Patterns and dynamics of egg production in the sub-regions of Africa

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In three preceding articles the author of this paper presented analyses of the patterns and dynamics of egg production in the sub-regions of Europe, Asia and the Americas. In this paper, the dynamics and present situation in Africa will be analysed for the time period between 1990 and 2008.

The setting

World egg production increased from 35.2 mill. t in 1990 to almost 61 mill. t in 2008 or by 72.4 %. With a share of 58.8 % Asia dominated global production in 2008. African countries contributed 4.0 % to the global production volume, 0.4 % less than in 1990 (figure 1). African countries are neither playing a major role in global production nor in egg trading. European countries are still in a leading position sharing almost two thirds of egg exports and imports.

Nevertheless, the dynamics in African egg production over the past two decades have been considerable. The reason for the change is to be found in the increase of the per capita consumption because of a higher buying power in several Northern and Southern African countries. In 2008, the three leading countries, Nigeria, South Africa and Egypt contributed 54.4 % to African and 2.1 % to global egg production.

The main goals of this paper are:

- to give an overview about the development of egg production in Africa between 1990 and 2008 on the basis of sub-regions,
- to identify countries with increasing, stagnating or decreasing egg production,
- to characterise the trade balance of the African sub-regions for shell eggs for consumption.

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Development of egg production in the African sub-regions between 1990 and 2008

Between 1990 and 2008 egg production in Africa increased from 1.5 mill. t to 2.4 mill. t or by 58.1 %. This growth was mainly a result of the development in Northern, Southern and Western Africa, as can be seen from table 1 and figure 2. In Western Africa the production volume increased by 320,000 t or 70.3 %, in Southern Africa by 280,000 t or 128.1 % and in Northern Africa by 250,000 t or 43.9 %. In the two other sub-regions, Eastern and Middle Africa, the absolute and relative growth rates were considerably lower.

Table 1:
The development of egg production in the African sub-regions between 1990 and 2008; data in 1,000 t
(Source: FAO database)

Year	Northern Africa	Eastern Africa	Middle Africa	Southern Africa	Western Africa	Africa
1990	574	261	31	217	458	1,542
2000	700	281	33	325	578	1,016
2008	821	308	34	495	780	2,438
Change (%)	+ 43.9	+ 18,0	+ 9.8	+ 128,1	+ 70.3	+ 58.1

The changing contribution of the African sub-regions to the overall egg production in Africa can be seen from figure 3. It shows the domination role of the Northern and Western African countries. They contributed 33.7 % and 32.0 % respectively to the production volume. Southern African countries shared 20.3 % of egg production in Africa. Eastern African and Middle African countries combined contributed 14.0 %.

The following chapters will analyse the dynamics of egg production in the five sub-regions of Africa. This will make it possible to distinguish countries with an increasing production volume from those with a stagnating or even decreasing egg production.

Northern Africa

Even though the production volume increased from 573,850 t in 1990 to 821,000 t in 2008, the contribution of the six Northern African countries to African egg production decreased from 37.2 % to 33.7 % (table 1, figure 3). The analysis of the development in the single countries shows that in all countries the production volume increased in the analysed time period (figure 4) but that it was not a continuous growth. In Egypt, egg production decreased from 1990 to 1992 before an upward trend occurred, only interrupted in 1996 and 1999. From 2003 on, the production volume remained unchanged. This may be a result of missing data for one would expect that the Avian Influenza outbreaks would have led to another reduction of egg production. In Morocco, the production volume fluctuated considerably. A peak was reached in 1999 with 245,000 t, but from then on the production volume decreased to only 168,000 t in 2006. It remains to be seen if the recent upward trend can be maintained. In Algeria too, egg production showed several ups and downs. Between 1990 and 1996 the production volume fell from 140,000 t to only 85,000 t and remained at a low level until 2001 before a more or less continuous upward trend occurred. With 190,000 t a new peak was reached in 2007 and 2008. Compared to the three countries which were analysed before, the development of egg production in Tunisia was much less dynamic. With the exception of 1993 and 2004 an almost continuous upward trend was observed. Libya and Sudan show a similar dynamic, even though in both countries the production volume was reported as unchanged from the beginning of the recent decade.

Table 2:
The ranking of the Northern African countries in egg production in 2008
(Source: FAO database)

Country	Production (1,000 t)	Share (%)
Egypt	240	29.2
Morocco	195	23.8
Algeria	190	23.1
Tunisia	89	10.8
Libya	60	7.3
Sudan	47	5.7
Northern Africa	821	*100.0

* sum does not add because of rounding

A closer look at the contribution of the six Northern African countries to the production volume of this sub-region shows (table 2) that the three leading countries shared over 75 % of the overall production with Egypt in a leading position.

Western Africa

In Western Africa, egg production increased from 458,600 t in 1990 to 780,000 t in 2008 or by 70.3 %. It was, however, not a homogeneous growth, because the upward trend was interrupted between 1995 and

1997. This was mainly the result of political instability in some of the countries, in particular Nigeria. Because of the sharp increase in the production volume, the contribution of this sub-region to African egg production increased from 29.7 % in 1990 to 32.0 % in 2008 (see figure 3).

A closer look at the development in the single countries reveals (figure 5) that in all of them egg production increased considerably. The highest absolute increase showed Nigeria with 215,000 t, followed by Senegal (+ 25,000 t) and Burkina Faso (+ 18,000 t). The highest relative growth rates were to be found in Senegal with 227 %, Guinea with 178 % and Ghana with 155 %. The ups and downs in Nigeria reflect the political turmoil and it was not before the late 1990s that a continuous upward trend occurred.

