

## **THE ECONOMIC DEVELOPMENT OF AFRICAN AND ASIA-PACIFIC AREAS IN 1951-99**

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### ***Abstract:***

During the second half of the 20<sup>th</sup> century Asia as a whole experienced a much higher increase in production per inhabitant than Africa, due to several factors which caused improvements in industrial development and moderation in the rates of population growth. We present a comparison, at area level, of economic growth and production by sector in Africa and Asia-Pacific, analysing the main differences in economic development among these areas during the 20<sup>th</sup> century, with special reference to the period 1980-99.

JEL classification: E6, F0, L6, O1, O53, O55, O57

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### **1. Rates of Growth of real Gdp and Population in Africa and Asia in the 20<sup>th</sup> century**

In World terms, the main feature of the 20<sup>th</sup> century was the high increase in Population favoured by improved health conditions and the advancement of scientific knowledge. These conditions have increased life expectancy in all countries but there are important differences in the population growth between countries with high and low educational levels.

The advancement of health was accompanied, in some countries, by an improvement in the educational level of the population, and in those cases there was significant moderation in fertility rates, so that the low rate of growth of population, generally favoured an increase in development measured by real Gross Domestic Product per inhabitant and other similar measures.

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In countries with low educational levels, fertility rates were far too high, making it impossible in many cases to achieve any significant increase in real Gross Domestic Product per inhabitant, Gdph, as the rate of growth of Population was similar to, or even greater than the rate of growth of Gdp.

Table 1 shows the evolution of population in Africa, Asia-Pacific and the world in 1980-99. As there are important differences among different groups of countries of each of these two major areas, we include in tables 2 and 3 exponential rates of growth and factors of increase, for several areas of each continent.

Table 1  
Evolution of Population in 1980-1999 by continent and World shares (millions of people and percentages)

	Pop80	Pop90	Pop99	% 1980	% 1990	% 1999
Africa	466.4	629.6	777.7	10.53	11.97	13.03
Asia-Pacific	2553.6	3073.0	3512.8	57.66	58.40	58.84
World	4428.6	5262.0	5970.5	100	100	100

Note: Population also includes countries with less than one million people.

Population increase has been significant during the two last decades of the 20<sup>th</sup> century in both major areas, with a 67% increase in Africa and 38% in Asia, while world population increased by 35%.

As we shall see in the next article of this issue, the main factor explaining the difference between African and Asian population growth, is educational level of the population, which is generally higher in many Asian countries.

The educational level of the population favours the lowering of excessive fertility rates, as already shown in several econometric models such as those of Guisan, Aguayo and Exposito(2001), and in IADB(2001).

Table 2

Rates of growth of Production, Population, and Production per inhabitant (exponential rates of yearly growth in %, 1980-90 and 1990-99)

Area	Exp. Rate of Production		Exp. Rate of Population		Exp. Rate of Ph	
	(1)	(2)	(3)	(4)	(5)	(6)
North+South Africa	3.01	2.52	2.83	1.82	0.18	0.70
West+Central+East Afr.	1.88	1.25	3.09	2.60	-1.21	-1.35
NW +West Asia	1.71	3.79	3.17	2.43	-2.08	1.36
China and N.E. Asia	6.08	5.69	1.35	1.01	4.73	4.34
Southern Asia	4.65	5.48	2.09	1.72	2.56	3.76
Total Africa	2.59	2.08	3.00	2.35	-0.41	-0.27
Total Asia-Pacific	4.65	5.44	1.85	1.49	2.80	3.95
World	3.03	2.82	1.72	1.40	1.31	1.42

Note: Columns (1), (3) and (5) correspond to 1980-90 and columns (2), (4) and (6) to 1990-99. The exponential rate of growth of Ph (Production per inhabitant) is the difference between the rates of Production and Population

In the case of Africa, the Northern and Southern areas generally performed much better than the Western, Central and Eastern Areas, due to both higher rates of growth in real Gdp and to lower rates of increase in Population.

The rate of growth of real Gdp was similar to world average in Northern and Southern areas of Africa in the period 1980-90, with an average yearly rate of 3.01%, higher than the rate of Western, Central and Eastern Africa with only 1.88%. Both rates dropped during the period 1990-99 to levels below world average. The rate of growth of real Gdp was very low in the case of the poorest African areas, with only 1.25% during the period 1990-99.

As a consequence of the coincidence of low rates of growth of real Gdp and high rates of growth of population the poorest African areas experienced negative rates of growth of real Gdp per inhabitant in the periods 1980-90 and 1990-99.

