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STATISTICAL ANALYSIS OF OFFICIAL DEVELOPMENT ASSISTANCE TO THE SAHEL

– July 1996

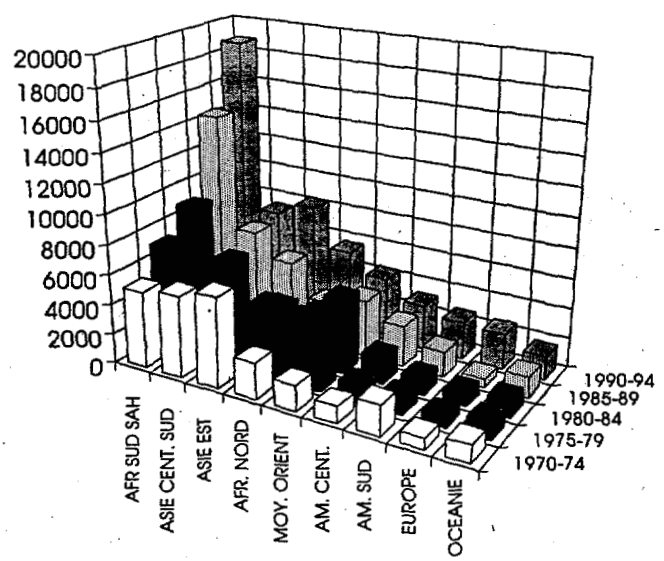
This report was prepared by the Club du Sahel Secretariat within the framework of evaluating aid to the Sahel undertaken in the Cooperation 21 file. This report is based on the OECD Committee of Aid to Development statistics. The synthesis of this report was undertaken by Mr. Jean-David Naudet.

This study uses data from the Development Cooperation Department (DCD) of the OECD. Most financial data are given in constant 1990 US dollars. Real values have been obtained by using the world import price index from the IMF as a deflator. Apart from simplicity, use of a single deflator is justified by the long period of the analysis, which looks more at trends rather than the detail of cyclical variations. Second, the authors wished to calculate a series of real aid values that would be comparable with the national statistics of both donor and recipient countries[1].

I. General Trends

Official development assistance (ODA) more than doubled in real terms from 1970 to 1994, increasing at a steady average rate of 3.3% a year. However, the trend seems to have changed since 1992. Aid in 1993 and 1994 was slightly lower (roughly 5% in real terms) than in 1992. In 1994, total net ODA came to $60 billion in nominal terms, which is equivalent to some 1.5% of world trade.

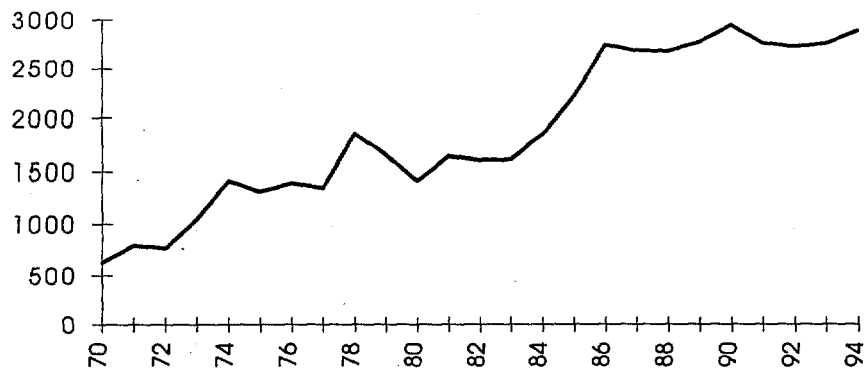
Graph 1.1: ODA by Region in Real Terms, 1970-94



The increase in aid since 1970 is largely due to aid to sub-Saharan Africa, which has quadrupled, with an increase accounting for half the increase in total aid between 1970 and 1994. In 1994, aid to this region was 36% of total aid.

[1] In its own work, the DAC deflates each aid series by the price index of the donor country concerned. That method is more accurate than the one used in this study to measure the contribution of various donors.

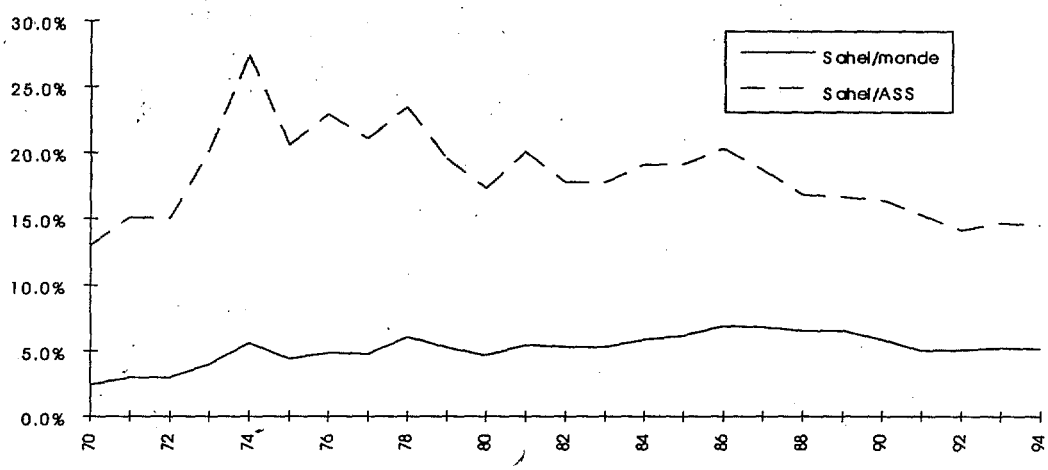
Graph 1.2: ODA to the Sahel ($ m 1990), 1970–94