Table 3:
The ranking of the Western African countries in egg production in 2008
(Source: FAO database)

Country	**Production (1,000 t)**	**Share (%)**
Nigeria	553	70.4
Burkina Faso	49	6.2
Senegal	36	4.6
Côte d´Ivoire	30	3.8
Ghana	26	3.3
Guinea	22	2.8
Benin	14	1.8
Mali	11	1.4
Sierra Leone	9	1.1
Togo	9	1.1
Niger	8	1.0
Mauritania	5	0.6
Liberia	5	0.6
Cape Verde	2	0.2
Guinea Bissau	1	0.1
Gambia	<1	0.1
Western Africa	*780	*100.0

* sum does not add because of rounding

Table 3 lists the countries of this sub-region according to their production volume. One can easily see that the regional concentration of egg production is extremely high for over 70 % of the overall production is concentrated in Nigeria. Burkina Faso, ranked in second place, produces less than one tenth of the Nigerian production volume. This reflects the population figures. In 2009, Nigeria had a population of 149.2 mill., whereas only 15.7 mill. lived in Burkina Faso. Senegal, with only 13.7

mill. inhabitants, ranked in third place, followed by Côte d´Ivoire and Ghana, both with a population of more than 20 mill. people. The differences in production reflect the differences in per capita consumption.

Southern Africa

In 2008, Southern African countries produced 495,100 t of shell eggs, 278,000 t more than in 1990 which means a relative increase of 128,1 %, the highest of all sub-regions. This dynamic is mainly due to the sharp increase of the production volume of South Africa. The contribution of this sub-region to African egg production increased from 14.1 % in 1990 to 20.3 % in 2008 (see figure 3).

When looking at the development at country level (figure 6), one can easily see that in all countries the production volume increased. With an absolute growth of 273,000 t, South Africa contributed 98 % to the increase of egg production in this sub-region. The highest relative growth, however, was to be found in Botswana with 131 %. With the exception of the late 1990s, egg production increased more or less continuously.

Table 4:
The ranking of the Southern African countries in egg production in 2008
(Source: FAO database)

Country	Production (1,000 t)	Share (%)
South Africa	485	97.8
Botswana	5	1.0
Namibia	3	0.6
Lesotho	2	0.4
Swaziland	<1	0.2
Southern Africa	*495	100.0

* sum does not add because of rounding

The ranking of the Southern African countries according to their production volume shows the extremely high regional concentration and the absolutely dominant role of South Africa. This is not only due to the population of almost 50 mill. people but also to the economic development and the high buying power in a middle class which is mainly formed by people with European and Indian heritage.

Eastern Africa

Egg production in Eastern African countries only increased by 46,000 t or 18 % between 1990 and 2008. The result of this considerably lower dynamic was a decrease of the contribution to African egg production from 16.9 % in 1990 to 12.6 % in 2008. A closer look at the development in the single countries (figure 7) reveals that even though the production volume in all of them increased in the analysed time period, the dynamic differed considerably. Kenya showed a first peak in the late 1990s, followed by a sharp decrease in the production volume in 2002. From then on a continuous upward trend could be observed. Zambia is the only country in this sub-region with an almost uninterrupted increase in egg production. This may be the result of the comparatively stable political situation. In Ethiopia, egg production oscillated around 28,000 t until 2000, since then a considerable absolute growth occurred. In Tanzania, only minor fluctuations in the volume of egg production could be observed, since 2003 no alterations in the production volume are documented by FAO, which may be a result of missing national data.

Table 5:
The ranking of the Eastern African countries in egg production in 2008
(Source: FAO database)

Country	Production (1,000 t)	Share (%)
Kenya	69	22.3
Zambia	47	15.2
Ethiopia	38	12.3
Tanzania	35	11.3
Zimbabwe	22	7.1
Uganda	21	6.8
Malawi	20	6.1
Madagascar	15	4.8
Mozambique	14	4.5
Mauritius	11	3.5
Réunion	6	1.9
Rwanda	3	1.0
Somalia	3	1.0
Eritrea	2	0.6
Burundi	2	0.6
Comoros	<1	0.3
Seychelles	<1	0.2
Eastern Africa	308	*100.0

* sum does not add because of rounding

From the data in table 5 which ranks the East African countries according to their production volume, one can easily see that the regional concentration is rather high. The four leading countries contributed over 61 % to the overall production of this sub-region, Kenya was in first place with a share of 22.3 %.

Middle Africa

Egg production in this African sub-region is only of minor importance. Middle African countries showed the lowest absolute and relative increase in the analysed time period (see table 1) and contributed only 1.4 % to African egg production in 2008 (see figure 3). When looking at country level, it becomes obvious that the dynamic was relatively low. In the Democratic Republic of Congo the production volume even decreased (figure 8).

Table 6:
The ranking of the Middle African countries in egg production in 2008
(Source: FAO database)

Country	Production (1,000 t)	Share (%)
Cameroon	14	41.1
Congo, Dem. Rep.	7	20.6
Angola	4	11.8
Chad	4	11.8
Gabon	2	5.8
Central Africa	2	5.8
Congo	1	2.9
Sao Tome and Principe	<1	1.4
Equatorial Guinea	<1	0.5
Middle Africa	34	*100.0

* sum does not add because of rounding

As can be seen from the data in table 6, the regional concentration in this sub-region is comparatively high; the four leading countries shared over 85 % of the overall production in 2008, Cameroon alone 41.1 %. The low standard of egg production and the extremely low per capita consumption becomes obvious when one bears in mind that the Democratic Republic of Congo has almost 69 mill. inhabitants and produces less than 7,000 t of shell eggs. This results in an average per capita consumption of less than 2 eggs per year. It cannot be expected that this situation will change within the coming years because of the low development status and an extremely low buying power.

High regional concentration and a considerable egg deficit

Because of the remarkable role of the Northern African sub-region in African egg production (all six countries are ranked among the top ten egg producing countries) and the dominant positions of Nigeria and South Africa, the regional concentration in 2008 was very high. The ten leading countries contributed 81.1 % to the African production volume, Nigeria and South Africa alone 42.6 % (table 7). Of the ten countries, six were located in Northern Africa, two in Western Africa and one in Southern Africa. None of the Eastern or Middle African countries were ranked among the top ten egg producing countries in Africa.

