data are Exponential rates of growth in percentage. Source: Own elaboration from WB(2007) statistics.

We notice that only a few countries got rates over the World average rate of growth of GDP per inhabitant (3.06): Algeria (3.21), Angola (3.79), Botswana (4.51), Chad (13.09), Mali(3.52), Mozambique(6.60), Nigeria(3.64), Sierra Leone (8.70), Tanzania (4.48), Tunisia (3.43) and Zambia (3.63). Those countries are starred in the table (\*). Some countries have experienced, unfortunately, a negative rate of change for the period 2000-2005, in their very low levels of real GDP per capita: Central African R., Congo R., Cote d'Ivoire, Eritrea, Madagascar, Togo and Zimbabwe.

Table 3 shows the evolution of Population (POP), and real GDP per inhabitant in African countries, in dollars at 2000 prices and PPPs. The last column is the difference between real GDPH in years 2005 and 2000.

Table 3. Population (POP) and GDP per capita in 38 African countries  
(thousand people and dollars at 2000 prices and PPPs)

Country	POP 2000	POP 2005	GDPH 2000	GDPH 2005	Increase of GDPH
Algeria	30463	32854	5418	6361	943
Angola	13841	15941	1795	2170	375
Benin	7197	8439	959	1000	41
Botswana	1754	1765	7702	9652	1950
Burkina Faso	11292	13228	998	1093	95
Burundi	6486	7548	584	584	0
Cameroon	14856	16322	1866	1978	112
Central African R.	3777	4038	1155	1024	-131
Chad	8216	9749	840	1616	776
Congo D.R.	50052	57549	669	679	10
Congo R..	3438	3999	958	931	-27
Cote d'Ivoire	16735	18154	1576	1401	-175
Egypt	67285	74033	3599	3985	386
Eritrea	3557	4401	912	907	-5
Ethiopia	64298	71256	781	896	115
Ghana	19867	22113	1893	2149	256
Guinea	8434	9402	1976	2040	64
Kenya	30689	34256	1018	1042	24
Lesotho	1788	1795	2122	2472	350
Madagascar	16195	18606	825	802	-23
Malawi	11512	12884	586	597	11
Mali	11647	13518	780	930	150
Mauritania	2645	3069	1730	1993	263
Morocco	27838	30168	3545	3954	409
Mozambique	17911	19792	877	1220	343
Namibia	1894	2031	6058	6980	922
Niger	11782	13957	703	716	13



Nigeria	117608	131530	882	1058	176
Rwanda	8025	9038	1039	1193	154
Senegal	10343	11658	1435	1615	180
Sierra Leone	4509	5525	466	720	254
South Africa	44000	45192	9488	11044	1556
Tanzania	34763	38329	522	653	131
Togo	5364	6145	1439	1411	-28
Tunisia	9564	10022	6252	7423	1171
Uganda	24309	28816	1249	1363	114
Zambia	10702	11668	774	930	156
Zimbabwe	12595	13010	2499	1832	-667
AFRICA	747231	831800	2118	2333	215
World	60061854	6437784	7329	8541	1212

Source: WB(2007) and own elaboration from that source. Population is measured in thousand people and GDP per capita in dollars at prices and Purchasing Power Parities (PPPs) of year 2000. The last column is the increase of GDPH.

As seen in Guisan and Exposito (2006) and (2007), and other studies, the low educational level of many African countries is the main variable explaining their low level of GDP per capita, their high degree of poverty and their low levels of expenditure on health per inhabitant. It is also an important cause of the low levels of industrial development, because with so low level of real income per capita they cannot afford to reach a high level of industrial investment per inhabitant. Micro-credits in the line proposed by Thraen and Paxton(2003), Bobel(2005) and other authors are interesting and it is also important to increase international cooperation for investment with low risk credits supported by a system of international guarantees.

#### **4. Production by sector: Agriculture, Industry and Services**

The following tables present the evolution of real Value-Added per inhabitant in African countries for the period 2000-2005. Values are expressed in dollars at 2000 prices and purchasing power parities (PPPs). Values at exchange rates would be generally much lower for

these countries but less representative of the purchasing power in the domestic market. Each table includes real Value-added in million dollars (VA), real Value-added per capita in dollars (VA pc), and the increase in real VA pc during the period. Table 4 presents the evolution of real Value-Added per capita in Agriculture (including also Fishing and Forestry). Table 5 presents data of Industry (including Energy, Mining, Manufacturing and Building) and table 6 presents data of real Value-Added per capita in Services.