Aid to the Sahel has increased in a fashion similar to sub-Saharan Africa. It has grown by a factor of 4.6 in 24 years, an average annual increase in real terms of 6.6%. But this increase has been less regular, and is greatly influenced by drought. ODA to the Sahel increased sharply on two occasions: between 1972 and 1974, with an increase in real terms of over 80% in two years; and between 1983 and 1986, with an increase in real terms of 70% in three years.

Following these crises, aid seems to have leveled out at the higher value achieved. In 1994, aid to the Sahel was $2.7 billion. This was lower in both real and nominal terms than the 1990 figure and barely higher than in 1986 (+5% in real terms).

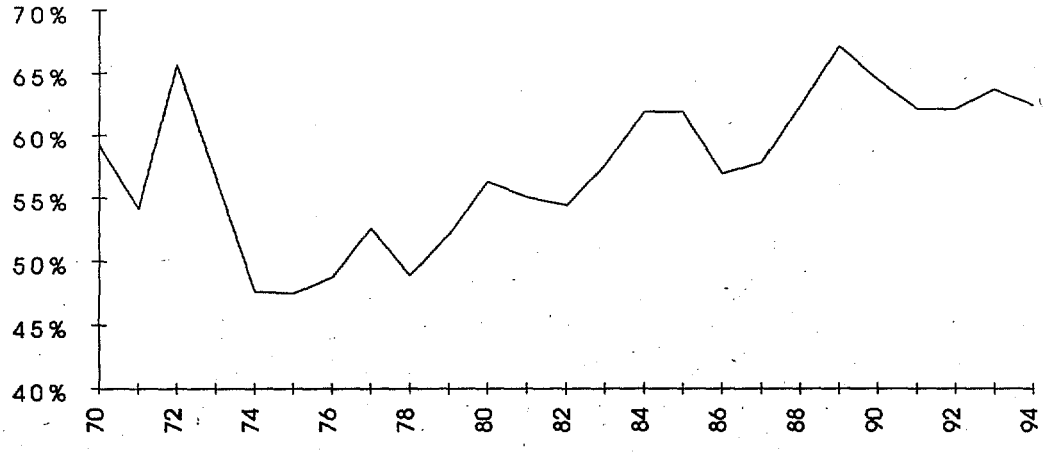
Graph 1.3: Aid To The Sahel As A Share Of Aid To Sub-Saharan Africa And Of Total Aid, 1970-94



Sahel/World/Sahel/SSA

The share of ODA going to the Sahel has been relatively constant (between 5% and 7%) since 1974. In 1994, the figure was 5.2%, the lowest level since 1980 and lower than in 1974. Apart from the early 1970s, therefore, ODA to the Sahel has grown at an average rate comparable with aid in general. On the other hand, the increase in aid to the Sahel has been noticeably lower since the mid-1970s than to sub-Saharan Africa. The share of aid to sub-Saharan Africa going to the Sahel has fallen regularly from 27% in 1974 to 14% in 1994.

Graph 1.4: Bilateral Aid as a Share of Aid to the Sahel, 1970–94



After 1974, a clear trend towards bilateral aid can be seen. From 1972 to 1974, multilateral aid increased by a factor of 3.5 in nominal terms, while the share of bilateral aid fell to 48% in 1974. Since then, this share has increased regularly, reaching 63% in 1994.

II. Donors Of Aid To The Sahel

Aid to the Sahel is provided by an average of some twenty bilateral donors and fifteen multilateral funds[2]. Almost all the aid now comes from DAC countries, but this has not always been the case: In 1982, aid from Arab countries was as much as 17% of aid to the Sahel.