In Asia, Northern and Southern areas generally performed better than Western and South Western areas, also due to greater increases in real Gdp and to more moderate growth of Population. Northern Asia showed the highest values of rates of growth of real Gdp per inhabitant, with an average yearly rate of 4.73%, in the period 1980-90, and of 4.34% in the period 1990-99.

Table 3

Factors of increase of Production, Population and Production per inhabitant (ratios 1990/80 and 1999/1990)

Area	Factor of Production		Factor of Population		Factor of Ph	
	(1)	(2)	(3)	(4)	(5)	(6)
North+South Africa	1.35	1.25	1.33	1.18	1.02	1.06
West+Central+East Afr.	1.20	1.12	1.36	1.26	0.88	0.89
NW +West Asia	1.19	1.41	1.37	1.24	0.86	1.13
China and N.E. Asia	1.84	1.67	1.14	1.10	1.60	1.52
Southern Asia	1.59	1.64	1.23	1.17	1.29	1.40
Total Africa	1.30	1.21	1.35	1.24	0.96	0.98
Total Asia-Pacific	1.59	1.63	1.20	1.14	1.32	1.43
World	1.35	1.29	1.19	1.13	1.14	1.14

Note: The factor of increase of Ph in each period is equal to the quotient between the factors of Production and Population. Columns (1), (3) and (5) correspond to the ratios 1990/1980 and columns (2), (4) and (6) to 1999/1990.

On the other hand the following tables show the evolution of average yearly rates of growth during the 20<sup>th</sup> century for Africa, Asia and the World.

In the case of Asia the figures correspond to the countries included in the study by Maddison(2001), and thus it includes Central Asia and excludes Australia and New Zealand. We present the figures for Japan separately to those for the rest of Asia as this country had a different evolution to other Asian countries, with much higher rates of growth of Gdp and much lower rates of growth of Population.

Table 4

Exponential rates of yearly growth, in percentage, 1913-1998: Gdp

Area	1913-50	1950-73	1973-98	1950-98	1913-98
Africa	2.65	4.35	2.70	3.49	3.12
Japan	2.19	8.88	2.93	5.78	4.22
Asia excl. Japan	0.90	5.05	5.32	5.19	3.32
World	1.83	4.79	2.97	3.84	2.97

Source: Own calculation from Gdp figures by Maddison(2001).

Table 5

Exp. rates of yearly growth, in percentage, 1913-1998: Population

Area	1913-50	1950-73	1973-98	1950-98	1913-98
Africa	1.64	2.30	2.69	2.50	2.12
Japan	1.30	1.14	0.61	0.86	1.05
Asia excl. Japan	0.92	2.17	1.84	2.00	1.53
World	0.93	1.90	1.65	1.77	1.40

Source: Own calculation from Gdp figures by Maddison(2001).

Table 6

Exponential rates of yearly growth, percentage, 1913-1998: Gdph

Area	1913-50	1950-73	1973-98	1950-98	1913-98
Africa	1.01	2.05	0.01	0.99	1.00
Japan	0.89	7.74	2.32	4.92	3.17
Asia excl. Japan	-0.02	2.88	3.48	3.19	1.79
World	0.90	2.89	1.32	2.07	1.56

Note: Exp.rate of Gdph= Exp.rate of Gdp-Exp.rate of Pop.

Table 7

Exp. rates of yearly growth in 1950-98: Gdp, Pop, and Gdph

Area	Rate of Gdp	Rate of Pop	Rate of Gdph
Africa	3.49	2.50	0.99
Japan	5.78	0.86	4.92
Asia excl. Japan	5.19	2.00	3.19
World	3.84	1.77	2.07

Source: Own elaboration based on figures from Maddison(2001)

According to figures in table 7 Japan had the highest growth rate of Gdph, because it experienced a very high average rate of 5.78% in real Gdp and a low rate in population growth of 0.86%. The difference between both values gives an average rate of yearly growth in Gdp per inhabitant of 4.92% making Japan among the top positions in world terms.

On the whole the other Asian areas also experienced a high average growth rate of real Gdp, 5.19%, which was much bigger than the growth rate of population, 2%. They therefore experienced an average yearly growth rate of real Gdp per inhabitant of 3.19% which was greater than the world average of 2.97%.