Table 4. Real Valued Added, total and per capita, of Agriculture in Africa (million dollars and dollars pc at 2000 prices and PPPs)

Country	VA 2000	VA 2005	VA pc 2000	VA pc 2005	Increase of VA pc
Algeria	12974	18182	426	553	128
Angola	1149	2089	83	131	48
Benin	2575	3212	358	381	23
Botswana	331	369	189	209	20
Burkina Faso	3830	4891	339	370	31
Burundi	1500	1359	231	180	-51
Cameroon	10506	12569	707	770	63
Central African R	2276	2605	603	645	42
Tchad	2681	3100	326	318	-8
Congo Dem. Rep.	15186	15393	303	267	-36
Congo Rep.	192	252	56	63	7
Cote d'Ivoire	6154	6251	368	344	-23
Egypt Arab Rep.	36936	43843	549	592	43
Eritrea	524	606	147	138	-10
Ethiopia	23393	29413	364	413	49
Ghana	13785	17846	694	807	113
Guinea	3668	4563	435	485	50
Kenya	9122	10130	297	296	-2
Lesotho	806	767	451	427	-23
Madagascar	3618	3979	223	214	-10
Malawi	2392	2285	208	177	-30
Mali	3474	4304	298	318	20
Mauritania	877	905	332	295	-37
Morocco	13970	19194	502	636	134
Mozambique	3412	5215	190	264	73
Namibia	1090	1123	576	553	-23

Niger	2957	-	251	-	-
Nigeria	26659	34245	227	260	34
Rwanda	3125	3925	389	434	45
Senegal	2833	3123	274	268	-6
Sierra Leone	-	-	-	-	-
South Africa	11635	12103	264	268	3
Tanzania	7256	9329	209	243	35
Togo	2528	2911	471	474	2
Tunisia	7519	8988	786	897	111
Uganda	9590	11814	395	410	15
Zambia	1651	1782	154	153	-2
Zimbabwe	4892	3142	388	241	-147
Africa (36 countries)	254109	305807	348	376	29

Note: Agriculture includes Farming, Forestry and Fishing. Values for Africa exclude 2 countries with unavailable data (-). Source: Own elaboration based on values at constant prices and exchange rates, population and factor of PPPs/Exchange rates from WB(2007).

Table 5. Real Value-Added, total and per capita, of Industry in Africa (million dollars and dollars pc at 2000 prices and PPPs)

	VI 2000	VI 2005	VI pc 2000	VI pc 2005	Increase
Algeria	88332	106085	2900	3229	329
Angola	14631	23560	1057	1478	421
Benin	978	1209	136	143	7
Botswana	5905	7493	3366	4245	879
Burkina Faso	1835	-	162	-	-
Burundi	700	506	108	67	-41
Cameroon	4850	4886	326	299	-27
Central African R	824	1000	218	248	30
Chad	738	3900	90	400	310
Congo D.R.	6164	9171	123	159	36
Congo R.	2610	-	759	-	-
Cote d'Ivoire	5867	5187	351	286	-65
Egypt A.R.	73100	82990	1086	1121	35
Eritrea	794	-	223	-	-
Ethiopia	6100	8073	95	113	18
Ghana	9731	12231	490	553	63

Guinea	5658	6705	671	713	42
Kenya	4770	5528	155	161	6
Lesotho	1778	1956	994	1089	95
Madagascar	1800	1989	111	107	-4
Malawi	1085	1281	94	99	5
Mali	1719	2400	148	178	30
Mauritania	1727	2145	653	699	46
Morocco	32255	38882	1159	1289	130
Mozambique	3485	5881	195	297	103
Namibia	2816	3906	1487	1923	437
Niger	1387	-	118	-	-
Nigeria	40300	51205	343	389	47
Rwanda	1546	1996	193	221	28
Senegal	3003	-	290	-	-
Sierra Leone	-	-	-	-	-
South Africa	112903	130624	2566	2890	324
Tanzania	2537	4006	73	105	32
Togo	1317	1844	245	300	55
Tunisia	17378	20609	1817	2056	239
Uganda	5214	7410	215	257	43
Zambia	1869	2741	175	235	60
Zimbabwe	6608	3933	525	302	-222
Africa (32 countries)	464685	561332	662	721	59

Note: Industry includes Manufacturing, Mining, Energy and Building. Values for Africa exclude 6 countries with unavailable data (-). Source: Own elaboration based on values at constant prices and exchange rates, population and factor of PPPs/Exchange rates from WB(2007).

