

ODA and Human Development in sub-Saharan Africa: Evidence from Panel Data

By

Oluyele Akinkugbe

Department of Economics and Economic History

Rhodes University,

PO Box 94, Grahamstown 6140

South Africa.

O.Akinkugbe@ru.ac.za

Olalekan Yinusa

Department of Economics

University of Botswana

Private Bag 0705 Gaborone

Botswana.

yinusado@mopipi.ub.bw

Abstract

The relevance of Technical Cooperation (TC)—one important and significant component of ODA flows— for state and institutional developmental capacities in Africa has been a subject of intense debate in the past few decades, given its assumed potency in the drive towards desirable growth trajectories and attainment of the Millennium Development Goals (MDGs) as well as the other international targets. However, impact of the flows, both of ODA as a whole and TC in particular have been mixed over the years—growth rates in Africa as well as in the respective countries remain far below desired levels, extreme poverty continue to be endemic and majority of African states are still classified as low human development countries by the UNDP. Hence partner countries and even the international development partners (DPs) themselves have voiced concerns about the development-credibility problem of the current aid architecture in general, and the delivery of technical cooperation in particular. Apart from dwindling technical cooperation flows in recent times, a large proportion of this fund is found to be used to service “consultants and experts” working in Africa. This has consequently cast doubts on the relevance of TC in sub-Saharan Africa and led to increased attention on how to make technical assistance and aggregate aid more effective.

Using panel data on selected sub-Saharan African countries, sourced mainly from World Development Indicators (WDI) Online, the OECD DAC database, the Freedom House database, and the UNDP Human Development Reports, this paper examines the trend and pattern of technical cooperation flows. Also, the paper examines quantitatively the nature of the relationship between a chosen indicator of development—HDI—and inflow of technical cooperation, incorporating relevant policy, institutional and other development enhancing control variables. The results from the preliminary analysis are mixed; they suggest that from aid research point of view, there is the need to examine more critically the different components of aid flows in terms of their effectiveness; as well as focus on the human development impact of aid as opposed to the current practice of investigating the overall growth effect of aggregate aid. This way, research outputs may help to distil the overall impact of the multifarious efforts of multilateral agencies such as the UNDP, the OECD, as well as the different bilateral agencies. This may also help in providing empirical basis in support of the different aspects of the Paris Declaration on aid effectiveness (PD) and the Accra agenda for Action (AAA). In terms of policy recommendations, the paper suggests that for technical assistance to be 'real', reform needs to be anchored in four underlying principles - putting recipient countries in the lead; giving them the freedom to choose their own development path; mutual accountability between donors and recipients; and country specificity.

Key Words: ODA, Technical Cooperation, Development, HDI, Panel Regression Africa,

**Being Paper Prepared for presentation at the 14th Annual Conference on Econometric Modelling for Africa organised by African Econometrics Society, at the Sheraton Hotel, Abuja-Nigeria, 8-10 July, 2009.*

1. Introduction and Background

Theories and policy prescriptions for economic development have gone through a number of paradigms in the last four decades (see Adelman 1999; Thorbecke 2000, 2007; Mavrotas et al, 2007 for surveys). One of these is based on the dual gap analysis of Chenery and Strout (1966), which perceives that for a typical developing county, the major obstacle to development is either capital or foreign exchange shortage. Another paradigm, focusing specifically on the private sector, contends that private sector entrepreneurial shortage constitutes the major obstacle to development (see Odedokun, 2004). Furthermore, and with strengthening of the bilateral and multilateral aid architecture and relations after World War II, the concept of “gap filling with aid flows” became formally enshrined in development theory, to such an extent that aid became synonymous with development (Browne 1990). The implicit rationale of foreign financial aid, or official development assistance (ODA) flows is therefore based on these capital/foreign exchange obstacles and/or the need for gap filling with aid, to achieve sustainable development in developing countries.

Emerging debate in the literature in more recent times is that while on one hand, high levels of aid have the potential to improve governance, on the other, they can also work against governance improvements (Moss *et al*, 2006; Brautigam and Knack, 2004). On the positive side, high levels of aid channeled to governments with clear development agendas can be used to improve the quality of civil service, strengthen policy and planning capacity, and establish strong central institutions. In the East Asian region, South Korea and Taiwan are good examples of this, while Botswana shows that the same processes can also work in SSA (Jerker Carlsson et al, 1997). Aid can release the binding constraint of low revenues for governments committed to development (Shanta Devarajan, et al, 2001). Some researchers have found that high levels of aid (at around 40% - 45% of GDP) promote growth when given to countries with good macroeconomic policies (Ramesh Durbarry *et al* 1998). Positive levels of economic growth, in turn, can also generate new revenues for funding improvements in government quality. High levels of aid might also deter governance improvements in at least two major ways (Moss *et al*, 2006). First, the way large amount of aid are delivered can weaken institutions rather than build them. This can happen through the high transaction costs that accompany aid, the fragmentation that multiple donor projects and agendas promote, problems of “poaching,” obstruction of opportunities to learn, and the impact of aid on the budget process. Less directly, but just as important, high levels of aid can create incentives that make it more difficult to overcome the collective action problems involved in building a more capable and responsive state and a more effective foreign aid system.

It has also been noted that the negative institutional impact of aid in weak African states with low absorptive capacity may be quite significant, (Sawyer 1997, Berg, 1993, Elliot Morss, 1984, Stephen Lister and Michael Stevens, 1992:35; Brautigam and Knack 2004) since each project normally do require the supervision, monitoring, evaluation and reporting. It has been noted that in Ghana for instance, which is one of the most heavily aided African countries, senior officials each spent as much as 44 weeks a year facilitating or participating in donor supervision missions, time they were unable to devote to their ministries’ own priorities (Sawyer, 1997). The aid community clearly recognizes the problem. As the World Bank has commented, “donors may fragment central capacity for policy formation, entering with ministries into bilateral deals on multiple projects without determining whether their cumulative effects are collectively sustainable or mutually consistent (WB, WDR, 1997:84).

Donor competition for scarce skilled workers as well as the provision of technical assistance that tend to substitute for partner country's own capacity may also accompany high levels of aid flows to low income countries (Brautigam and Knack, 2004:261). Since most governments in Africa are not able to manage multiple projects which donors on the other hand want to fund, donors resort to setting up of project implementation units (PIUs) that are independent from normal government departments, with off-budget funding. The implication of this is that the provision of technical assistants who do not transfer skills but simply do the work themselves or the setting up by-pass units can only serve to limit the ability of governments (central or local) to acquire skills which are prerequisites for effective management of aid projects and delivery of other essential public services. Furthermore, with multiple projects to administer, donors require skilled local staff, which is scarce in many SSA countries. Hence Donors tend to bid up the price of capable staff, attracting them away from the private (productive) sector and from government (Lise Rakner *et al.*, 2001). This poaching weakens institutions as it creates resentment and lowers morale for those that are left behind.

Hence, while technical assistance, an important component of ODA, was initially viewed as a technical process involving the simple transfer of knowledge or organisational models from the developed to developing countries, recent experiences point to the contrary. Given the critical political and social dimensions involved in capacity development, as well as countries' commitments to sustainable capacity development, *new emerging consensus* views capacity development as an endogenous process that needs to be driven from within a country with donors playing a supporting role¹. In this light, one of the major items on the menu of current debate on global development issues is the need for enhanced capacity development in order to accelerate progress towards achieving the Millennium Development Goals (MDGs) and other international targets in sub-Saharan Africa (SSA).