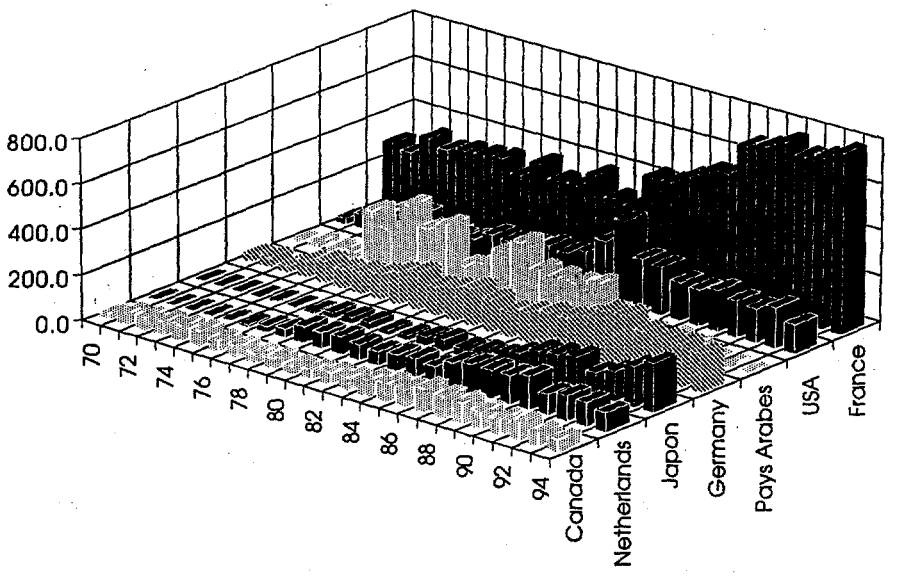
[2] This corresponds to a significantly higher number of aid institutions, since some bilateral donors and multilateral funds have more than one agency deciding or disbursing aid.

Table 2.1: Aid from DAC countries to the Sahel, 1970–94

Annual average	1970–74	1975–79	1980–84	1985–89	1990–94
ODA to the Sahel as % of total DAC GDP	0.00010	0.00015	0.00015	0.00019	0.00015
ODA to the Sahel per person in the DAC countries ($ 1990)	$1.20	$1.80	$1.90	$3.20	$3.50

DAC countries' aid to the Sahel (per capita) has continued to increase. This growth was particularly marked between 1983 and 1986. However, the increase is less when considered in proportion to DAC wealth; it was lower in 1994 (0.00014%) than in 1974 (0.00016%) and has fallen recently.

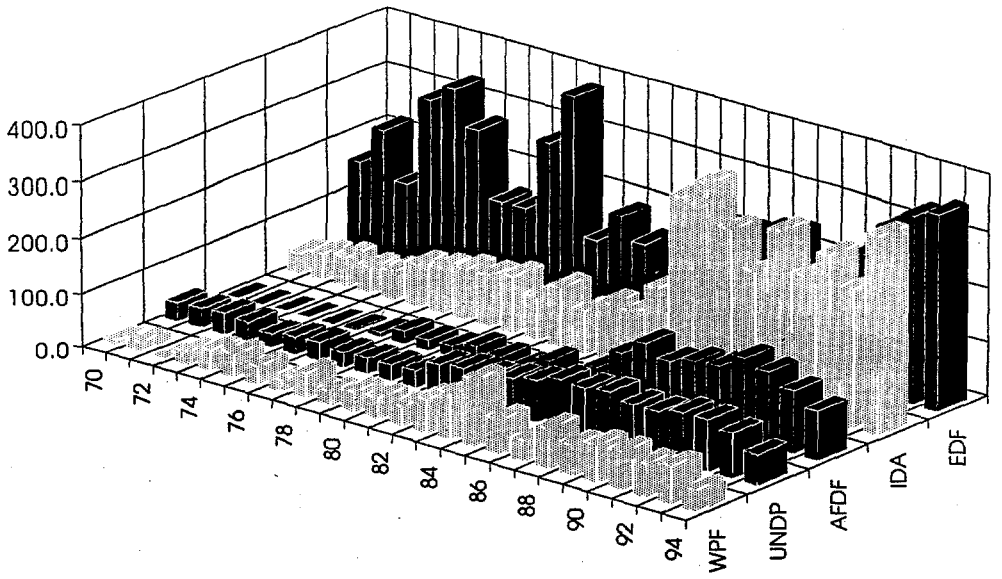
Graph 2.1: Aid to the Sahel from the Main Bilateral Donors ($ m 1990), 1970–94



Japan

Arab countries

Graph 2.1: Aid to the Sahel from the main multilateral bodies ($ m 1990), 1970–94



WFP
AfDF

Table 2.2: Share in Aid to the Sahel of Selected Donors

	1970–74	1975–79	1980–84	1985–89	1990–94
FRANCE	35.4%	22.4%	21.5%	21.0%	26.7%
GERMANY	5.4%	7.7%	8.5%	6.6%	6.9%
UNITED STATES	7.7%	6.7%	10.8%	8.9%	5.6%
JAPAN	0.1%	1.2%	2.0%	3.4%	5.4%
NETHERLANDS	0.2%	2.7%	4.3%	4.1%	3.8%
ITALY	0.1%	0.1%	1.3%	7.5%	3.1%
CANADA	5.5%	3.4%	3.1%	3.4%	2.4%
OTHER OECD BILAT.	2.2%	5.7%	5.5%	6.3%	8.9%
IDA[3]	5.5%	6.1%	5.9%	10.6%	10.7%
EDF[4]	24.8%	16.5%	9.5%	8.1%	10.4%
AfDF[5]	0.00%	1.0%	1.9%	3.8%	4.4%
UNDP[6]	4.1%	2.1%	3.4%	3.3%	3.0%
WFP[7]	1.8%	2.4%	3.2%	2.8%	2.2%
OTHER MULTILAT.	2.1%	7.6%	6.7%	6.0%	5.6%
ARAB COUNTRIES	4.9%	14.4%	12.4%	4.1%	0.8%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%

French bilateral aid is predominant in flows to the Sahel during all periods. But there has been some variation in the contribution.