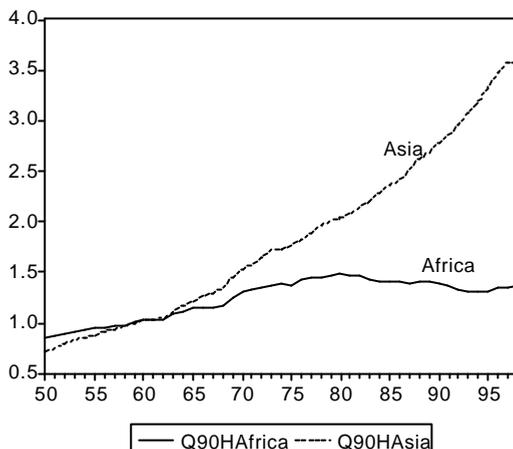
During the second half of 20<sup>th</sup> century African countries generally experienced low rates of growth of real Gdp with an average of only 3.49% and experienced very high growth rates of population with an average of 2.50%, which was over the world average. The difference between both percentages gives an average rate of growth of real Gdp per inhabitant of only 0.99%.

Graph 1 shows the differences in evolution between Africa and Asia-Pacific in the second half of twentieth century.

There is a big difference in average growth rate of Gdp per inhabitant, with more than 3% in Asia, and approximately 1% in Africa, over half a century.

The main causes of this difference are education and industrial development, which have generally evolved more positively in Asia than in Africa as we can see in the following sections regarding industrialization at area level and in other reports which analyse both industrial development and education at country level, such as Guisan and Exposito(2001).

Graph 1  
 Gross Domestic Product per inhabitant. Africa and Asia  
 (thousands of dollars at 1990 prices and PPPs)



The growth rate of real Gdp per inhabitant is a great deal lower in Africa than in Asia. During the period 1950-98 the highest rate of Gdph in this table corresponds to Japan, at 4.92% per annum, followed by the rest of Asia with 3.19%, then World average with 2.07% and finally, the last place corresponds to Africa with just 0.99%.

The rate of growth of real Gdp in Africa was lower than World average but its rate of growth of population was higher, therefore the difference between both values, that is the rate of growth of Gdph, was lower than World average.

The following figures show the relation between exponential rates of growth and multiplying factors, and table 8 presents the values of these factors for the period 1950-98.

*Africa:*

$$F(\text{Gdp}) = \exp(0.0349 \cdot 48) = 5.34; \quad F(\text{Pop}) = \exp(0.0250 \cdot 48) = 3.32$$

$$F(\text{Gdph}) = \exp(0.0099 \cdot 48) = F(\text{Gdp})/F(\text{Pop}) = 5.34/3.32 = 1.61$$

*Japan:*

$$F(\text{Gdp}) = \exp(0.0578 \cdot 48) = 13.88; \quad F(\text{Pop}) = \exp(0.0086 \cdot 48) = 1.51$$

$$F(\text{Gdph}) = \exp(0.0492 \cdot 48) = F(\text{Gdp})/F(\text{pop}) = 13.88/1.51 = 9.19$$

*Asia excluding Japan:*

$$F(\text{Gdp}) = \exp(0.0519 \cdot 48) = 12.08; \quad F(\text{Pop}) = \exp(0.0200 \cdot 48) = 2.61$$

$$F(\text{Gdph}) = \exp(0.0319 \cdot 48) = F(\text{Gdp})/F(\text{Pop}) = 12.08/2.61 = 4.63$$

*World:*

$$F(\text{Gdp}) = \exp(0.0384 \cdot 48) = 6.32; \quad F(\text{Pop}) = \exp(0.0177 \cdot 48) = 2.34$$

$$F(\text{Gdph}) = \exp(0.0207 \cdot 48) = F(\text{Gdp})/F(\text{Pop}) = 6.32/2.34 = 2.70$$

The factor of Gdph is equal to the quotient between the factor of real Gdp and the factor of Population and thus is equal to the exponential of the difference between the yearly average rates of growth of Gdp and Population, multiplied by the number of years in the period.

Table 8  
Factors of multiplying GDP, Population and Gdph, 1950-98  
(ratios 1998/1950)

Area	F(Gdp)	F(Pop)	F(Gdph)
Africa	5.34	3.32	1.61
Japan	13.88	1.51	9.19
Asia excl. Japan	12.08	2.61	4.63
World	6.32	2.34	2.70

Source: Own elaboration based on figures published  
By Maddison(2001)

So, Africa only multiplied its real value of Gdph by 1.61 in the period 1950-98 while world average multiplied by 2.70, Asia excluding Japan by 4.63 and Japan by an incredibly high factor of 9.19.