From the foregoing, the possibility of harmful aid dynamics seems particularly acute in Africa, where some countries have now entered into their third and fourth decades of receiving substantial volumes of aid. This is particularly the case where a lack of political stability tends to hamper the positive impact of TC. In the last three decades, over a dozen economies on the continent have been subject to violent civil conflict (see for example Collier, 2005; Reno, 1998). Long periods of political stress, conflict and state collapse, continue to have a significant impact on state capacity, even after the return to political stability because of their long-term institutional effects, notably on the supply of trained manpower. Even in those countries that have enjoyed some measures of stable political systems, the slow pace of institution-building still remains highly noticeable.

In this regard, the Paris Declaration on aid effectiveness that derived from HLF1 and HLF2 and the Accra Agenda for Action (AAA-HLF3) have mandated partner and the donor community to redirect their collective attention on a more effective delivery of aid and technical cooperation. This re-direction of attention to results-oriented, operational agenda of aid effectiveness has a number of elements that include among others: (i) Greater aid decision making by the partner countries around management arrangements that are increasingly collaborative; (ii) Greater expectations for partner country leadership and ownership of aid, with donors playing a supportive role; and (iii) Greater realization that creating partner country capacity to manage aid is the flip side of the principle of ownership and is key to the sustainability of most development co-operation.

¹ See the Joint Study report on Effective Technical Cooperation for Capacity Development: Ghana Country Case Study, Pp.6.

The primary objective of this paper is an empirical analysis of the effectiveness of technical cooperation in uplifting state developmental capacity for purpose of achieving desirable growth and development trajectories in Africa. Although the aid-growth literature have grown astronomically in the last two decades or more, very few empirical studies have specifically looked at the effectiveness of aid—and technical cooperation in particular—on human development using the Human Development Index (HDI) as conceptualized by the UNDP since the early 1990s. This paper intends to contribute to the literature in this direction.

2. ODA and Technical Cooperation in Africa's Development Agenda

Aid or official development assistance (ODA) consists of concessional loans and grants to developing countries for purposes of promoting development. ODA statistics also include expenditures on technical assistance (technical cooperation) which is the component that is the central focus of this paper. In this section, we examine the trend in the technical assistance component of ODA in the last 2 decades (1986 to 2006); the main source of data being the Development Assistance Committee (DAC) of the OECD². For purposes of our analysis, technical cooperation is conceptualized as all resources which support the development and utilization of services, skills, knowledge and technology in the form of training, advisory services, human resources development and service delivery. Such resources (according to Baser and Morgan (2001) include both long-and short term expertise from national and foreign resources, plus training, supporting materials and equipment, consultancies, study visits and seminars—development assistance to national governments (aimed at helping them implement national policies in pursuit of poverty reduction). This means that technical cooperation (TC)—the provision of know-how—is one input to the complex, long term process of capacity development in Africa. Broadly and usually dictated by differing circumstances and nature of needs, technical cooperation may be granted to support the development processes in developing countries in the following ways:³

In Fragile states: TC can be granted to support political transition and peace building processes in situations of **conflict**; build consensus on development priorities, rebuild institutions and support core state functions in **post-conflict** countries; strengthen forces for reform, and support non-state delivery of services in countries with limited pro-poor policies and high state capture.

In Aid-dependent Low-income countries (LICs): TC can be provided in support of the development of strengthened policy processes—the Millennium Development Goals (MDGs) and the Poverty Reduction Strategy Process (PRSPs) for instance—capacity development of government institutions (e.g. for public sector reform and Public Financial Management across all sectors), build accountability (e.g. support to civil society and to Parliament), and support growth and trade capacity, as well as South-South cooperation.

In Middle-income countries (MICs): In weak, fragile or conflict-affected MICs, TC might focus on long-term stabilization and state building, including legal and economic reform, public goods such as security and access to justice, and service delivery.

In stable MICs with growth potential: TC can support policy development and sector reform, enable access to concessional finance, empower civil society, and provide support to manage shocks.

In large MICs with growing global power: TC can help align political choices to meet the MDGs, and help reduce negative global footprints.

² Even though we are cognizance of the fact that significant amount of TC also do emanate from non-OECD member countries such as India and China, for the sake of consistency and reliability, the data set for all analyses in this section derive only from OECD sources.

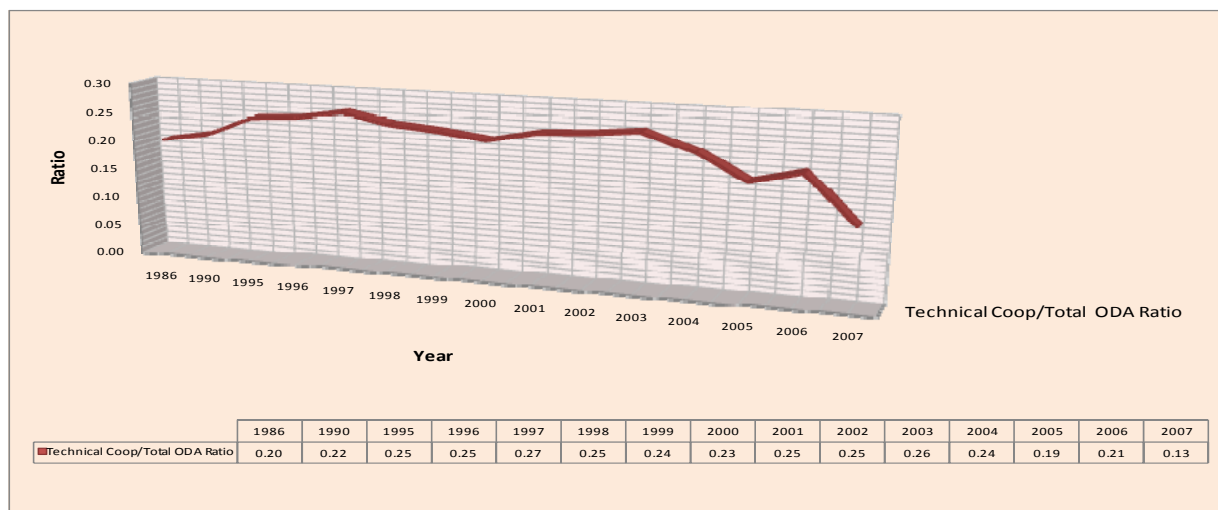
³ See DFID (2006).

TC flows is expected to promote the creation of critical mass of professionals able to analyze development problems, formulate policy options and implement decisions and programs in Africa, within the context of a rapidly globalizing economy⁴. It is seen as an input to the long term process of Human development. An examination of the trend of resource allocation in Africa by the donor community for technical assistance constitutes the thrust of discussion in this sub-section.