Table 7:
The ten leading countries in African in egg production in 2008
(Source: FAO database)

Country	Sub-region	Production (1,000 t)	Share (%)
Nigeria	Western Africa	552.8	22.7
South Africa	Southern Africa	485.3	19.9
Egypt	Northern Africa	240.0	9.8
Morocco	Northern Africa	195.0	8.0
Algeria	Northern Africa	190.0	7.8
Tunisia	Northern Africa	89.0	3.7
Kenya	Eastern Africa	69.0	2.8
Libya	Northern Africa	60.0	2.5
Burkina Faso	Western Africa	48.7	2.0
Sudan	Northern Africa	47.0	1.9
10 countries	-	1,976.8	81.1
Africa	-	2,438.2	100.0

- sum does not add because of rounding

In spite of the low per capita consumption and a considerable increase in egg production, Africa showed a trade deficit of almost 32,200 t in 2007, of which 16,700 t were imported by Middle African countries. The only sub-region with a positive trade balance was Eastern Africa with 777 t. One can expect that African countries will not be able to produce sufficient eggs for the growing domestic demand. In many countries, lack of capital and know how, political instability as well as the low economic development status are the main inhibiting factors (see Windhorst 2008).

Main results

- African countries contributed only 4 % to global egg production in 2008.

- In all sub-regions the production volume increased between 1990 and 2008. The highest absolute growth showed the sub-regions Western, Southern and Northern Africa.

- The dynamic in Eastern and Middle Africa was considerably lower.

- In spite of a high absolute growth, the contribution of Northern African countries to African egg production decreased in the analysed time period because of the higher growth rates in Southern and Western Africa.

- The regional concentration in all sub-regions is rather high, in most cases only one or a few countries dominate egg production.

- The ten leading countries shared over 81 % of African egg production, Nigeria and South Africa alone 42.6 %.

- With the exception of Eastern Africa, all other sub-regions showed a negative trade balance for shell eggs in 2007. In total, the African trade deficit was as high as 32,200 t.

References

FAO database: http://faostat.fao.org.

Windhorst, H.-W.: A Projection of the Regional Development of Egg Production until 2015. (IEC Special Report April 2008). London 2008. 19 p.

Figure 1:
The changing contribution of the continents to global egg industry between 1990 and 2008
(Source: Own calculations based on FAO data

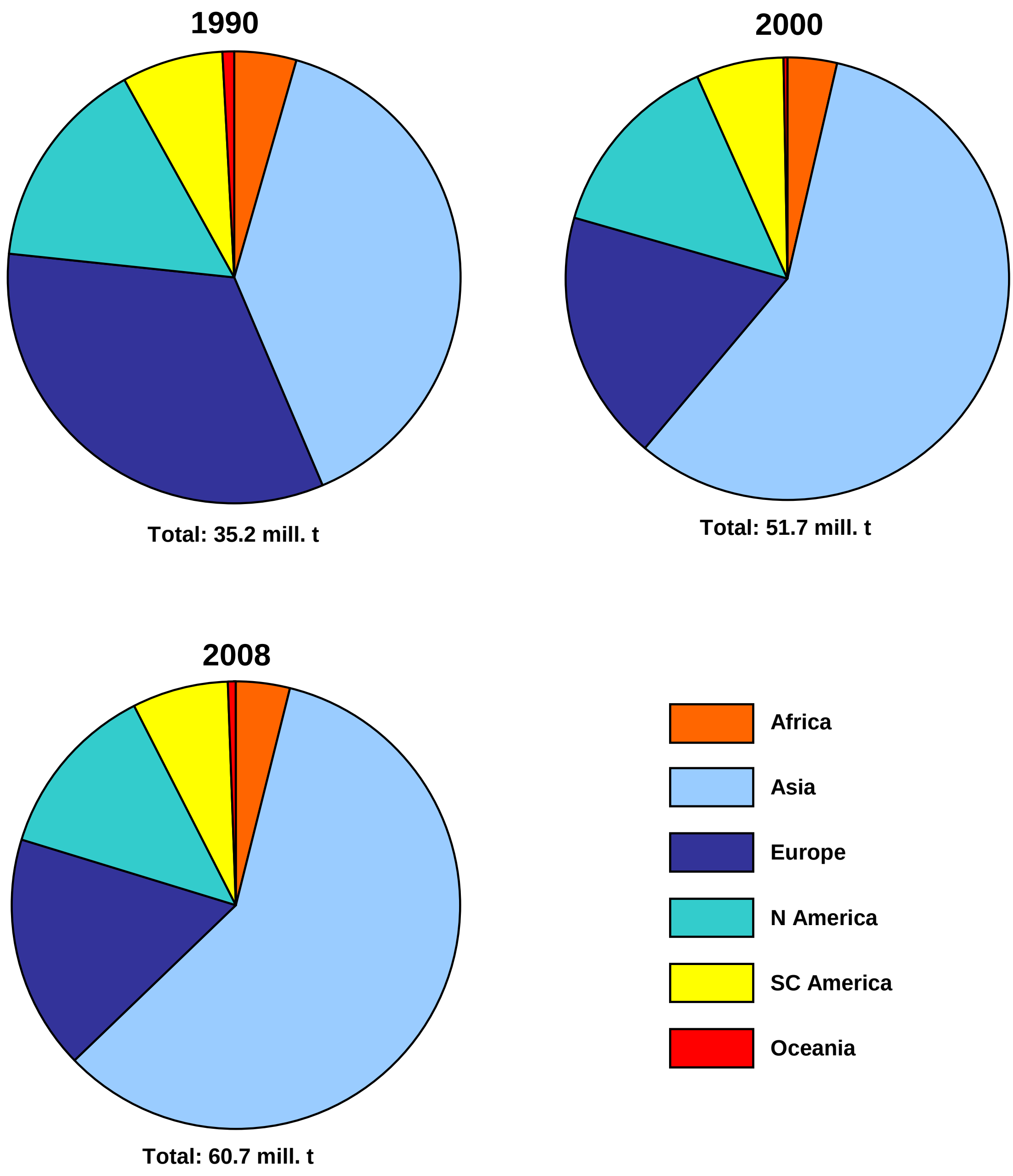

Figure 2:
The development of egg production in the sub-regions of Africa between 1990 and 2008
(Source: FAO database)