Aid to the Sahel has become more diversified. Whereas the two main sources (France and the EDF) accounted for more than 80% before the 1973–74 drought, that figure has fallen to little more than 35%. The number of bilateral donors providing significant aid has increased continually.

New sources of aid have become more important over time. This is true of the IDA and of some bilateral donors such as Japan which, in 1994, was the second largest bilateral donor to the Sahel. Conversely some traditional partners, such as the United States, Canada and the EDF, have seen their relative contribution level out or even fall.. The Arab countries provided a major contribution to aid to the Sahel over a short period of time.

[3] IDA: International Development Assistance, World Bank

[4] EDF: European Development Fund, European Union

[5] AfDF: African Development Fund, African Development Bank

[6] UNDP: United Nations Development Program, United Nations

[7] WFP: World Food Program, United Nations

Table 2.3: Share of each Donor's Total Aid Going to the Sahel

	1970–74	1975–79	1980–84	1985–89	1990–94
FRANCE	13.4%	16.9%	15.1%	14.9%	13.3%
GERMANY	2.7%	5.6%	6.1%	6.0%	4.7%
UNITED STATES	1.3%	2.3%	3.5%	3.2%	2.4%
JAPAN	0.1%	0.9%	1.3%	1.6%	2.0%
NETHERLANDS	0.3%	4.1%	6.9%	8.5%	7.7%
ITALY	0.3%	4.2%	5.1%	11.8%	4.6%
CANADA	5.2%	6.2%	6.7%	8.6%	7.1%
IDA	4.1%	4.8%	4.0%	7.3%	6.4%
EDF	25.7%	22.1%	12.8%	11.5%	8.5%
AfDF		42.9%	23.0%	26.3%	19.2%
UNDP	5.0%	5.7%	8.6%	11.4%	8.4%
WFP	3.8%	5.4%	7.4%	8.0%	4.7%
ARAB COUNTRIES	2.4%	3.5%	4.7%	6.4%	0.9%

With 15% of its total aid going to the Sahel, France is the bilateral donor most focused on the region. Among multilaterals, the African Development Fund (of the African Development Bank) has in recent years given between 20% and 25% of its resources to the Sahel. As indicated above, EDF aid to the Sahel has diminished, its share falling from 25% between 1970-1974 to 8% during the most recent period. This drop is due largely to the rise in number of priority aid destinations for the EDF.

III. Aid Recipients In The Sahel

The Sahel, defined as member-countries of the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS), comprises nine countries. Two of these countries Guinea Bissau and Cape Verde, only recently gained their independence, in 1973 and 1975 respectively. This may explain some discontinuities in the aid statistics for these countries in the 1970s.