2.2 Volume and Trends in Technical Cooperation Flows to Africa

After some spell of volatility in the 1980s to early 1990s, the inflow of total aid (ODA) to developing countries in general and Africa in particular in the last one and a half decade has been on the rise. Despite this, several general observations can be made about the trend in TC flows. In the first instance, technical cooperation continue to account on average (per annum) for about 25 percent of ODA in the last three decades, even though there have been considerable variations in trends across the different countries and regions of the developing world. Global data on official development assistance (ODA) and TC show that overall flows of ODA decreased during the 1990s, and that TC flows to Africa fell or stagnated on average at about US\$ 7 billion between 1986 and 1994 (Table 1), with poor countries and sub-Saharan Africa especially experiencing declines. This decline continued till 2000, when a decade low of \$US 5 billion were recorded for the whole of Africa. In actual fact, as a proportion of total TC flows to developing countries, the flows to Africa declined from about 40 percent between 1986 to 1989 (average) to 26 percent in 2003 before recovering to about 30 per cent in 2006. This again may have followed the pattern of flows of ODA in total; due in part to divergence of these towards the emerging economies of Eastern Europe. Figure 1 also shows that the ratio of TC to ODA flows in Africa which increased only slightly for the period 1986 to 1997, declined over the period 2002 to 2004—dramatic declines in this ratio have since 2005 being pronounced. In addition to diverting TC flows to Eastern Europe, additional explanation for the decline in the ratio of TC to ODA flows to Africa could be found in the significant increases in the debt relief component of ODA flows to Africa since 2001.

Figure 1: Declining Trend of TC/Total ODA ratio to Africa, 1986-2007



Source: OECD (2009). <http://stats.oecd.org>

⁴ See Berg et al (1993:45).

Table 1: Technical Assistance Flows to Developing Countries and Africa, 1986 - 2006

	1986-89	1990-94	1995-1999	2000	2001	2002	2003	2004	2005	2006
Developing Countries, Total	18081.4875	19958.188	18356.21	17489.27	19312.62	21238.74	22583.48	21197.49	23076.6	23858.39
Africa, Total	7224.05	7211.052	6174.796	5537.9	6027.06	6558.34	6454.63	5941.31	6085.66	6982.78
Africa's share in developing countries' total	39.95	36.13	33.14	31.66	31.21	30.88	25.58	28.03	26.37	29.27
Algeria	106.335	140.026	129.302	114.57	117.8	137.73	172.11	199.56	204.77	199.3
Angola	60.485	82.336	84.288	65.96	78.03	81.72	93.43	77.08	85.26	75.01
Benin	73.96	69.048	80.994	90.03	82.08	89.14	103.41	94.75	97.08	111.23
Botswana	92.0825	74.218	47.282	23.49	23.82	45.86	30.07	36.29	31.93	37.32
Burkina Faso	150.9625	156.154	122.874	110.02	120.22	109.21	120.26	110.74	101.2	128.92
Burundi	88.855	80.76	29.626	20.2	15.52	32.62	35.11	30.02	41.55	51.34
Cameroon	168.6425	157.638	131.318	136.27	155.23	157.82	159.35	157.51	155.61	181.41
Cape Verde	32.0675	45.384	44.212	44.83	27.18	29.35	67.07	46.01	45.4	44.08
Central African Rep.	80.23	64.902	42.726	30.11	29.7	29.19	27.29	35.92	39.85	37.95
Chad	78.1675	78.448	58.524	44.55	39.82	45.81	48.33	45.73	47.29	44.55
Comoros	27.3525	21.132	15.54	12.27	12.44	14.41	14	13.29	13.46	13.7
Congo Dem.Rep. (Zaire)	276.285	114.78	62.222	66.75	78.31	106.39	143.78	152.53	195.29	187.31
Congo, Rep.	62.995	58.368	38.608	28.17	28.57	34.58	37.48	35.04	33.16	31.39
Cote d'Ivoire	137.8475	162.496	121.806	102.69	102.99	103.17	87.62	82.63	70.19	133.13
Djibouti	65.62	57.664	42.332	33.98	37.22	32.9	31.94	30.95	33.02	42.64
Egypt	976.9475	1056.152	771.91	565.04	858.75	895.8	613.32	209.34	398.69	421.79
Equatorial Guinea	15.0025	27.846	16.812	11.37	7.12	14.32	14.86	13.9	17.9	16.89
Eritrea	..	23.445	47.428	30.59	41.9	40.38	47.62	35.52	27	17.92
Ethiopia	267.4125	231.046	178.884	159.82	173.38	209.34	187.33	188.1	204.98	262.27
Gabon	59.1275	53.962	47.498	38.04	40.28	39.88	47.93	46.74	46.82	55.91
Gambia	43.9075	32.196	18.764	12.7	15.52	16	15.61	10.7	9.8	12.08
Ghana	81.1	109.236	127.284	155.96	144.6	156.72	154.92	149.33	129.3	142.38
Guinea	57.8625	89.982	69.818	66.01	69.53	69.66	78.16	76.21	64.87	75.08
Guinea-Bissau	41.2075	47.078	42.628	19.38	23.18	24.22	22.17	17.12	16.39	16.09
Kenya	275.9475	296.236	208.604	171.43	176.39	204.75	193.05	223.87	225.91	283.57
Lesotho	70.295	54.868	32.04	15.44	19.35	15.75	16.88	15.33	15.07	16.55
Liberia	54.61	22.806	18.39	28.96	17.99	14.51	16.9	28.99	56.52	56.59
Libya	10.935	5.308	3.896	..	..	..	..	..	11.09	34.57
Madagascar	102.8625	115.706	128.118	111.58	108.37	109.6	110.27	102.27	98.66	112.48
Malawi	123.5325	137.08	101.91	134.78	108.95	130.5	140.21	117.89	106.6	103.82
Mali	142.0725	149.866	144.122	154.33	121.45	157.25	145.28	130.49	133.72	136.56
Mauritania	73.46	62.216	49.298	44.53	49.22	45.62	47.58	41.29	42.99	41.21
Mauritius	29.265	25.898	25.912	22.07	22.89	24.4	24.09	24.24	23.8	23.25
Morocco	225.6275	249.214	284.046	275.25	308.81	397.65	405.94	398.1	395.06	404.21
Mozambique	132.7125	232.014	222.938	234.02	230.55	256.26	257.14	222.5	195.28	219.31
Namibia	25.3575	64.54	79.28	62.34	65.09	63.78	72.42	72.84	57.25	77.62
Niger	138.9425	136.696	93.048	60.8	68.34	68.81	66.58	63.07	64.9	105.86
Nigeria	96.05	119.532	82.2	89.52	119.56	168.89	188.02	264.34	218.62	324.03
Rwanda	127.215	118.76	86.156	76.7	79.39	106.4	109.04	103.96	110.67	128.03
Sao Tome & Principe	8.2325	16.312	20.098	18.29	16.46	17.04	15.13	15.76	11.26	11.17
Senegal	204.055	217.578	183.208	169.37	196.97	209.89	234.44	230.32	235.22	360.88
Seychelles	15.72	13.164	9.086	4.59	5	5.94	7.23	6.2	6.62	4.47
Sierra Leone	49.8725	34.032	23.474	29.88	43.92	59.02	80.4	40.37	32.72	42.69
Somalia	226.43	79.934	33.934	20.64	45.27	19.02	23.03	11.12	9.47	18.63
South Africa	..	192.035	275.494	295.16	297.63	281.09	303.11	252.31	257.64	281.85
Sudan	260.76	168.914	53.778	39.1	36.9	47.44	62.13	90.45	136.55	213.45
Swaziland	41.1225	38.656	24.396	11.67	11.47	11.62	8.32	4.97	6.25	5.84
Tanzania	307.685	279.944	259.186	197.82	207.57	225.48	177	188.52	185.07	210.95
Togo	74.355	57.952	33.382	32.64	34.41	35.9	38.53	36.52	35.1	31.95
Tunisia	130.91	120.248	121.316	133.99	130.16	136.37	150	148.17	149.2	149.49
Uganda	108.215	145.192	164.272	170.55	184.46	191.65	200.51	226.95	227.09	267.34
Zambia	188.7825	181.662	154.202	139.26	129.93	145.57	136.15	153.72	171.4	184.41
Zimbabwe	139.0875	173.722	131.03	100.37	107.35	80.54	68.66	59.15	70.92	68.87