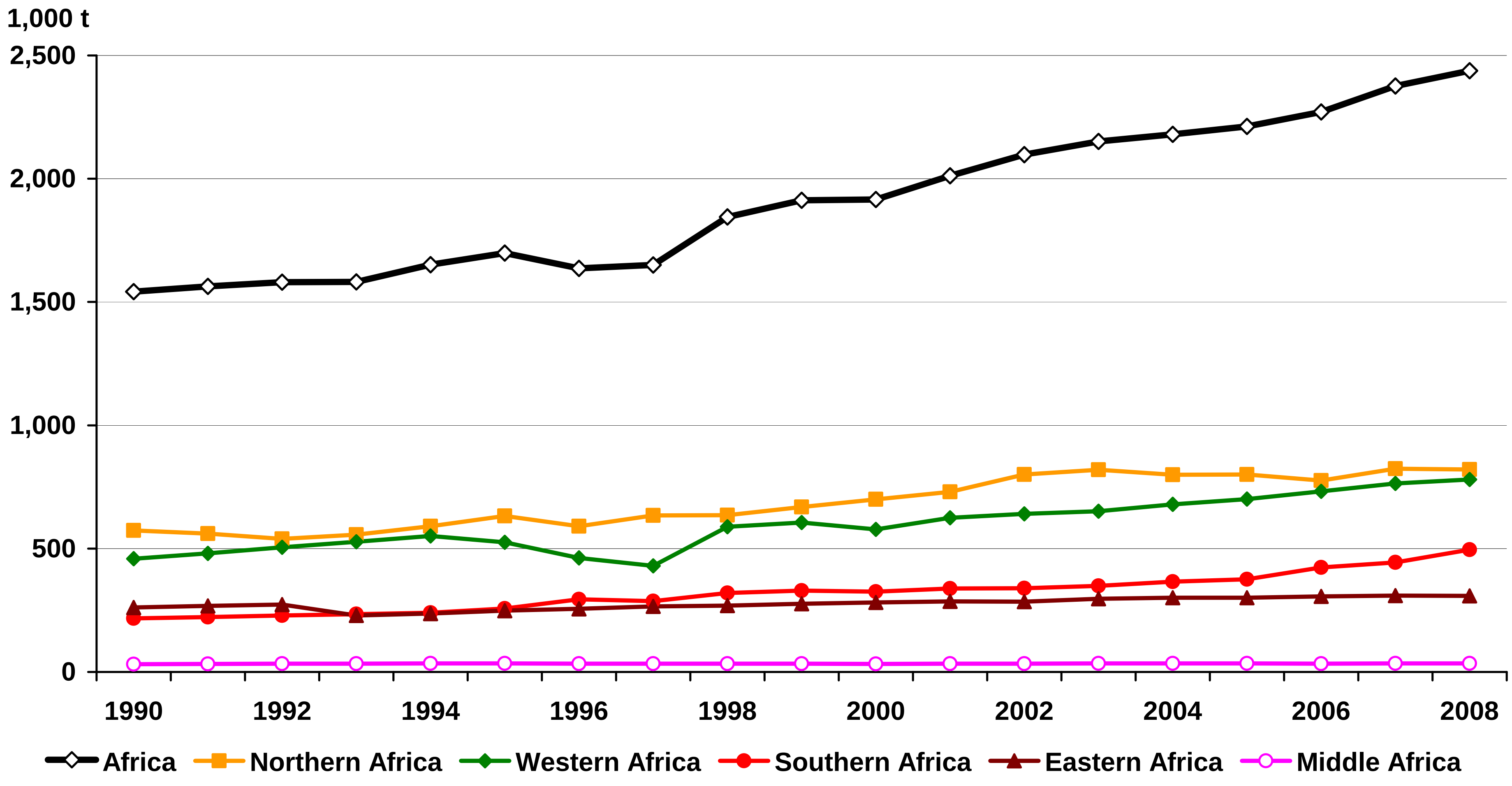

Figure 3:
The changing contribution of the sub-regions to egg production in Africa between 1990 and 2008
(Source: FAO database)