Table 3.1: Aid to Each Country in Real Terms, 1970–94

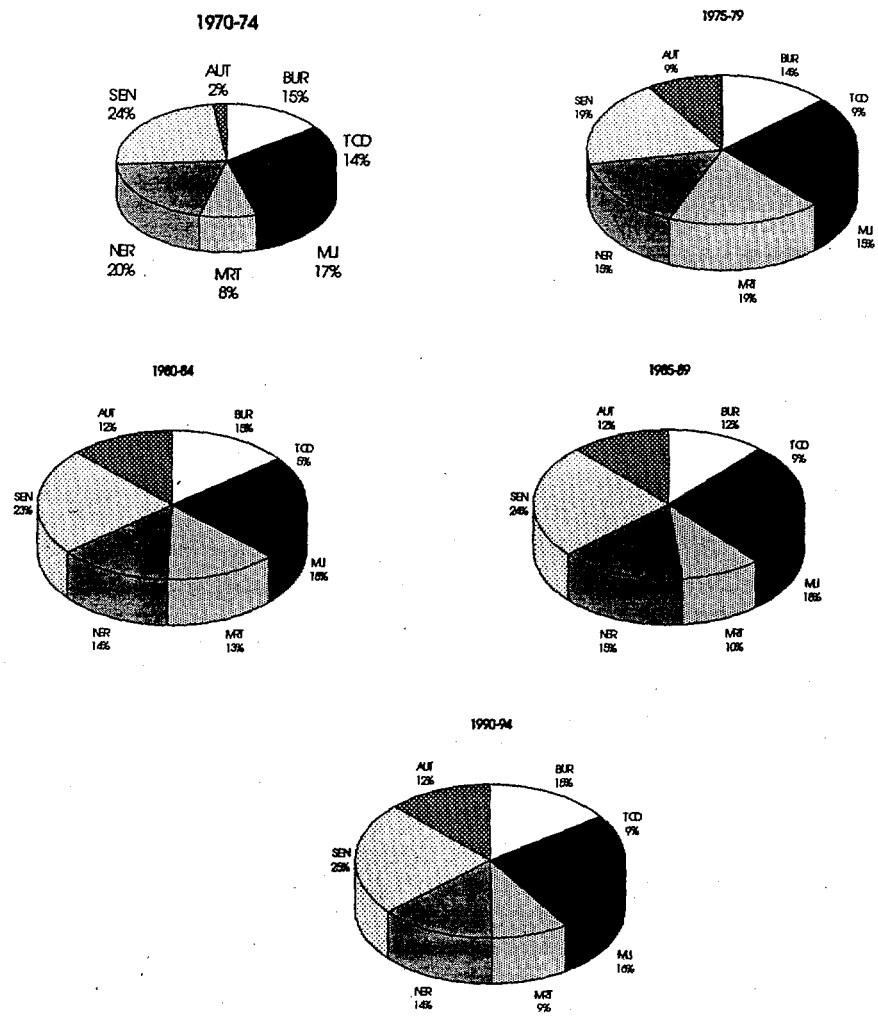
BURKINA FASO	139	207	235	305	434
CAPE VERDE	0	42	68	103	120
CHAD	124	141	88	246	260
THE GAMBIA	16	36	61	102	97
GUINEA BISSAU	2	60	72	106	130
MALI	161	230	290	462	450
MAURITANIA	85	279	215	249	261
NIGER	188	232	222	386	386
SENEGAL	216	291	381	654	675
TOTAL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Overall, aid has regularly increased in real terms for most countries in the Sahel. A few countries, such as Chad and Mauritania, have seen less regular flows. In Mauritania, aid has been

lower in real terms in recent years than at the end of the 1970s. Aid to Mali and The Gambia also fell in 1990–94 compared with the previous period.

Graph 3.1: Division Between Countries of Aid to the Sahel, 1970–94

BUR: Burkina Faso; TCD: Chad; MLI: Mali; MRT: Mauritania; NER: Niger; SEN: Senegal; AUT: others.



The share of aid to the smaller countries (Cape Verde, Guinea Bissau, The Gambia) rose from 2% in 1970–74 to 12% in the 1980s. (As mentioned earlier, this is in part due to the late arrival on the scene of Cape Verde and Guinea Bissau as independent nations.) These three countries receive some 12% of aid to the Sahel while they have 5% of the region's population. Senegal receives relatively regularly one-quarter of the aid for 17% of the population.

Table 3.2: Aid As A Share Of GDP In Sahelian Countries, 1970ñ74

	1970–74	1975–79	1980–84	1985–89	1990–93
BURKINA FASO	10%	13%	14%	15%	15%
CAPE VERDE	0%	36%	51%	59%	39%
CHAD	10%	13%	11%	26%	22%
THE GAMBIA	7%	14%	25%	42%	30%
GUINEA BISSAU	1%	31%	43%	58%	54%
MALI	12%	14%	18%	25%	20%
MAURITANIA	11%	33%	25%	27%	24%
NIGER	9%	11%	9%	18%	16%
SENEGAL	7%	9%	12%	16%	12%
SAHEL	9%	13%	15%	21%	17%

Aid as a share of GDP in the Sahel increased continually until the early 1990s. Since then it has fallen. The share is highest in the smallest countries.. Conversely, Senegal, with the highest level of economic activity, has the lowest share. This is not specific to the Sahel but is a general characteristic of aid: its contribution is relatively higher in small economies.

The dependency implied by these figures must be interpreted with caution.

- Not all aid is material. Some covers debt rescheduling, where the interest content is purely a book-keeping matter with no material benefit;
- Not all aid is spent in the recipient country;
- Aid is sometimes calculated on values that do not compare properly with the economy of the recipient country[8]. For example, should the costs of technical assistance really be compared with other budget costs (which is implicitly done when aid is calculated as a share of the recipient country's GDP)?

A number of indicators may be envisaged for measuring dependency, giving significantly different results. GDP in dollars, as given above, over-estimates the dependency of countries where domestic prices are low (particularly those with soft currencies). For example, the devaluation of the CFA franc had the effect of considerably increasing aid as a share of GDP in the Franc Zone countries as from 1994, although their "level of dependency" did not necessarily increase[9]. If aid is compared with GDP expressed at purchasing power parity[10], the figures are rather different. They fall to 7.5% for the Sahel as a whole in 1990–93. For Guinea Bissau the figure is 15% (compared with 54% uncorrected) during the same period.

The measure of ODA as a share of export earnings gives different results again. In 1990–94 it was 77% for the Sahel as a whole. It was 540% for Guinea Bissau but only 47% for The Gambia,

[8] This difficulty can be largely avoided by using national statistics calculated at purchasing power parity.