Source: OECD (2009). <http://stats.oecd.org>

2.3 Regional Distribution of TC Flows to Developing Countries

Despite the dramatic increases of ODA flows to developing countries as a whole in the course of the last two decades; and bearing in mind the rather stagnant nature of the TC component of ODA flows, Table 2 shows that the geography of TC flows has been very uneven. While TC flows to Africa constituted close to 40 percent on average of total flows to developing countries between 1986 and 1999, its share started to decline early in this millennium (Table 2). Benefitting from Africa's loss of comparative advantage as destination of TC flows are Asia (Far East Asia, and South & Central Asia in particular) as well as the countries in Transition in Eastern Europe. Hence, while Africa's share declined from 31.7 percent in 2000 to 26.4 per cent in 2005, the flow of TC expenditure to Asia rose from 28 percent to 33 percent during the same period. Europe's share on the other hand rose from 4.5 percent in 2000 to 6.1 percent in 2006. Within Africa moreover, Table 2 shows that larger proportion of TC expenditure continues to be directed at sub-Saharan Africa region—SSA received on average close to 4 times what was received by North Africa over the entire period 1986 to 2006. Compared to other regions moreover, Table 2 also reveals that while the proportion of TC flows to SSA declined between 1986 and 2006, shares to America, Asia and Europe increased.

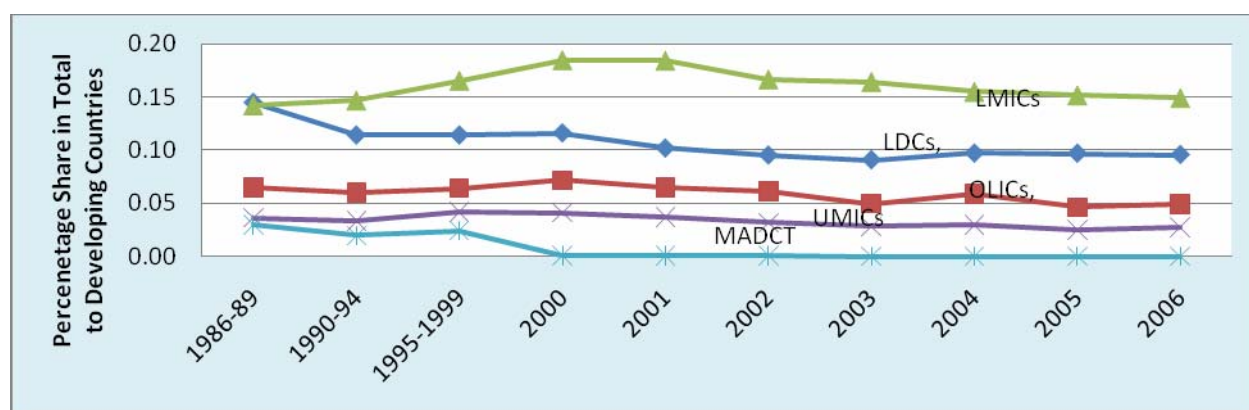
Table 2: Technical Assistance Flows to Developing Countries by Regions in Percentages, 1986 - 2006

Proportion in Developing countries total (%)	1986-89	1990-94	1995-1999	2000	2001	2002	2003	2004	2005	2006
Africa, Total	39.95	36.13	33.14	31.66	31.21	30.88	25.58	28.03	26.37	29.27
Africa - North of Sahara, Total	8.17	7.91	7.19	6.27	7.36	7.42	6.05	4.57	5.11	5.16
Africa - South of Sahara, Total	29.93	26.51	23.89	23.39	23.01	22.59	21.64	22.39	20.29	23.58
America, Total	12.74	13.09	15.12	18.40	18.76	15.39	16.11	16.28	13.32	14.08
North & Central America, Total	5.59	5.68	5.79	7.16	7.61	6.06	5.24	5.18	4.56	4.74
South America, Total	5.69	6.00	7.16	9.44	8.88	8.09	9.77	10.06	7.77	8.60
Asia, Total	25.21	27.66	27.66	28.07	26.96	29.15	30.19	29.76	33.11	30.96
Far East Asia, Total	11.15	12.62	13.06	13.57	13.06	12.78	12.29	12.23	11.27	12.15
South & Central Asia, Total	9.16	8.77	9.00	9.26	9.11	11.16	11.05	11.54	12.92	11.41
Middle East, Total	3.67	5.42	4.50	4.06	3.47	4.05	6.15	5.24	7.97	6.49
Europe, Total	1.81	3.16	3.70	4.51	5.21	5.81	5.95	5.43	6.09	6.12
Oceania, Total	4.91	3.72	5.26	2.66	2.43	2.16	2.15	2.62	2.56	2.51

Source: OECD (2009). <http://stats.oecd.org>

An examination of net disbursement of TC to developing countries reveals another rather interesting development since 1986. Figure 2 shows that while the flow of TC expenditure to least developed countries (LDC) as a proportion of total flows to developing countries declined between 1986 and 2003 and stabilized at about 10 percent between 2004 and 2006, shares of flows to lower middle income (LMIC) countries on the other hand increased from 1986 to 2000 and has remained fairly stable at about 15 percent for the period 2004 to 2006. However, the proportion of flows to upper middle income countries (UMIC) hovered at around 3 percent for the two decades 1986 to 2006 (figure 2). This may tend to signify that higher proportions of technical assistance received by LMICs as compared to LDCs contributed to improved indicators of economic and human development in that regional grouping.

Figure 2: Percentage of Total TC to Developing Countries by Income Groups, 1986-2006



Source: OECD (2009). <http://stats.oecd.org>

2.4 TC Flows within Africa

In the last two decades, the inflows of technical assistance to Africa have remained relatively unchanged, or changed only on a much lower scale. TC flow to individual countries by proportional share (Table 3) however, make clear that macro-level trends only partially capture what is happening with TC, and that many countries' experiences may be quite different (if not obliterated) by the overall picture. For instance, while a handful of countries such as Egypt, Algeria, Cameroon, Congo democratic republic, Ethiopia, Ghana, Kenya, Morocco, Nigeria, Senegal, South Africa, Tanzania, Uganda and Zambia continue to receive significant inflows (over 2% on average of flow to Africa) for the period 1986 to 2006, the other countries have been marginalized in these regard.

Looking more closely at Africa and regional/country groupings within Africa, it is evident that TC flows have not followed the same generally upward trend as the rest of the developing world in the last twenty years (Table 4). The table shows that since 2002, TC flows to sub-Saharan Africa have bounced back from the declines of late 1990s, and peaked at about \$4.8 billion in 2006—representing close to 70 percent of total TC flows to Africa in real terms. This development is being attributed to the generally higher aid disbursements delivered through higher debt relief, the launching of NEPAD in 2001, need for more technical assistance with progress in PRSPs in many SSA countries, and the MDRI initiatives in LDCs⁵.