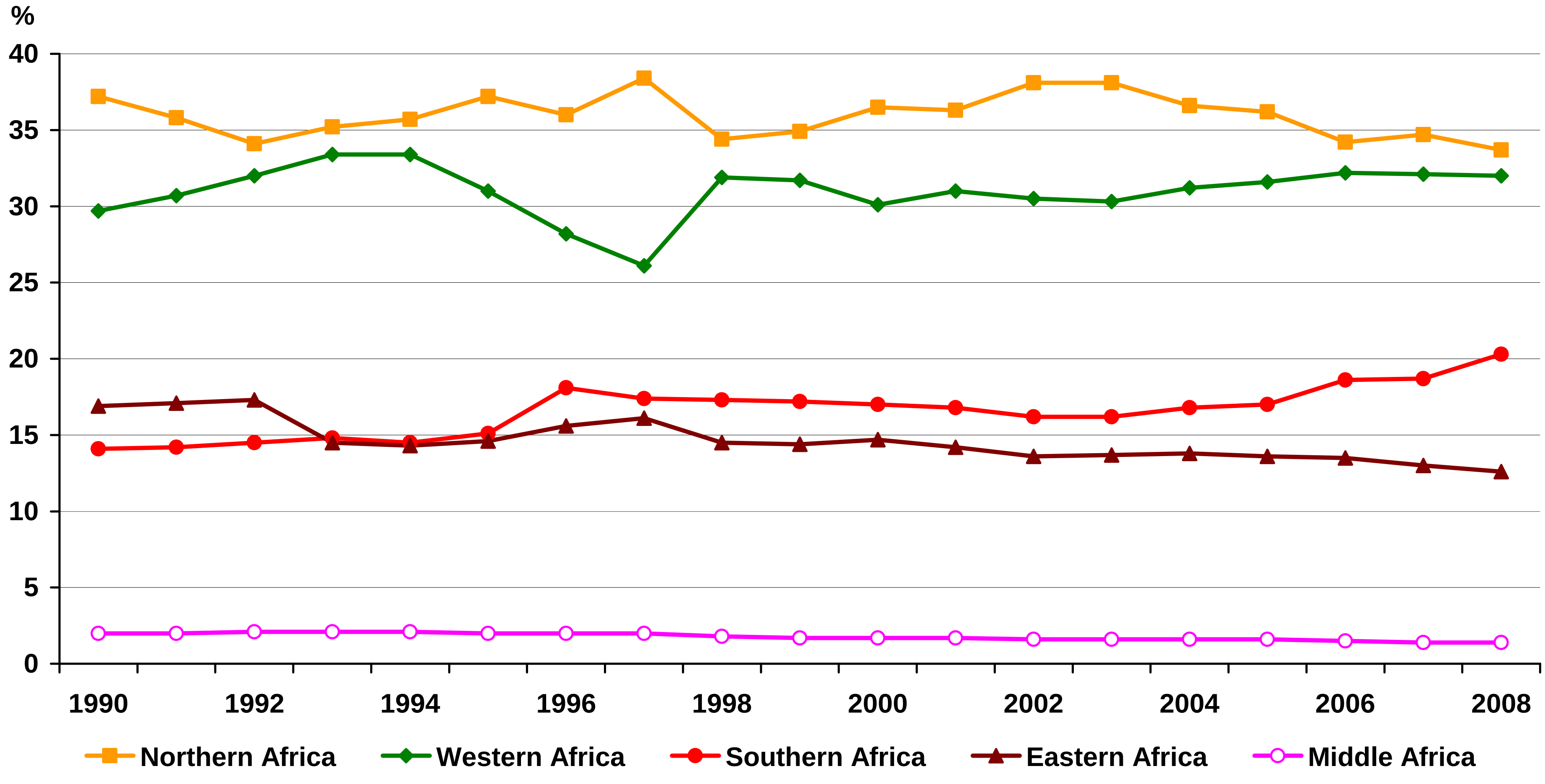

Figure 4:
The development of egg production in Egypt, Morocco, Algeria, Tunisia and Libya between 1990 and 2008
(Source: FAO database)