These figures make clear the great importance that both the increase in the rate of growth of real Gdp, and the moderation of the rate growth of Population have, on improving Gdp per inhabitant.

The main variable that affects an increase in Gdph is education, as it acts positively on real Gdp increase and negatively on Fertility rates, as shown in Guisan, Aguayo and Exposito(2002) and in other econometric models.

Besides that, education generally improves industrial development and therefore its role in development is much more substantial than is usually thought to be the case.

In the sections to follow we analyse the evolution of industrialization and production by sector in Africa and Asia-Pacific, at area level.

## **2.- Production by sector and inhabitant in Africa and Asia-Pacific**

In tables 9 and 10 we present the values of real production per inhabitant in Agriculture, Industry and Services in Africa and Asia-

Pacific. In the case of Asia the areas corresponding to former USSR are excluded as those countries are analysed in the group formed by Europe and North West Asia in another issue of *Applied Econometrics and International Development, AEID, Vol.1-1*.

The areas and countries included in Africa and Asia-Pacific are listed in sections 3 and 4, where we present the values of production by sector at area level.

Analysis of other variables in the large areas of Africa and South Pacific, such as human capital and external trade, will be presented in forthcoming issues of this journal.

Table 9

Production per inhabitant in Africa and Asia Pacific:  
Agriculture and Industry (dollars at 1999 prices and PPPs)

	Ph80a	Ph90a	Ph99a	Ph80i	Ph90i	Ph99i
Africa	430	416	422	801	716	665
Asia-Pacific	430	532	629	761	1056	1695
World	462	529	591	1732	1940	2285

Table 10

Production per inhabitant in Africa and Asia Pacific:  
Services and Total (dollars at 1999 prices and PPPs)

	Ph80s	Ph90s	Ph99s	Ph80t	Ph90t	Ph99t
Africa	981	991	987	2212	2123	2074
Asia-Pacific	1133	1487	2065	2324	3076	4389
World	3240	3721	4154	5434	6191	7031

The main source of data used was World Bank Economic Indicators 2000. In the case of missing statistics we have used other international data. We have also revised some data when the figures from World Bank showed relatively high discrepancies when compared with other international sources such as Maddison(2001) and Akal(2001). Purchasing Power Parities, PPPs, of United Nations were applied from the latter data source.

Agriculture includes agriculture, cattle raising and other farming activities, as well as fishing and forestry. Industry includes mining, energy, manufacturing and building. Services includes all kinds of private and public services such as trade, transport, financial services, education, administration, and health services.

We have calculated real gross domestic product by sector at 1999 prices and PPPs, according to rates of real growth from international sources, for each country for years 1980, 1990 and 1999. We then summed them up to find the values for each area and continent.

From tables 1 and 2 we can come to the following conclusions:

1) Production per inhabitant in Agriculture had moderate values both at continent level and world level and increased little during the period 1980-99.

Africa has a level of production per inhabitant in this sector lower than world average while Asia has evolved from a below average value in 1980 to a value higher than world average in 1999.

2) Both Africa and Asia have average values of production per inhabitant in Industry which are clearly below world average, but the situation is much better in Asia than in Africa.

In Africa, the situation worsened from 1980 to 1999 as the average value of industrial production went from a value of 801 constant dollars in 1980 to a value of only 665 in 1999.

In Asia, the situation improved a great deal from 1980 to 1999, as the average value of industrial production changed from only 761 constant dollars in 1980 to 1695 in 1999.

So the low level of industrialization of Africa and Asia was very similar in 1980 but the comparison is very different for 1999, with Asia reaching a value 2.5 times superior to that of Africa.

3) The value of production per inhabitant in Services is clearly related to the sum of production per inhabitant in the other sectors, so it is greater at world level than in Asia, and higher in Asia in comparison with Africa.

4) The value of total production per inhabitant has begun a sustained growth in Asia which requires fortification, but in Africa the situation is of greater poverty and stagnation and even of recession in many areas.

According to our estimations the value of this variable in Africa in 1999 was lower than the value for Spain in 1900 and less than half the value for the USA in 1900. It represents only about 12% of the value for Spain in 1999 and 6% of the value for the USA.

The situation in Asia has improved and in 1999 it was similar to that of Spain in 1960, and to the European Union average and the USA at the beginning of the 20<sup>th</sup> century.

As Spain has trebled its value of production per inhabitant in the last four decades of the last century, we can expect that Asia will achieve similar results in the early decades of the 21<sup>st</sup> century.