Overall, and taking a slightly longer historical perspective, the conjecture can be made that there has not really been a diversion of TC flows from non-HIPC countries to HIPCs: rather HIPCs and least developed countries in general are merely restoring their late 1980s to mid-1990s share of TC to Africa. Similarly, even though the designated fragile states have witnessed increased flow of TC beginning 2000, they are yet to attain their late 1980 shares of total TC to Africa.

⁵ The MDRI was proposed by the G* countries in June 2005 to cancel all the multilateral debt held by the World Bank's International Development Association (IDA), the IMF and the African Development Bank's African Development fund (ADF), incurred before 1 January 2005 with the IMF and the ADF, and before 1 January for the IDA

Table 3: Percentage of Total TC to Africa by Individual Countries, 1986-2006

	1986-89	1990-94	1995-1999	2000	2001	2002	2003	2004	2005	2006
Algeria	1.47	1.94	2.09	2.07	1.95	2.10	2.67	3.36	3.36	2.85
Angola	0.84	1.14	1.37	1.19	1.29	1.25	1.45	1.30	1.40	1.07
Benin	1.02	0.96	1.31	1.63	1.36	1.36	1.60	1.59	1.60	1.59
Botswana	1.27	1.03	0.77	0.42	0.40	0.70	0.47	0.61	0.52	0.53
Burkina Faso	2.09	2.17	1.99	1.99	1.99	1.67	1.86	1.86	1.66	1.85
Burundi	1.23	1.12	0.48	0.36	0.26	0.50	0.54	0.51	0.68	0.74
Cameroon	2.33	2.19	2.13	2.46	2.58	2.41	2.47	2.65	2.56	2.60
Cape Verde	0.44	0.63	0.72	0.81	0.45	0.45	1.04	0.77	0.75	0.63
Central African Rep.	1.11	0.90	0.69	0.54	0.49	0.45	0.42	0.60	0.65	0.54
Chad	1.08	1.09	0.95	0.80	0.66	0.70	0.75	0.77	0.78	0.64
Comoros	0.38	0.29	0.25	0.22	0.21	0.22	0.22	0.22	0.22	0.20
Congo Dem.Rep. (Zaire)	3.82	1.59	1.01	1.21	1.30	1.62	2.23	2.57	3.21	2.68
Congo, Rep.	0.87	0.81	0.63	0.51	0.47	0.53	0.58	0.59	0.54	0.45
Cote d'Ivoire	1.91	2.25	1.97	1.85	1.71	1.57	1.36	1.39	1.15	1.91
Djibouti	0.91	0.80	0.69	0.61	0.62	0.50	0.49	0.52	0.54	0.61
Egypt	13.52	14.65	12.50	10.20	14.25	13.66	9.50	3.52	6.55	6.04
Equatorial Guinea	0.21	0.39	0.27	0.21	0.12	0.22	0.23	0.23	0.29	0.24
Eritrea	..	0.33	0.77	0.55	0.70	0.62	0.74	0.60	0.44	0.26
Ethiopia	3.70	3.20	2.90	2.89	2.88	3.19	2.90	3.17	3.37	3.76
Gabon	0.82	0.75	0.77	0.69	0.67	0.61	0.74	0.79	0.77	0.80
Gambia	0.61	0.45	0.30	0.23	0.26	0.24	0.24	0.18	0.16	0.17
Ghana	1.12	1.51	2.06	2.82	2.40	2.39	2.40	2.51	2.12	2.04
Guinea	0.80	1.25	1.13	1.19	1.15	1.06	1.21	1.28	1.07	1.08
Guinea-Bissau	0.57	0.65	0.69	0.35	0.38	0.37	0.34	0.29	0.27	0.23
Kenya	3.82	4.11	3.38	3.10	2.93	3.12	2.99	3.77	3.71	4.06
Lesotho	0.97	0.76	0.52	0.28	0.32	0.24	0.26	0.26	0.25	0.24
Liberia	0.76	0.32	0.30	0.52	0.30	0.22	0.26	0.49	0.93	0.81
Libya	0.15	0.07	0.06	..	..	..	..	..	0.18	0.50
Madagascar	1.42	1.60	2.07	2.01	1.80	1.67	1.71	1.72	1.62	1.61
Malawi	1.71	1.90	1.65	2.43	1.81	1.99	2.17	1.98	1.75	1.49
Mali	1.97	2.08	2.33	2.79	2.02	2.40	2.25	2.20	2.20	1.96
Mauritania	1.02	0.86	0.80	0.80	0.82	0.70	0.74	0.69	0.71	0.59
Mauritius	0.41	0.36	0.42	0.40	0.38	0.37	0.37	0.41	0.39	0.33
Morocco	3.12	3.46	4.60	4.97	5.12	6.06	6.29	6.70	6.49	5.79
Mozambique	1.84	3.22	3.61	4.23	3.83	3.91	3.98	3.74	3.21	3.14
Namibia	0.35	0.90	1.28	1.13	1.08	0.97	1.12	1.23	0.94	1.11
Niger	1.92	1.90	1.51	1.10	1.13	1.05	1.03	1.06	1.07	1.52
Nigeria	1.33	1.66	1.33	1.62	1.98	2.58	2.91	4.45	3.59	4.64
Rwanda	1.76	1.65	1.40	1.39	1.32	1.62	1.69	1.75	1.82	1.83
Sao Tome & Principe	0.11	0.23	0.33	0.33	0.27	0.26	0.23	0.27	0.19	0.16
Senegal	2.82	3.02	2.97	3.06	3.27	3.20	3.63	3.88	3.87	5.17
Seychelles	0.22	0.18	0.15	0.08	0.08	0.09	0.11	0.10	0.11	0.06
Sierra Leone	0.69	0.47	0.38	0.54	0.73	0.90	1.25	0.68	0.54	0.61
Somalia	3.13	1.11	0.55	0.37	0.75	0.29	0.36	0.19	0.16	0.27
South Africa	..	2.66	4.46	5.33	4.94	4.29	4.70	4.25	4.23	4.04
Sudan	3.61	2.34	0.87	0.71	0.61	0.72	0.96	1.52	2.24	3.06
Swaziland	0.57	0.54	0.40	0.21	0.19	0.18	0.13	0.08	0.10	0.08
Tanzania	4.26	3.88	4.20	3.57	3.44	3.44	2.74	3.17	3.04	3.02
Togo	1.03	0.80	0.54	0.59	0.57	0.55	0.60	0.61	0.58	0.46
Tunisia	1.81	1.67	1.96	2.42	2.16	2.08	2.32	2.49	2.45	2.14
Uganda	1.50	2.01	2.66	3.08	3.06	2.92	3.11	3.82	3.73	3.83
Zambia	2.61	2.52	2.50	2.51	2.16	2.22	2.11	2.59	2.82	2.64
Zimbabwe	1.93	2.41	2.12	1.81	1.78	1.23	1.06	1.00	1.17	0.99

Source: OECD (2008). <http://stats.oecd.org>

In addition, for some countries, TC represents a substantial proportion of resources available for development. This is especially true in the countries where TC has been on the rise and accounted for over 2% of GNI for almost the entire period 1986 to 2006 (Table 5). These countries are Benin (2.3% in 2006), Burkina Faso (2.1% in 2006), Burundi (6.5% in 2006), CAR (4.0% in 2006), Chad (2.6% in 2006), DR Congo (3.4% in 2006), Djibouti (5.9% in 2006), Gambia (2.4% in 2006), Guinea (2.3% in 2006), Guinea Bissau (5.45% in 2006), Liberia (11.46% in 2006), Malawi (4.7%), Mali (2.2%), Mozambique (3.1%), Niger (2.9%), Sao tome and Principe (9.23% in 2006), Rwanda (5.2%), Senegal (4.1%), Sierra Leone (3%), and Uganda (3% in 2006). These developments could be attributed to the fact that many of the countries are under the HIPC and the MDRI initiatives, while some of them are fragile states and therefore require so much in terms of technical assistance. For many other countries the ratios are rather insignificant to make appreciable impacts.