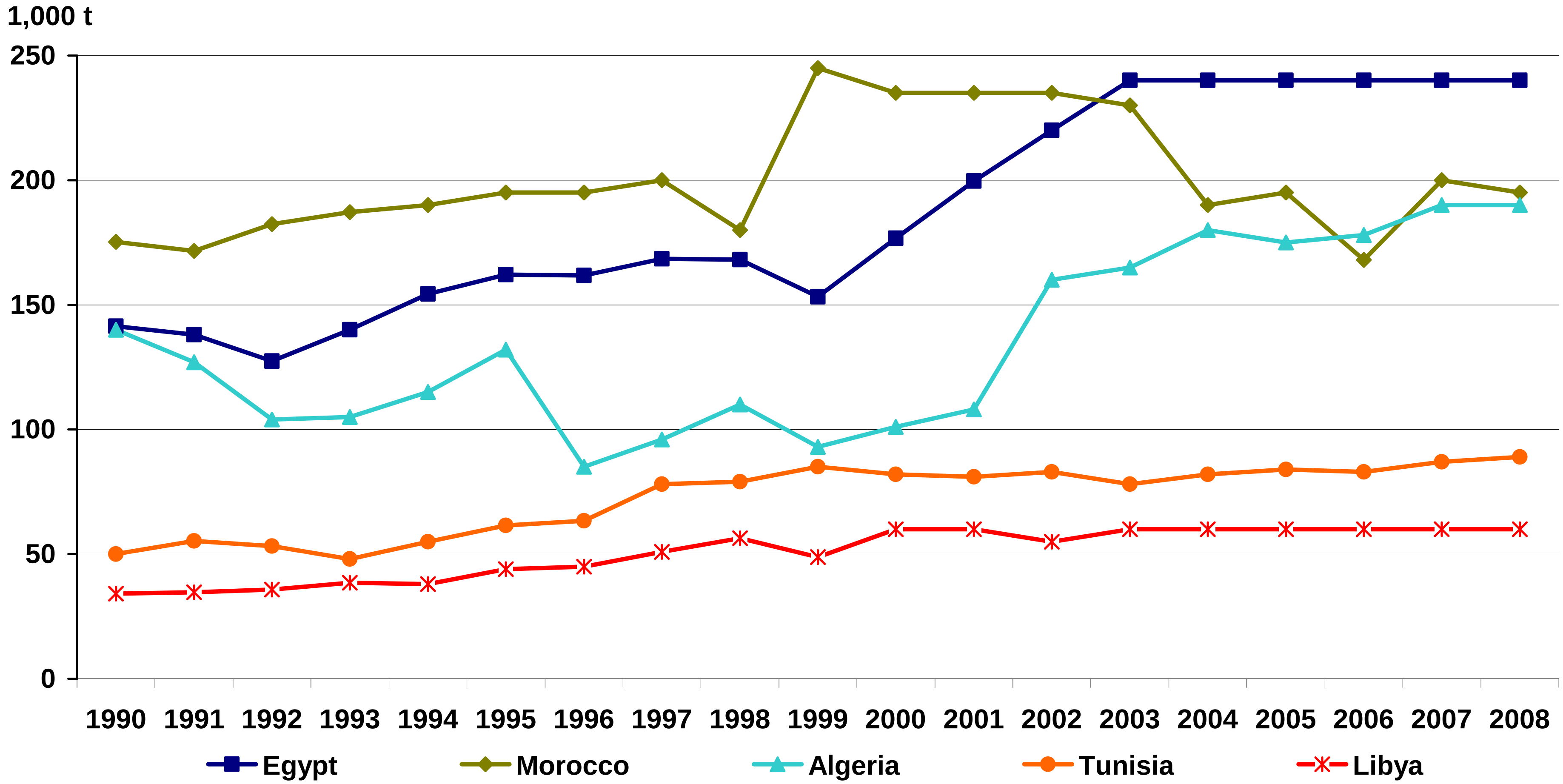

Figure 5:
The development of egg production in Nigeria, Burkina Faso, Senegal and Côte d'Ivoire between 1990 and 2008
(Source: FAO database)

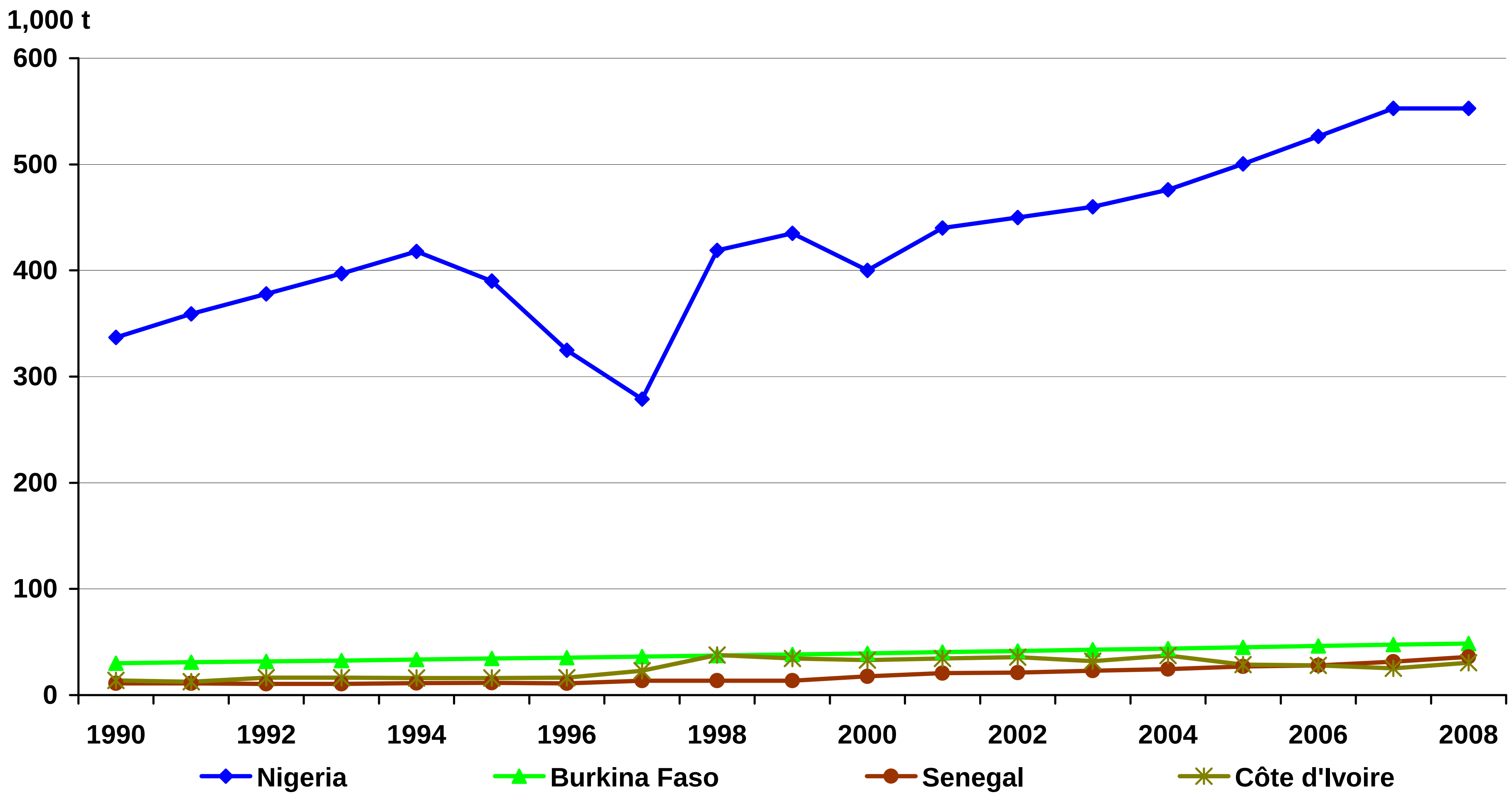

Figure 6:
The development of egg production in South Africa and Botswana between 1990 and 2008
(Source: FAO database)