Table 6. Real Value-Added, total and per capita, of Services in Africa  
(million dollars and dollars pc at 2000 prices and PPPs)

	VS 2000	VS 2005	VS pc 2000	VS pc 2005	Increase
Algeria	46556	63021	1528	1918	390
Angola	4507	5958	326	374	48
Benin	3494	4166	485	494	8
Botswana	5317	6605	3031	3742	711
Burkina Faso	5643	9665	500	731	231
Burundi	1518	2576	234	341	107
Cameroon	11961	17211	805	1054	249

Central African R	1024	576	271	143	-128
Chad	2914	4343	355	445	91
Congo Dem. Rep.	9036	11664	181	203	22
Congo Rep.	816	-	237	-	-
Cote d'Ivoire	14713	14741	879	812	-67
Egypt Arab Rep.	110598	138626	1644	1872	229
Eritrea	2147	-	604	-	-
Ethiopia	19547	23840	304	335	31
Ghana	14777	18900	744	855	111
Guinea	6442	7174	764	763	-1
Kenya	14295	16505	466	482	16
Lesotho	1750	2189	979	1219	241
Madagascar	7025	7729	434	415	-18
Malawi	2573	3019	224	234	11
Mali	3163	4300	272	318	47
Mauritania	1959	2682	741	874	133
Morocco	54788	66130	1968	2192	224
Mozambique	6196	8977	346	454	108
Namibia	6029	7423	3183	3655	471
Niger	3470	-	294	-	-
Nigeria	25570	32945	217	250	33
Rwanda	2875	3796	358	420	62
Senegal	8777	-	849	-	-
Sierra Leone	-	-	-	-	-
South Africa	230709	285282	5243	6313	1069
Tanzania	6319	8452	182	221	39
Togo	3539	3517	660	572	-87
Tunisia	35944	46241	3758	4614	856
Uganda	10881	15429	448	535	88
Zambia	3877	4690	362	402	40
Zimbabwe	14950	6067	1187	466	-721
Africa (33 countries)	690489	854439	968	1000	32

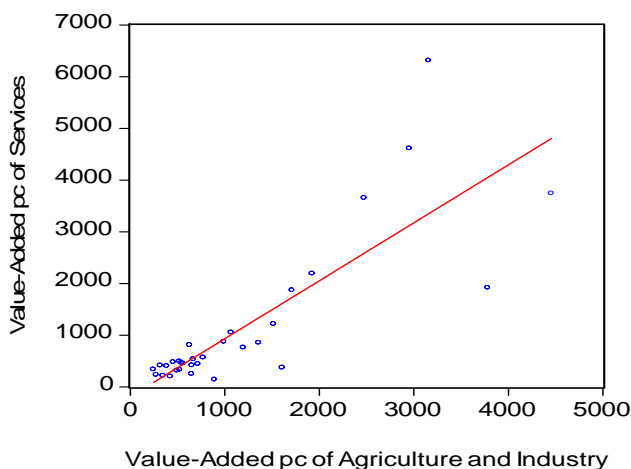
Note: Values for Africa exclude 5 countries with unavailable data (-).  
Source: Own elaboration based on values at constant prices and exchange rates, population and factor of PPPs/Exchange rates from WB(2007).

Having into account that, accordingly to the calculation by Guisan, Aguayo and Exposito(2001) World averages in 1999 where 591

dollars per capita for Agriculture, 2285 for Industry and 4154 for services, we conclude that convergence of many African countries with those averages is evolving very slowly. Only South Africa and Tunisia present data of real Value-Added per inhabitant in Services in year 2005 higher than the World average of year 1999. Africa as a whole, with only 1000 dollars per capita in Services is very far from that value, and has experienced very little increase in the period 2000-2005.

Graph 1 shows the relationships between real Value-Added per capita of Services and the sum of Agriculture and Industry, in years 2005. Higher values than expected according to the average behavior are usually due to the effect of tourism on services and other variables.

Graph 1. Value-added per capita of Services related with Industry and Agriculture of 38 African countries in 2005 (\$ at 2000 prices and PPPs)



The low values of industrial production per capita are the main explanation for the low values of development of services, and thus the importance to give priority to this question.

In Guisan(2006) and (2007) international econometrics models are presented which have into account the positive direct and indirect effects of industry on foreign trade and non industrial sectors.

In order to increase domestic savings and investments per inhabitant it is important to improve the educational level of population having into account their positive effects on the moderation of the population growth and the increase of production per capita, but it is important to notice that domestic investment is not enough to guarantee a fast development in Africa and that foreign investment addressed to improved development should be fostered by international institutions.

#### **4. Industrial indexes in African countries, 2000-2005**

Table 7 shows the evolution of industrial indexes in 19 African countries with available data at the United Nations Statistical website (see UN(2007)), accordingly to the following groups of industries:

##### **Industry groups for prod. indices (ISIC/Rev.3)**

15A Food, beverages, tobacco
17B Textiles, wearing apparel, leather, footwear
23B Chemicals, petroleum, rubber and plastic products
28G Metal products
40_10 Electricity
C Total mining
CDE Total industry - mining, manufacturing and electricity
D Total manufacturing
27 Basic metals

Regarding the general index of Industry we notice that only Malawi (154), Mali (164), and Senegal (149) present an index higher than those of India (136) and other dynamic developing countries. Uganda and Tanzania show high indexes of manufacturing but the information for some groups and the industrial index was not available.