Considering the important share of world population corresponding to Asia, it is very important to improve international cooperation in industrial development there in order to guarantee that the environmental consequences for the world are not excessively negative.

There should be more awareness in the richest countries that international cooperation is necessary in many ways and not just through help towards the poorest groups of a population, but also by improving cooperation in education, infrastructures, transport means, and other factors that make people more productive, less reproductive and more prepared to care for nature and environmental conditions.

The significant differences between the situation in Africa and Asia have a lot to do with these factors. The greater evolution of Asia compared with Africa is due in a great part, to the more substantial improvement in the educational level of the population which occurred in Asia.

In sections 3 and 4 we present a more detailed evolution of production by sector in 6 large areas of Africa and 6 large areas of Asia.

On the other hand, tables 11 to 14 show the evolution of real Gross Domestic Product by sector in Africa and Asia, including all the countries of the corresponding areas and not only countries with more than one million people, but also the smaller ones.

We include also their shares on world production by sector, and we see that in all sectors African share diminished during the period 1980-99, while Asia experienced a high increase in all their shares during the same period.

Table 11

Production in Agriculture and World shares: Africa and Asia-Pacific (Billions of dollars at 1999 prices and PPPs, and percentages)

	q80a	q90a	q99a	% 80	% 90	% 99
Africa	200.4	261.7	328.2	9.79	9.40	9.29
Asia-Pacific	1097.3	1634.9	2210.0	53.61	58.76	62.59
World	2046.7	2782.4	3531.0	100	100	100

Table 12

Production in Industry and World shares: Africa and Asia-Pacific (Billions of dollars at 1999 prices and PPPs, and percentages)

	q80i	q90i	q99i	% 80	% 90	% 99
Africa	373.7	451.1	516.9	4.87	4.42	3.79
Asia-Pacific	1944.3	3246.5	5953.9	25.35	31.79	43.64
World	7668.5	10210.7	13642.2	100	100	100

Table 13

Production in Services and World shares: Africa and Asia  
(Billions of dollars at 1999 prices and PPPs and percentages)

	q80s	q90s	q99s	% 80	% 90	% 99
Africa	457.3	624.0	767.6	3.18	3.19	3.09
Asia-Pacific	2893.6	4569.9	7553.0	20.17	23.34	29.24
World	14348.0	19579.1	24803.8	100	100	100

Table 14

Gross Domestic Product and World shares: Africa and Asia- Pacific  
(Billions of dollars at 1999 prices and PPPs and percentages)

	q80t	q90t	q99t	% 80	% 90	% 99
Africa	1031.4	1336.8	1612.7	3.19	3.19	3.09
Asia-Pacific	5935.2	9451.3	15416.8	20.17	23.34	29.24
World	24063.1	32572.2	41976.9	100	100	100

### 3.- Production by sector in large areas of Africa

Tables 15 and 16 show the values of real production, measured by real value-added, per inhabitant in Industry and Services in 6 large areas of Africa. The values of production per inhabitant were calculated with the available data of countries of more than one million people.

The areas and countries included in Africa with more than one million people are the following:

1. *North Africa*: Algeria, Egypt, Libia, Mauritania, Morocco, and Tunisia

2. *North West Africa*: Benin, Ivory Coast, Ghana, Guinea, Nigeria, Senegal, Sierra Leona and Togo

3. *Sahel and Central Africa*: Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo Kinshasa (ex-Zaire), Congo Brazzaville, Mali, Niger and Rwanda.

4. *North East Africa*: Eritrea, Ethiopia, Somalia and Sudan

5. *East Africa*: Kenya, Madagascar, Tanzania, Uganda and African-Oceanic islands.

6. *Southern Africa*: Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe

This classification is based on population size and several international criteria used by the United Nations and economic cooperation organisations of major regions, which present several options for grouping countries.

Population size in 1999, according to our classification varies between 100 and 200 million people for each area.

Data are expressed at 1999 prices and purchasing power parities, based on our own calculations from international data published by World Bank, United Nations, and other institutions.

Table 15  
Production per inhabitant in Agriculture and Industry in areas of Africa (dollars at 1999 prices and PPPs)

Area	Ph80a	Ph90a	Ph99a	Ph80i	Ph90i	Ph99i
1. Northern Africa	537	613	636	1423	1513	1565
2. North West Africa	410	391	401	605	444	434
3. Sahel-Central Africa	526	485	481	464	413	190
4. North East Africa	406	312	311	52	42	58
5. Eastern Africa	335	316	317	118	120	141
6. Southern Africa	322	316	324	1920	1602	1542
Total Africa	430	416	422	801	716	665
World	462	529	591	1732	1940	2285

Source: Own elaboration based on World Bank and international statistics.