[9] It could even be argued that a country's dependency on aid tends rather to diminish after devaluation because its budget and external deficits are reduced.

[10] GDP at purchasing power parity (PPP) is a measure of the activity of a country by a fixed international price system making possible comparisons between national statistics using differing price systems. The PPP data come from the World Bank (Reports on development in the world).

together with Senegal (46%), is one of the countries least "dependent" on aid on this indicator, although its ratio of aid to GDP is one of the highest.

Table 3.3: Aid Per Person In The Countries Of The Sahel, 1970-94

$ (1990)	1970–74	1975–79	1980–84	1985–89	1990–94
BURKINA FASO	24	32	32	37	45
CAPE VERDE	0	148	227	303	309
CHAD	33	34	18	47	44
THE GAMBIA	31	61	90	123	98
GUINEA BISSAU	3	84	86	114	128
MALI	29	37	42	59	50
MAURITANIA	65	193	133	137	124
NIGER	43	46	38	55	47
SENEGAL	49	57	65	96	87
SAHEL	35	50	48	67	63

The level of aid per person has varied like the preceding measure: a rise until the end of the 1980s, followed by a slight fall. Altogether, aid per person is just under twice what it was in the early 1970s. Once again, the small countries are the ones that receive most aid.

For the same reasons as before, these figures must be interpreted with caution. They do not mean that on average each person in the Sahel receives $63 a year. The figures must be seen in terms of their variation over time and from one country to another.

IV. Aid By Sector

Statistical analysis of sectoral allocations of aid to the Sahel is a difficult task. The only overall data available are those that various donors transmit to the DAC. However, this information is to be interpreted with caution.

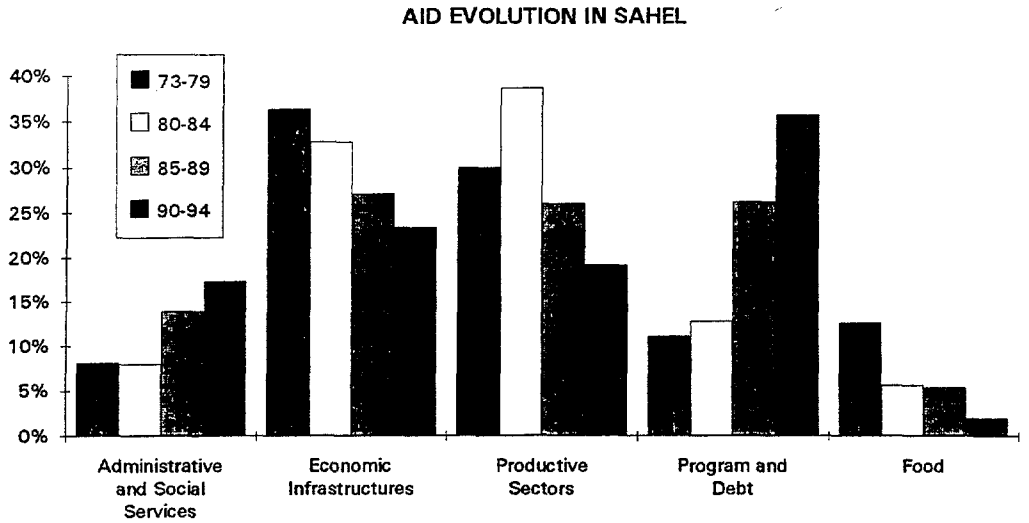
The data are incomplete. Some donors do not give this information. Others exclude certain forms of aid from their sectoral figures. Sectoral statistics are well covered for aid as a whole (between 80% and 90%) but may be patchy for particular areas such as the Sahel.[11]

The data covers commitments rather than disbursements. This appears to be a major difference. Despite their incompleteness, statistics for sums committed by sector show that on average over the long term the value of commitments is more than 50% greater than the value of actual disbursements.

This seems to be a common feature of aid, revealing a certain contradiction between on the one hand the administrative constraints of the donors and the limited capacity of absorption of the recipients and on the other hand, their common desire to announce the figures of aid committed. However, the large gap between commitments and disbursements for the Sahel implies that this phenomenon is particularly acute in the Sahel, although this cannot be proven from the data available.

[11] France in particular does not provide the DAC with a sectoral breakdown of its technical cooperation, which is a major part of its total aid to the Sahel.