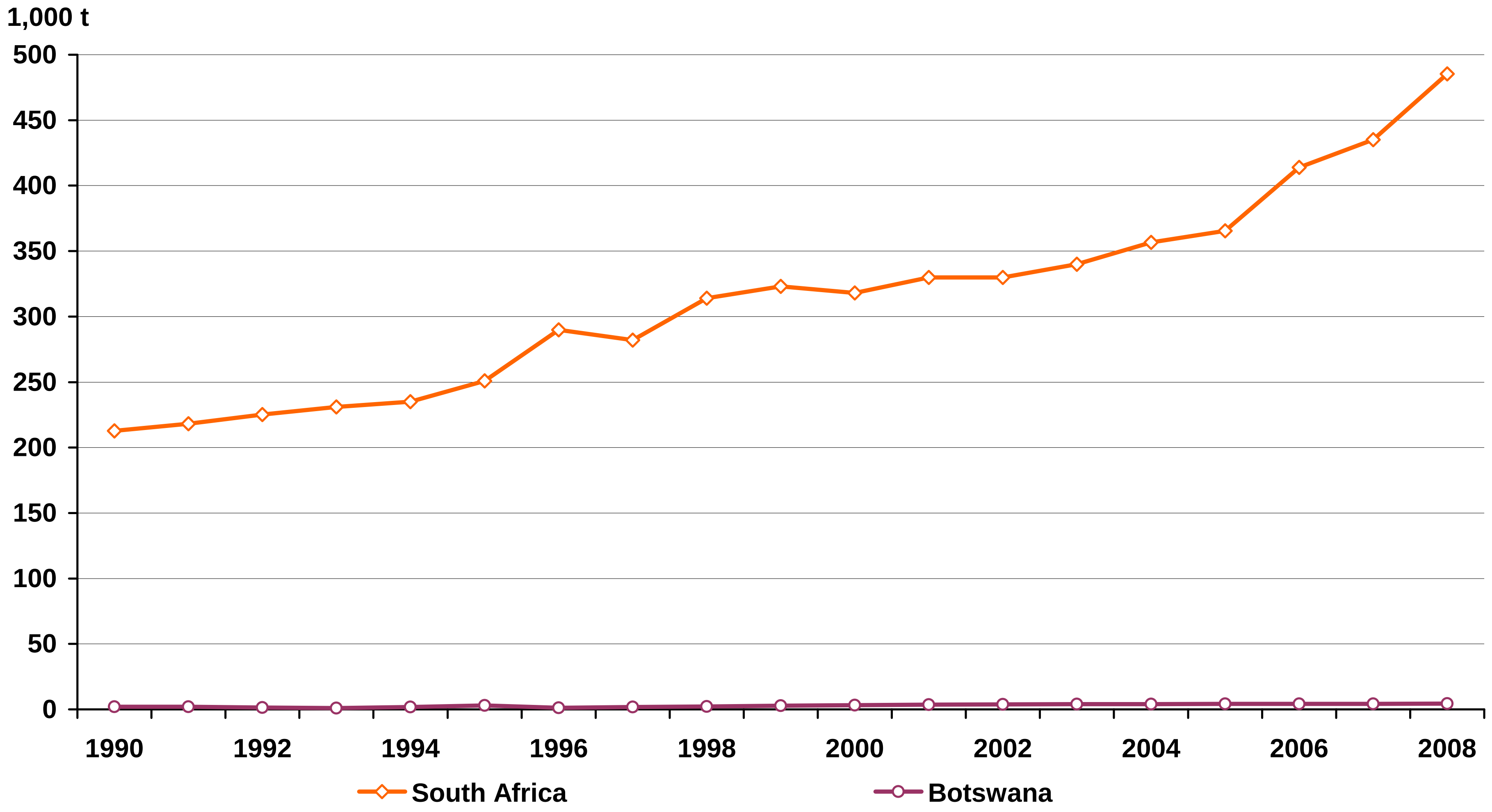

Figure 7:
The development of egg production in Kenya, Zambia, Ethiopia and Tanzania between 1990 and 2008
(Source: FAO database)