Table 16  
Production per inhabitant in Services and Total in areas of Africa  
(dollars at 1999 prices and PPPs)

Area	Ph80s	Ph90s	Ph99s	Ph80t	Ph90t	Ph99t
1. Northern Africa	1291	1609	1901	3252	3734	4102
2. North West Africa	434	414	438	1448	1249	1273
3. Sahel-Central Africa	935	823	326	1925	1720	997
4. North East Africa	215	216	303	673	570	672
5. Eastern Africa	370	369	407	822	805	865
6. Southern Africa	2716	2556	2748	4958	4474	4614
Total Africa	981	991	987	2212	2123	2074
World	3240	3721	4154	5434	6191	7031

Source: Own elaboration based on World Bank and international statistics.

In Agriculture, the areas with the lowest values were *North East Africa*, with an estimated value in 1999 of only 311, *East Africa* with 317 and *South Africa* with 324. The highest value corresponds to North Africa where the value of this variable increased from a value at constant prices of 537 dollars in 1980 to 613 in 1980 and 636 in 1999, this being the only African area with a value higher than World average.

In Industry all the areas were below world average, with the highest values in *Northern Africa* and *Southern Africa*, and the lowest in North East Africa. The negative trend of this variable in several areas like *North West Africa* and *Sahel and Central Africa* are worryingly prominent.

The level of value-added of Services in Africa per inhabitant is also very low. Because the value of this variable depends heavily on the values of the other sectors it is very important to improve the level of industrialization in all areas to promote the development of Services.

On the other hand, table 17 presents the total value of estimated real Gdp and Population in the 6 areas of Africa, including

not only the countries with more than one million people but also smaller ones. The estimations are calculated taking into account production by sector and per inhabitant in each area, and the total population of each area.

Table 17  
Gross Domestic Product and Population 1980-99: Africa  
(Billions of dollars at 1999 prices and PPPs)

Area	Gdp80	Gdp90	Gdp99	Pop80	Pop90	Pop99
1. Northern Africa	292.7	435.4	567.7	90.0	116.6	138.4
2. North West Africa	163.3	191.3	248.9	112.8	153.2	195.5
3. Sahel-C. Africa	141.9	172.5	127.2	73.7	100.3	127.6
4. North E. Africa	41.6	48.0	69.6	61.8	84.2	103.5
5. Eastern Africa	48.2	64.7	88.1	58.7	80.4	101.9
6. Southern Africa	343.6	424.6	511.2	69.3	94.9	110.8
Total Africa	1031.3	1336.5	1612.7	466.3	629.6	777.7

Source: Own elaboration based on World Bank and international statistics.

We can see in table 17 that real Gross Domestic Product, Gdp, has increased a lot in several areas of Africa but the great increase of Population has made significant improvement in Gdp per inhabitant impossible.

In the period 1980-99 real Gdp in Africa increased by a factor of 1.56, going from 1031 Billion dollars at constant prices in 1980 to 1613 in 1999. It is a high value factor of increase because although it is lower than the factor corresponding to the World, it is a little higher than the factors of Western Europe in that period.

The main problem of Africa has been the excessive increase in Population which multiplied by a factor of 1.67% in the period 1980-99, while the value of World Population increased by a factor of 1.30 and in Western Europe by a factor of just 1.06.

The factor of increase of Gdp per inhabitant is equal to the quotient between the factor of real Gdp and the factor of Population, so in Africa as the numerator is lower than the denominator the ratio

is less than 1, implying a reduction in income per inhabitant. At World level the ratio is higher than 1 and in Western Europe much higher than 1 because of the moderation in growth population in comparison with real Gdp.

#### **4.- Production by sector in large areas of Asia and South Pacific**

Tables 18 and 19 present the evolution of real production by sector and inhabitant in 6 large areas of Asia and South Pacific. Some Euro-Asian countries like Russia, Turkey and Trans-Caucasian countries of Armenia, Azerbaijan and Georgia are not included here but in Guisan and Aguayo(2002) together with Europe.

This report does not include some North Western and North Central Asian countries that belonged to the former USSR, although at the end of this section we will make some comments on their evolution during the last decades of the 20<sup>th</sup> century.

Data are expressed at 1999 prices and purchasing power parities, based on our own calculations from international data published by World Bank, United Nations, and other institutions.