Graph 4.1: Breakdown Of Committed Aid To The Sahel By Major Sector[12], 1970-94



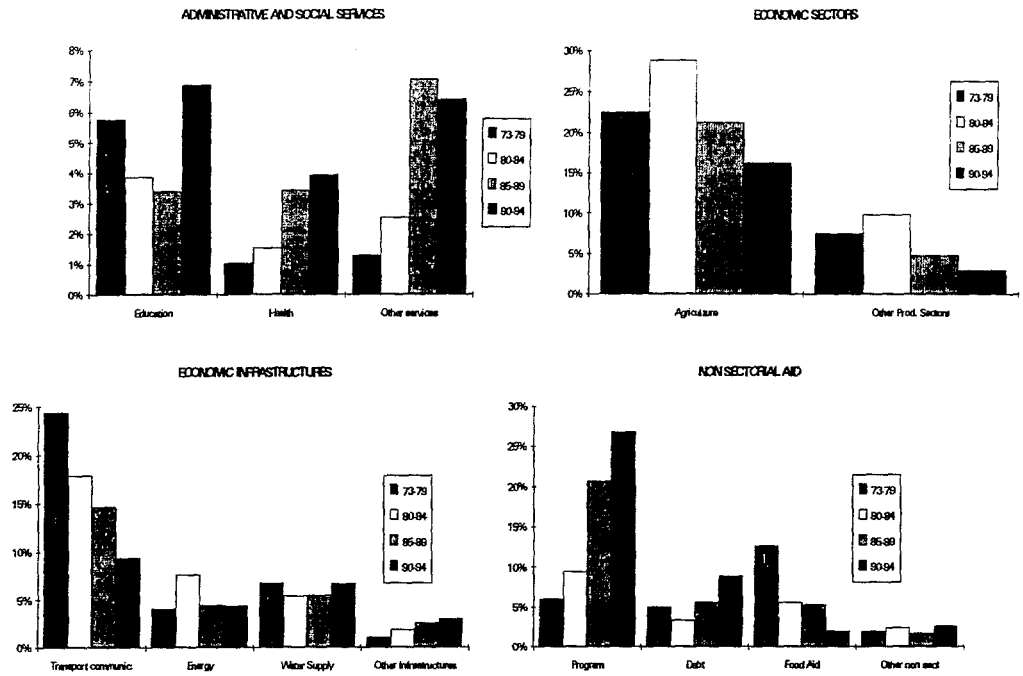
Social and administrative services
Economic infrastructure
Productive sectors
Program and debt
Food aid

Sectoral trends in aid are clear. Aid for economic infrastructure and food aid have declined continuously. Aid to the productive sectors has also fallen since the latter half of the 1970s. However, program aid and alleviation of debt has increased, as has support for social and administrative services[13]. It may be said that aid is becoming increasingly less material. Services, administration, education and macro-economic aid are overtaking the more material aspects of aid: infrastructure, food aid, aid for the productive sectors. Similarly, aid has become **less economic and more political, administrative and social.**

[12] Under various classifications, the subsector water and sewerage comes under social and administrative services or economic infrastructure. We have opted for the latter.

[13] It may be supposed that aid to the social and administrative services is under-estimated because it does not include French technical cooperation, which is a major factor. This does not reduce the significance of the trends.

Social and Administrative sectors Economic Infrastructure



Education Healthcare Other services

Transport, Communic. Energy Water and sewer. Other econ infr

Agriculture Other productive sectors

Program Debt Food aid Other non-sector.

Productive sectors Non-sectoral aid

Aid to health services has increased, albeit at a low level (4% between 1990–94). Aid to educational services has risen sharply in recent years, to 7% of committed aid in 1990–94. Aid to administrative services also increased significantly over the whole period.

Aid to productive services, which has been declining since the mid-1970s, goes predominantly to the farm sector.

The reduction in aid to the economic infrastructure is explained by the reduction in committed aid to the transport and communication infrastructure, which fell from nearly one-quarter between 1970–74 to less than 10% between 1990–94.

Program aid, on the other hand, has risen from 6% of committed aid in 1970–74 to 27% in 1990–94. Other non-sectoral aid, including regional programs, is only a slight proportion of total aid.

V. Aid To The Countries Of The Sahel In A World Perspective

The Sahel has seen a substantial increase in its aid in real terms. But does this mean that it is a region that receives a lot of aid, or too much? The question may be divided in two: Are the Sahelian countries among the most aided in the world; and does their rank correspond to their size of population or wealth, or to some factor specific to the region?

Table 5.1: Recipient Countries Ranked by ODA/GDP in 1993

World ranking			Sahelian countries		World rank	Africa rank
1	Tuvalu	143%	Guinea Bissau	42%	5	4
2	São Tomé	112%	Cape Verde	34%	9	7
3	Somalia	103%	Mauritania	30%	14	11
4	Mozambique	88%	The Gambia	23%	21	15
5	Guinea Bissau	42%	Chad	19%	28	18
6	Guyana	38%	Burkina Faso	16%	33	20
7	Botswana	37%	Niger	15%	36	21
8	Tanzania	36%	Mali	13%	43	26
9	Cape Verde	34%	Senegal	9%	53	33
10	Sierra Leone	33%				

Table 5.2: Recipient Countries Ranked by Aid Per Person in 1993

1	New Caledonia	$2194	Cape Verde	$293	7	3
2	Botswana	$957	Mauritania	$153	18	6
3	Tuvalu	$400	Guinea Bissau	$92	28	12
4	São Tomé	$369	The Gambia	$84	29	13
5	Western Samoa	$325	Senegal	$63	43	18
6	Tonga	$310	Burkina Faso	$48	53	26
7	Cape Verde	$293	Niger	$42	63	31
8	Seychelles	$271	Mali	$40	64	32
9	St Kitts–Nevis	$250	Chad	$37	70	34
10	Djibouti	$235				

The ranking of all countries that received aid in 1993, 142 including 45 in sub-Saharan Africa, shows that countries of the Sahel are among those receiving large amounts of aid. But they are not the most aided in the world, even in sub-Saharan Africa. Naturally, the interpretation of these rankings is made difficult by the diversity of countries compared, particularly in terms of wealth and population. For example, smaller countries receive more aid proportionately.