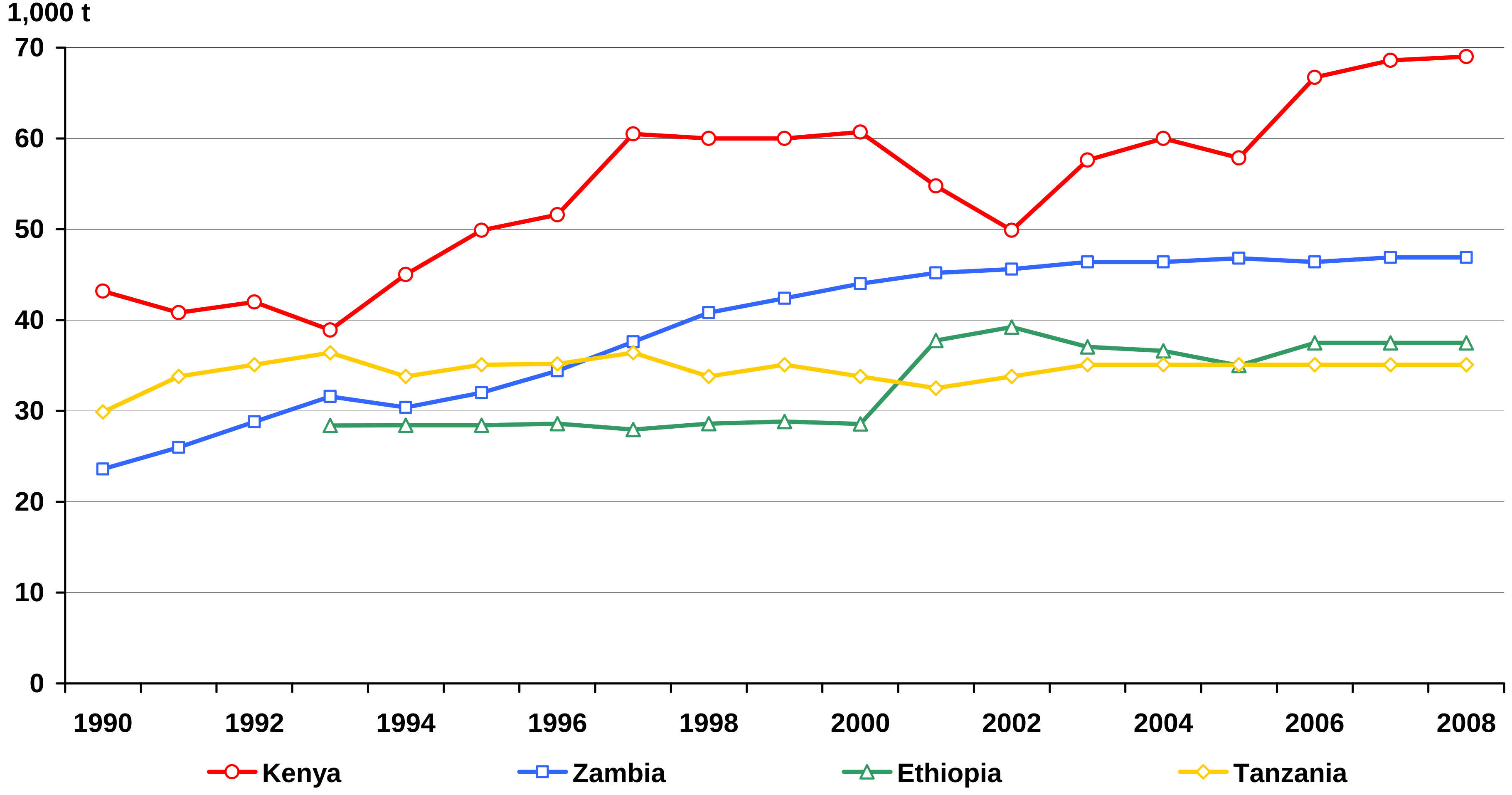

Figure 8:
The development of egg production in Cameroon, the Democratic Republic of Congo and Angola between 1990 and 2008
(Source: FAO database)

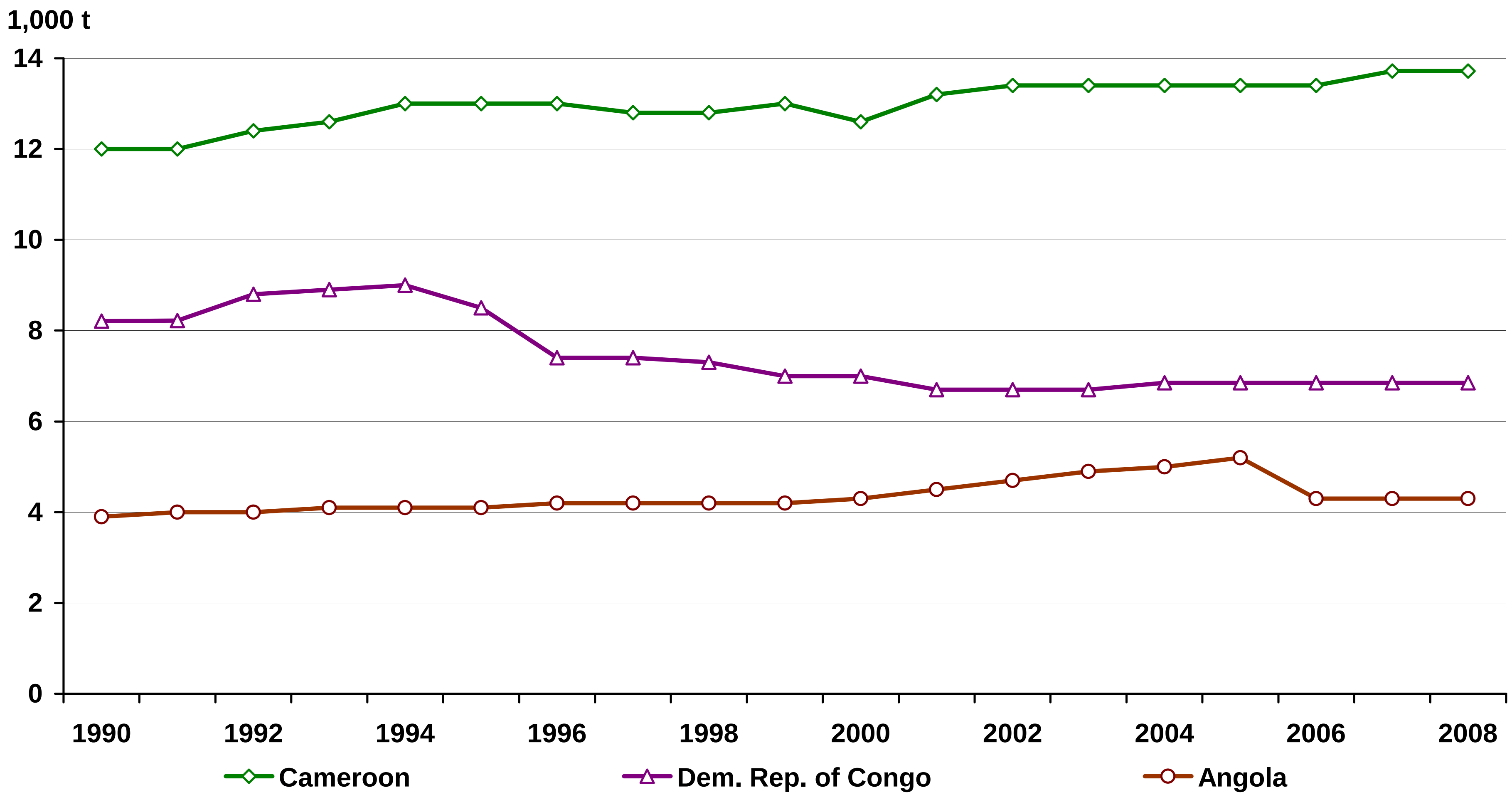

Figure 9:

The trade balance for shell eggs for consumption in the African sub-regions in 2007

(Source: Own calculations)