Table 4: Technical Assistance Flows to Africa by Regions and Economic Groupings; 1986 – 2006 (Million US\$, Real 2006 Prices)

	1986-89	1990-94	1995-1999	2000	2001	2002	2003	2004	2005	2006
Africa, Total	7224.05	7211.052	6174.796	5537.9	6027.06	6558.34	6454.63	5941.31	6085.66	6982.78
<u>Sub-Saharan Africa</u>	4425.00	4666.92	3978.98	3645.37	3732.13	4080.05	4192.74	4081.03	4063.61	4775.26
Low Income Countries	4668.07	4437.73	3539.05	3225.47	3351.04	3663.17	3734.74	3710.05	3749.04	4502.75
Middle Income Countries	1733.85	2088.18	1867.46	1597.82	1911.00	2077.85	1909.24	1452.47	1634.71	1717.55
Least Developed Countries	3685.82	3350.91	2679.38	2421.87	2494.57	2739.57	2831.37	2723.03	2838.51	3329.99
HIPC Countries	3960.58	3653.37	2958.56	2748.77	2813.14	3078.62	3142.76	3039.33	3100.24	3692.08
Fragile States	2430.24	2045.79	1410.32	1192.77	1330.31	1435.02	1542.76	1539.51	1611.20	1950.91
	<i>Percentages share of TC flows to Africa</i>									
<u>Sub-Saharan Africa</u>	61.25	64.72	64.44	65.82	61.92	62.21	64.96	68.69	66.77	68.39
Low Income Countries	64.62	61.54	57.31	58.24	55.60	55.86	57.86	62.44	61.60	64.48
Middle Income Countries	24.00	28.96	30.24	28.85	31.71	31.68	29.58	24.45	26.86	24.60
Least Developed Countries	51.02	46.47	43.39	43.73	41.39	41.77	43.87	45.83	46.64	47.69
HIPC Countries	54.82	50.66	47.91	49.64	46.68	46.94	48.69	51.16	50.94	52.87
Fragile States	33.64	28.37	22.84	21.54	22.07	21.88	23.90	25.91	26.48	27.94

Source: OECD (2009). <http://stats.oecd.org>

Table 5: TC flows as percentages of GNI of Individual African Countries, 1986 – 2006

Tech to GNI ratio in Africa	1986-89 average	1990-94 average	1995-99 average	2000	2001	2002	2003	2004	2005	2006
Algeria	0.11	0.23	0.24	0.15	0.14	0.18	0.22	0.23	0.21	0.19
Angola	0.55	1.17	1.30	0.64	0.77	0.62	0.65	0.42	0.29	0.19
Benin	3.02	3.05	3.07	3.03	2.58	2.43	2.58	2.24	2.22	2.36
Botswana	2.60	1.31	0.75	0.31	0.30	0.73	0.36	0.39	0.32	0.39
Burkina Faso	3.63	4.61	3.74	2.92	2.89	2.48	2.49	2.05	1.73	2.07
Burundi	4.71	5.97	2.79	2.08	1.67	3.91	5.31	4.40	5.20	6.53
Cameroon	0.88	1.10	1.17	0.99	1.14	1.12	1.05	0.98	0.93	1.00
Cape Verde	7.21	8.86	6.75	5.67	3.33	3.47	7.24	4.77	4.53	4.01
Central African Rep.	4.08	3.94	3.46	2.30	2.19	2.04	1.97	2.61	2.83	2.56
Chad	3.72	3.73	3.14	2.29	1.59	1.73	1.85	1.17	0.95	0.86
Comoros	8.72	6.68	5.72	4.12	3.77	4.11	3.70	3.50	3.39	3.42
Congo Dem.Rep. (Zaire)	2.10	1.08	1.00	1.22	1.24	1.51	2.27	2.29	2.83	2.30
Congo, Rep.	1.85	2.18	2.16	0.84	0.97	1.12	1.20	1.03	0.72	0
Cote d'Ivoire	0.93	1.39	0.91	0.74	0.69	0.71	0.58	0.53	0.45	0.83
Djibouti	..	9.00	6.72	4.16	4.28	3.90	4.07	4.03	4.14	5.09
Egypt	1.70	1.81	0.83	0.47	0.74	0.88	0.67	0.25	0.43	0.39
Equatorial Guinea	8.52	15.57	3.99	0.89	0.65	0.74	0.95	0.69	0.48	0.32
Eritrea	..	..	5.65	3.48	4.72	5.12	7.15	5.27	2.72	1.66
Ethiopia	1.56	1.62	1.85	1.53	1.64	2.25	2.09	1.89	1.76	1.98
Gabon	1.04	0.92	0.89	0.60	0.66	0.64	0.77	0.74	0.68	0.74
Gambia	10.76	7.16	3.85	2.40	2.87	3.63	4.03	2.73	2.17	2.42
Ghana	0.95	1.40	1.51	2.59	2.16	2.09	1.84	1.64	1.20	1.11
Guinea	1.73	2.32	1.62	1.68	1.77	1.73	1.91	1.80	1.92	2.29
Guinea-Bissau	15.53	15.51	14.84	6.30	8.18	9.07	8.41	6.22	5.47	5.45
Kenya	2.12	3.17	1.46	1.08	1.06	1.30	1.20	1.34	1.16	1.35
Lesotho	5.42	3.42	2.01	1.05	1.46	1.41	1.15	0.90	0.83	0.93
Liberia	4.62	..	5.02	6.03	3.53	2.65	4.23	7.33	13.18	11.46
Libya	0.03	..	..	..	..	..	..	..	0.03	0.07
Madagascar	2.45	3.14	3.03	2.24	1.80	1.96	1.79	2.27	1.94	2.08
Malawi	5.83	5.82	4.41	6.47	5.00	5.44	7.18	6.00	5.13	4.73
Mali	4.70	4.69	4.73	5.00	3.61	3.95	3.03	2.60	2.55	2.22
Mauritania	4.69	4.02	3.11	2.95	3.21	2.66	3.10	2.47	2.21	1.49
Mauritius	1.00	0.66	0.51	0.35	0.34	0.39	0.39	0.38	0.37	0.36
Morocco	0.72	0.73	0.70	0.59	0.64	0.80	0.81	0.77	0.75	0.71
Mozambique	2.75	8.27	5.76	4.87	4.85	5.08	4.91	3.75	2.95	3.16
Namibia	0.89	1.80	1.83	1.34	1.49	1.55	1.35	1.19	0.90	1.22
Niger	4.01	5.27	4.04	2.55	2.56	2.42	2.15	1.98	1.87	2.90
Nigeria	0.27	0.37	0.22	0.17	0.20	0.34	0.33	0.41	0.25	0.31
Rwanda	3.44	4.98	4.25	3.10	3.43	4.72	5.70	5.47	5.06	5.17
Sao Tome & Principe	..	..	..	..	..	..	..	..	..	9.23
Senegal	2.90	3.30	3.37	2.88	3.15	3.25	3.26	2.94	2.83	4.07
Seychelles	3.56	2.34	1.37	0.59	0.59	0.68	0.95	0.90	0.96	0.63
Sierra Leone	3.88	3.88	2.43	3.39	3.94	4.91	7.11	3.65	2.68	3.02
Somalia	14.00	7.41	..	..	..	..	..	..	..	..
South Africa	..	0.12	0.16	0.17	0.19	0.20	0.16	0.11	0.11	0.11
Sudan	0.95	1.49	0.51	0.27	0.21	0.26	0.33	0.42	0.51	0.62
Swaziland	3.87	2.70	1.34	0.66	0.66	0.77	0.40	0.20	0.23	0.22
Tanzania	4.00	4.87	2.95	1.67	1.62	1.85	1.56	1.61	1.46	1.67
Togo	3.72	3.20	1.92	1.77	1.83	1.83	1.92	1.71	1.63	1.46
Tunisia	0.86	0.70	0.55	0.52	0.47	0.49	0.54	0.53	0.54	0.52
Uganda	1.18	3.15	2.16	2.22	2.45	2.69	2.88	3.20	2.58	2.92