The countries with more than one million people included in 6 areas of Asia and South Pacific are the following:

1. *Western Asia*: Israel, Jordan, Kuwait, Lebanon, Saudi Arabia, Syria and Yemen.
2. *South Central Asia*: Afghanistan, Iran and Pakistan.
3. *India and South*: Bangladesh, India, Nepal and Sri Lanka.
4. *China and North East*: China, Hong-Kong, Japan, South Korea and Mongolia.
5. *Indochina or South East*: Cambodia, Lao, Myanmar, Thailand and Vietnam.

6. *South Pacific*: Australia, Indonesia, Malaysia, New Zealand, Papua-New Guinea, Philippines and Singapore.

Like in the case of Africa, the classification takes into account population size, geographical criteria and several international criteria.

Population size varies between 100 and 400 million people in 4 out of the 6 areas, and is higher than 1000 million in the cases of the largest areas of *India and South* and *China and North East*.

Besides these countries there are some small countries and territories that form part of South Pacific area.

Table 20 shows the estimation of real Gdp and the values of Population for all the countries of the large areas of Asia and South Pacific including, not only the countries with more than one million people, but also smaller ones.

Table 18

Production per inhabitant in Agriculture and Industry: Asia-Pacific (dollars at 1999 prices and PPPs)

Area	Ph80a	Ph90a	Ph99a	Ph80i	Ph90i	Ph99i
1. Western Asia	610	641	541	4600	3101	2940
2. South Central Asia	372	566	628	1006	632	880
3. India and South	489	534	628	248	384	575
4. China and N. East	348	499	630	917	1544	2736
5. Indochina	461	516	645	310	558	999
6. South Pacific	592	637	645	1091	1291	1819
Total Asia-Pacific	430	532	629	761	1056	1695
World	462	529	591	1732	1940	2285

Source: Own elaboration based on World Bank, and international statistics.

Table 19

Production per inhabitant in Services and Total: Asia and South Pacific

(dollars at 1999 prices and PPPs)

Area	Ph80s	Ph90s	Ph99s	Ph80t	Ph90t	Ph99t
1. Western Asia	4252	3607	3538	9463	7350	7020
2. South Western Asia	998	1126	1480	2375	2323	2988
3. India and South	431	662	1082	1169	1581	2285
4. China and North East	1273	2032	2843	2539	4075	6209
5. Indochina	628	895	1378	1399	1969	3022
6. South Pacific	2605	2000	2597	3295	3928	5061
Total Asia-Pacific	133	487	2065	2324	3076	4389
World	3240	3721	4154	5434	6191	7031

Source: Own elaboration based on World Bank and international statistics.

In Agriculture the values of real production per inhabitant in Asia are higher than World average, and experienced relatively important increases in some areas such as in Middle East, China, India and Indochina, during the period 1980-99.

In Industry only *Western Asia* and *China and North East* had average values of production per inhabitant greater than World average in 1999, although the circumstances are very different in both areas. In the case of *Western Asia* there was a recession in the period 1980-99, from a value of 4600 constant dollars in 1980 to only 2940 in 1999, and in the case of the area *China and Northern Asia* the value increased from only 917 constant dollars in 1980 to 2736 in 1999.

The evolution of Services is very similar to that of Industry, so the highest values of production per inhabitant in Services in 1999 correspond to *Western Asia* and *China and North East*, with a diminution in the case of *Western Asia* during the period 1980-99 and an important increase in the case of *China and North East* in the same period.

Other areas, like *India and South Asia*, also experienced important increases in industrial production per inhabitant and in production of services per inhabitant, but their values are still far below world averages.

All the areas, with only the exception of *Western Asia*, experienced increases in real production higher than their increase in population and thus they experienced increases in total production per inhabitant.

Table 20  
Gross Domestic Product and Population 1980-99: Asia-Pacific  
(Billions of dollars at 1999 prices and PPPs)

Area	Gdp80	Gdp90	Gdp99	Pop80	Pop90	Pop99
1.Western Asia	504.4	551.2	718.8	53.3	75.0	102.4
2.S. Western	326.1	433.7	666.9	137.3	186.7	223.2
3.India-South	940.5	1574.7	2670.5	804.5	996.0	1168.7
4.China +NE	2901.6	5330.1	8895.0	1142.8	1308.0	1432.6
5.Indochina	250.8	432.4	740.4	179.3	219.6	245.0
6.South Pacific	778.9	1130.1	1725.3	236.4	287.7	340.9
Asia-Pacific	5702.3	9452.2	15416.9	2553.6	3073.0	3512.8
World	23831	32573	41961	4428.6	5262.0	5970.6

Source: Own elaboration based on World Bank and international statistics.