This difficulty can be overcome by finding the regression line for 1993 data, which gives a theoretical level of aid as a function of the population and wealth of a country. Comparison between the actual observed level of aid and the theoretical level given by the model provides a measure of the scarcity or abundance of aid received by a country, given its population and wealth; this measure must therefore depend on other criteria: political, geographical, cultural, etc.

Table 5.2: Regression Equation For Aid Received In 1993

$$\text{Log(ODA93)} = 4.60 + 0.42\ \text{Log(population93)} - 0.49\ \text{Log(GDP per cap 93)}$$
$$(0.05) \qquad (0.08) \qquad R^2 = 0.55 \quad N = 139$$

This equation is statistically highly valid. The coefficients indicate the following: a country having a population 10% bigger than another will receive on average 4.2% more aid (so the smaller the country the more the aid per person); a country having per capita GDP 10% higher than another will get 4.9% less aid (so the richer the country the less aid it gets).

Using this equation it is possible to rank countries by the ratio of observed to theoretical aid received.

Table 5.2: Recipient Countries Ranked By The Ratio Of Observed To Theoretical Aid Received (%)

World ranking			Sahelian countries		World rank	Africa rank
1	New Caledonia	4600%	Senegal	278%	15	5
2	Israel	3400%	Mauritania	266%	18	6
3	Botswana	770%	Cape Verde	256%	21	7
4	Egypt	550%	Burkina Faso	153%	49	17
5	Bahrain	535%	Mali	123%	70	25
			Niger	117%	75	27
135	Bahamas	9%	The Gambia	82%	89	36
136	Kazakhstan	8%	Chad	75%	93	38
137	Trinidad Tobago	5%	Guinea Bissau	71%	97	40
138	Dominican Rep.	3%				
139	Uzbekistan	2%				

By this ranking, six out of nine Sahelian countries receive more aid than would be indicated by their wealth and population, but they are far from the top on this criterion. Any possible "Sahel effect" on the level of aid received can be tested by introducing a specific variable of value 1 for Sahelian countries and 0 for the others into the equation This variable turns out to be insignificant, showing that there is no Sahel effect on the level of aid. On average, the countries of the Sahel are not more aided than their level of wealth and population would suggest according to international comparisons. This result stands up to analysis, since identical results have been achieved, with very similar methods, for 1990 and 1980.[14]

It will also be seen that this ranking reveals the complexity involved in assessing a "right" or "appropriate" level for aid. Senegal appears here as the best-placed and thus the most aided country, while Guinea Bissau is worst placed. But this ranking is the precise opposite of that obtained by the gross ratio of ODA to GDP.

[14] See Jean-Marie Cour, David Naudet. External Financing of Development in West Africa: Analysis of Transfers and Discussion of Development Aid. WALTPS working paper. OECD/ADB/CILSS, 1994.

In terms of the fairness of the international allocation of aid, therefore, the Sahel is aided neither too much nor too little. But that does not settle the question, since the level of aid can be measured in other ways too. One might examine the level of aid as compared with the capacities of absorption of the recipient institutions.

VI. Aid And Development Funding

Table 6.1: Development Funding For The Sahel, 1970ñ92 (Nominal)

$ m	1970–74	1975–79	1980–84	1985–89	1990–92
Public development funding	354.9	1056.0	1695.3	2253.1	2744.3
Official Development Assistance	321.0	927.1	1400.9	2260.2	2785.4
Other development funding	33.9	128.9	294.4	–7.1	–41.2
Export credit			1.1	1.7	1.8
Private investment	30.4	107.8	103.2	–15.9	–58.9
Total net contribution of resources	385.2	1163.7	1799.2	2238.9	2687.2
Public interest	6.3	21.6	66.8	177.8	134.6
Private interest	5.1	36.5	78.6	52.3	28.1
Net transfers	378.9	1142.1	1732.4	2061.0	2552.6
Net transfers / GDP	10.2%	16.4%	18.1%	19.0%	16.1%

Source: World Debt Tables, DAC statistics

Official development assistance is far and away the predominant form of medium and long-term financing for the countries of the Sahel. The ratio of net transfers to GDP in 1990–92 was comparable with that in 1975–79.

It can be seen that private investment has become disinvestment, especially in Senegal and Niger, and other public development financing (non-concessionary loans) has also fallen.