Source: OECD (2009). <http://stats.oecd.org>

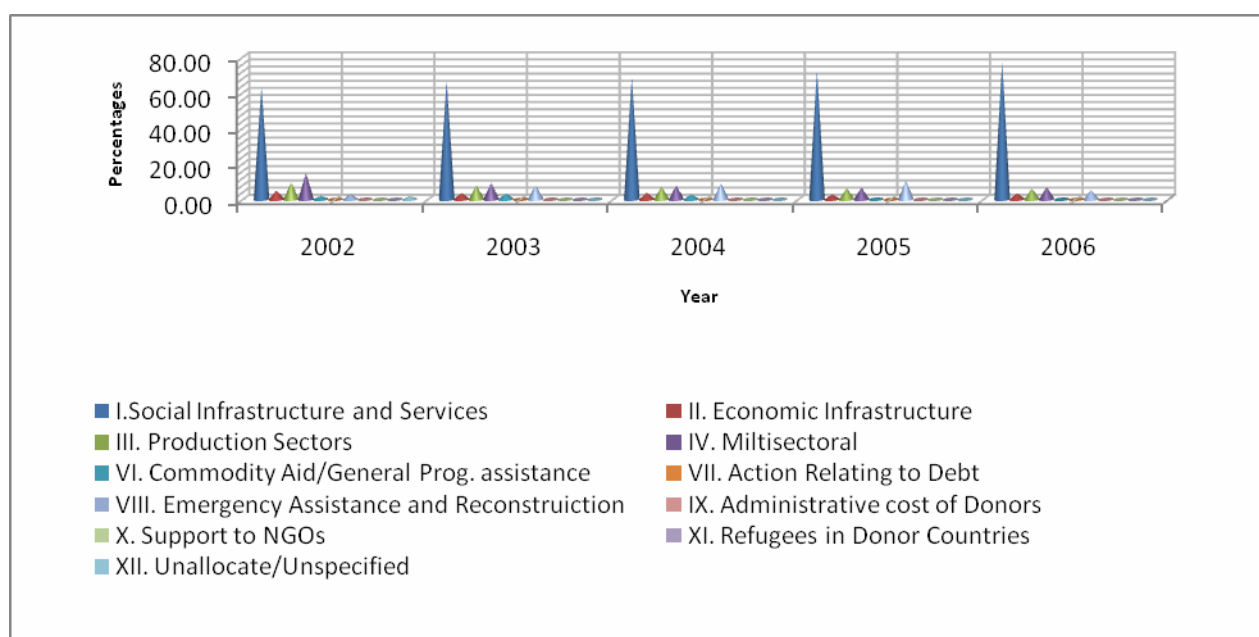
2.5 TC Flows by Sectors

Finally, evidence from earlier studies⁶ have shown that across the different developing countries of the world—more so for countries under HIPC and MDRI in sub-Saharan Africa—there has been a shift away from agriculture and rural development (Production sector) towards education, health and population programmes (Social infrastructure and services sector) as major sub-

⁶ See Gareth Williams et al (2003)

sectors for TC (especially strong in Uganda, Ghana, Tanzania, Malawi and Senegal), but also a strong showing for public service/public administration in Uganda and Malawi. The trend towards greater emphasis on education, health and population programmes (which continue to be the dominant expenditure lines under social infrastructure is not surprising), given the current emphasis in the international development community on poverty alleviation. The support for public administration and for conflict, peace and security in fragile states also reflects the new emphasis on institutional reform including that of the civil service and the judiciary, which has characterized the latter half of the 1990 and the course of this decade. Figure 3 shows that between 2002 and 2006, the share of TC disbursed to social infrastructure and services in total TC to SSA increased from 63.4 percent to 77.3 percent. The figure also reveals that support to NGOs ranked the least in terms of sectoral allocation of technical assistance. Given the renewed call for enhanced civil society participation in issues of governance and poverty alleviation, there may be a need for Donors to increase TC allocation to NGOs.