Table 7. Industrial indexes in Africa year 2005 (year 2000=100)

Country or Area	15A Food	17B Textil	23B Chemicals	27 Basic Metal	28G Metal Prod.	40 Electric	C Mining	Industry	Manufacturing
Algeria	40.5	83.8	89.8	152	115	135	114	104	89.8
Cameroon <sup>a</sup>	-	-	-	-	-	117	-	111	125
Egypt <sup>a</sup>	64.3	92.4	160	93.5	83.0	-	-	-	115
Ethiopia <sup>a</sup>	-	-	-	-	-	137	139	127	122
Gabon <sup>a</sup>	115.9	-	127	-	129	-	-	124	120
Kenya <sup>a</sup>	123.5	144	140	-	188	-	156	120	118
Madagascar	137.6	120	108	-	149	143	96.2	131	130
Malawi	89.2	74.4	-	-	-	121	-	154	100
Mali	122.4	142 <sup>a</sup>	70.2	-	-	-	-	164	-
Mauritius	121.0	68.8	77.4	101	234	131	46.9	97	93.8
Morocco <sup>a</sup>	123.4	93.5	115	157	119	165	115	128	116
Namibia	-	-	-	-	-	105	140	127	128
Senegal	149.1	66.5	105	-	75.5	144	96.6	149	153
South Africa <sup>a</sup>	118.7	97.2	115	106	118	116	112	113	114
Tunisia	111.5	95.9	98.1	84.7	136	127	99.7	111	112
Uganda	347.7	82.9	158	247	87.4	-	-	-	146
Tanzania	172.9	170	175	166	75.2	-	-	-	157
Zambia	141.9	71.0	87.7	68.6	94.8	110	168	133	117
Zimbabwe	53.9	69.6	86.6	68.8 <sup>b</sup>	68.8 <sup>b</sup>	147	-	-	64.1

Note: countries with <sup>a</sup> present some statistical notes at the statistical source.  
Source: Extracted, from UN(2007).

A second group, with values below 136 and higher than 120 includes Ethiopia (127), Gabon (124), Madagascar (131), Morocco (128), Namibia (127) and Zambia (133). A third group includes countries with industrial index (or manufacturing index in case of non available data for total industry) higher than 100 and lower than 121: Algeria (104), Cameroon (111), Egypt (115), Kenya (120), South Africa (113) and Tunisia (111).

The lowest values of the industrial index (or the manufacturing index in case of non available date for industry) were Mauritius with 97 in the general index and Zimbabwe with 64.1 in the manufacturing index. In the case of Mauritius it is clear that industry



is not so necessary for development because this country has an important focus on tourism which has an important role in its economic development, but in the other countries of the table industry is clear necessary to foster development. Tourism is useful in many countries but usually only small countries with high intensity of tourism may reach a high development without industry.

## **5. Conclusions**

It should be of great interest for the analysis of evolution of African countries to increase the availability of socio-economic statistics, for example regarding the average years of schooling of population, which should be published each year, or at least updated each two years. It is difficult to analyze if improvements in education are enough when we do not have enough statistical information for this purpose. As stated by some authors it is important to foster economic cooperation not only to finance children schooling but also to improve general education of adults.

In this study we have analyzed the evolution of production by sector in Africa for the period 2000-2005. An overview of African development during this period shows a generally slow advance in industrial production. Trade between African countries is generally low and should be improved, together with industrial development, so the industrial companies would benefit from wider markets, and countries would benefit from exports and imports of complementary goods to improve their development.

Industrial indexes show that only a few African countries have shown a clear improvement of industrial production. Regarding real value-added of industry in year 2005 in Africa, the increase has been lower than 10% in five years, from 662 dollars per capita in 2000 to 721 dollars in 2005, with a meager increase of 59 dollars per capita, at prices and parities of year 2000. These figures are far below the world average and the values achieved by many emerging developing countries in Asia or other areas. International cooperation

to development in Africa should be fostered in a higher degree, including an international system of guarantees to foster productive investments in African industries addressed to development.

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<sup>1</sup> <http://ideas.repec.org>

<sup>2</sup> <http://www.usc.es/economet/ea.htm>

<sup>3</sup> <http://www.un.org/documents/ecosoc/cn9/1996/english/ecn91996-7.htm>

<sup>4</sup> <http://unstats.un.org/unsd/default.htm>