The increase of real Gross Domestic product in Asia was very impressive during the period 1980-99 thanks to the important development of China during that period. The whole of Asia and South Pacific went from a value at constant prices of only 5702 Billion dollars in 1980 to a value of 15417 dollars in 1999, which implies that Gdp multiplied by an impressive factor as high as 2.70 in only 19 years.

The increase of Population was also high, with an amount of nearly 1000 million new inhabitants in the period 1980-99. The increase in production was so high that, despite high population growth, there was also substantial increase in production per

inhabitant, which went from only 2324 in 1980 to 4389 in 1999, implying a multiplication factor of this variable of approximately 2.

Of course if the population growth had been more moderate the factor of increase in income per capita in Asia could have been higher than 2 and near to 3.

The richest country is Japan, and the high value of this country, together with the important economic progressions in China, contribute to the relatively high value of North-East Asia.

In South Pacific, the influence of Australia and New Zealand also makes a positive contribution to the average value of the area.

The possibility of development in the majority of Asian countries is very high for the forthcoming decades, especially if there is an improvement in the educative level of population in the countries which still have low values of this important variable.

## **5.- Conclusions**

The analysis of the data included in this report on economic development of Africa and Asia-Pacific leads to the following main conclusions:

1) During the 20<sup>th</sup> century the average yearly growth rate of real Gdp in Africa, with a value of 3.12% during the period 1913-98, was a little higher than World average whose value was 2.97%, so the smaller increase in African income per inhabitant is not due to a lack of growth of real production but to an excessively high increase in Population, which grew at an average yearly rate of 2.12% in Africa while at World level the increase was smaller with an average rate of 1.40%.

2) Africa achieved an average increase of 1% in Gdp per inhabitant during the period 1913-98, implying that income per person multiplied by about 2.33%, a factor which is extremely low

for a country with a high level of poverty at the beginning of the last century.

3) The economic development of Japan during the last century was very impressive, one of the highest in the World, as this country achieved a very high average rate of growth of real Gdp of 4.22% and a rather low rate of Population growth of only 1.05%. As a consequence of this evolution real Gdp per inhabitant has grown at a yearly rate of 3.17% during the period 1913-98, implying that real income per person multiplied by about 14.80.

4) During the period 1913-98, Asia, excluding Japan, experienced an average yearly rate of growth of 3.32% in real Gdp, of 1.53% in population, and of 1.79% in Gdp per inhabitant. The growth of real Gdp was a little higher than in Africa and than World average, although lower than in Japan. As Population growth in Asia was more moderate than in Africa, the income per inhabitant grew more and its value multiplied by a factor of 4.58, higher than the World average which was 3.77.

5) During the period 1950-73 the situation in Africa improved a little, with an increase in the rate of real Gdp greater than the increase in the rate of growth of Population so that the average yearly rate of growth of Gdp per inhabitant was 2.05%.

But after the oil crisis of 1973 the situation worsened dramatically as the yearly rate of growth of real Gdp fell from 4.35% to 2.70% in the period 1973-98 while the rate of growth of Population increased to even more than the previous high value, from 2.30 to 2.69. The consequence was stagnation of income per capita with an average yearly growth rate in the last quarter of the century of only 0.01%.

6) There are important differences among countries and areas of Africa, with the Northern and Southern countries generally in a better position than Western, Central and Eastern areas. The poorest areas have experienced negative rates of growth of real Gdp per inhabitant over the last decades of the 20<sup>th</sup> century.

7) In the case of Asia, Japan, China and other North Eastern countries have shown the best evolution but also Southern areas have experienced important increases in real Gdp.

The great challenge for African countries is the improvement of the educative level of its population, as it is generally very low as we will see in the next report by Guisan and Exposito(2001). This would be the most effective way to reduce highly excessive rates of fertility and improve production per inhabitant in industry and services sectors, and is therefore the main way to fight against poverty.

In the case of Asian countries, efforts towards improvement in the educative level of population have been generally greater than in African areas and some big countries with previously low levels of industrial production have experienced an important take off in industrial development. Both circumstances have led to important increases in Gross Domestic Product per inhabitant in several areas.

The main challenges for Asian countries have a lot to do with maintaining a sustained industrial growth and reducing environmental damage. This is very important in all areas, but especially in a part of the world as populated as Asia. International cooperation would be of great help for this purpose.

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