Figure 3: Sectoral Allocation of TC in SSA, 2002 - 2006



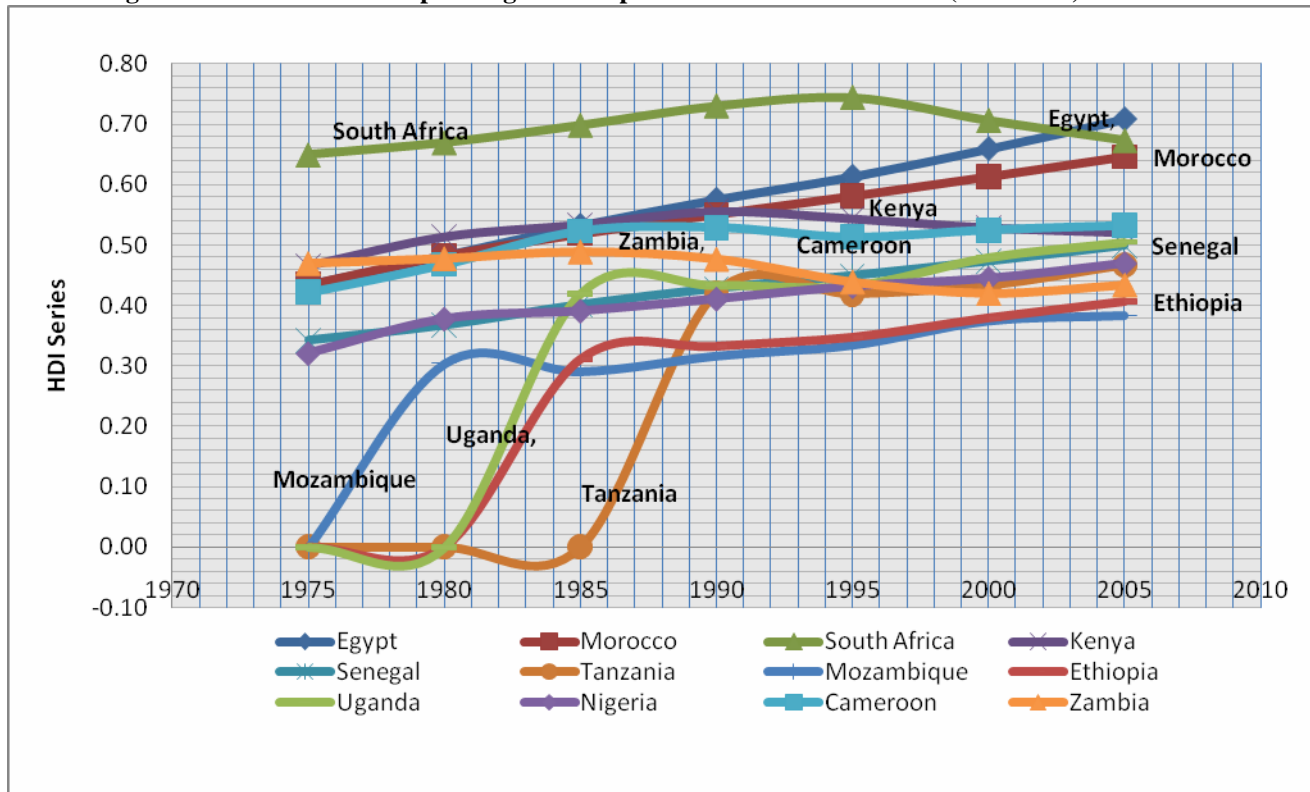
Source: OECD (2008). <http://stats.oecd.org> (Creditor Reporting System)

3. Trends in Human Development in Selected SSA Countries

In terms of the trend in Human Development Index (HDI) over time, Figure 4 and Table 6 reveal that most of the top 12 recipients of technical assistance in Africa achieved sustained increase in human development for the period 1975 to 1990, implying that sustained increases in TC might have impacted positively on the socio-economic performances of these countries. However, after 1995, many countries in Eastern and Southern Africa (Botswana, Namibia, Malawi, Kenya, Lesotho, Tanzania, Mozambique, South Africa, Zambia and Zimbabwe) recorded declines in HDI, a situation that may be attributable to sustained reduction in life expectancy at birth due to the HIV/AIDS pandemic. Table 6 shows that in Botswana, South Africa, Zambia, Kenya, Botswana and Lesotho where HIV/AIDS prevalence rate still remained in double digit figures, life expectancy at birth—a component of HDI—declined between 1995 and 2005. On the other hand, the middle income countries of North Africa with relatively low HIV/AIDS prevalence rate and high life expectancy at birth—Egypt and Morocco—continue to rank very high on the HDI

scale, whereas Cameroon, Senegal, Nigeria, and Uganda recorded only slight upward trend, above the early 1995 levels.

Figure 4: HDI Trend for Top 12 Highest Recipients of TC Flows in Africa (1975-2005)



Source: UNDP (2008). http://hdr.undp.org/reports/view_reports.cfm

The world Bank (2005) in its assessment of technical cooperation in Africa reported that while globalization offers opportunities to help African countries enhance national capacities through easier access to global knowledge, it also undermines Africa's efforts by contributing to widening domestic income gaps, pulling highly trained talent out of Africa, and accentuating Africa's lack of competitiveness in international research and development and investment (WB, 2005:3). According to ACBF (2004), about 70,000 highly qualified professionals and experts are recorded to leave the continent every year. Table 10 also shows that as at 2000, 961,037 skilled professionals have emigrated from sub-Saharan Africa to work in America, Europe and Asia/Oceania. The five countries that recorded the highest number of skilled emigrants are South Africa (168,083), Nigeria (149,494), Kenya (77,516), Ghana (71,309) and Ethiopia (51,392). While this brain drain have resulted in significantly increased inflows of remittances to sub-Saharan Africa (which may in some way help in the poverty reduction efforts), it on the other hand depresses public sector performance in such critical arrears as health, science and technology, and economic management (Easterly and Nyarko, 2008).

Table 6: Trend in Human Development Index in Africa (1975 – 2005)

	Trend in HDI							HIV/AIDS Prevalence Rate 1999	2005	Life expectancy at birth (years)			GDP per capita –US\$ PPP.		
	1975	1980	1985	1990	1995	2000	2005			1985	1995	2005	1999	2005	
Sub-Saharan Africa															
Seychelles	..	..	..	..	..	..	0.843	..	..	..	..	72.7	..	16,106
Mauritius	..	0.662	0.692	0.728	0.751	0.781	0.804	0.08	0.06	67.9	70.3	72.4	9,107	12,715	
Cape Verde	..	..	0.589	0.627	0.678	0.709	0.736	..	..	63.2	67.8	71	4,490	5,803
Gabon	..	..	..	..	..	..	0.677	4.16	7.9	58.3	58.8	56.2	6,024	6,954
South Africa	0.65	0.67	0.699	0.731	0.745	0.707	0.674	19.94	18.8	60.1	59.9	47.0	8,908	11,110	
Sao Tome and Principe	..	..	..	..	..	..	0.654	..	..	60.8	62.3	64.9	..	2,178
Botswana	0.509	0.571	0.624	0.674	0.658	0.631	0.654	35.8	24.1	64.4	56.9	34.9	6,872	12,387	
Namibia	..	..	..	..	0.698	0.657	0.65	19.54	19.6	60.4	59.5	47.2	5,468	7,586
Equatorial Guinea	..	..	0.484	0.505	0.529	0.606	0.642	0.51	3.2	44.6	45.7	50.4	4,676	7,874
Comoros	..	0.483	0.5	0.506	0.521	0.54	0.561	0.12	< 0.1	54.1	59.6	64.1	1,429	1,993	
Ghana	0.442	0.471	0.486	0.517	0.542	0.568	0.553	3.60	2.3	54.8	56.7	59.1	1,881	2,480	
Mauritania	0.383	0.41	0.435	0.455	0.487	0.509	0.55	0.52	0.7	48.0	50.1	63.2	1,609	2,234	
Lesotho	0.499	0.541	0.571	0.605	0.616	0.581	0.549	23.57	23.2	55.6	52.4	35.2	1,854	3,335	
Congo	0.478	0.52	0.567	0.559	0.546	0.518	0.548	6.43	5.3	56.3	51.7	54	727	1,262	
Swaziland	0.527	0.561	0.588	0.633	0.641	0.592	0.547	25.25	33.4	56.7	49.0	31.3	3,987	4,824	
Madagascar	0.407	0.444	0.44	0.45	0.463	0.493	0.533	0.15	0.5	49.2	53.2	58.4	799	923	
Cameroon	0.422	0.468	0.523	0.529	0.513	0.525	0.532	7.73	5.4	52.0	50.1	49.8	1,573	2,299	
Sudan	0.354	0.381	0.4	0.429	0.463	0.491	0.526	0.99	1.6	51.0	54.6	57.4	664	2,083	
Kenya	0.466	0.514	0.534	0.556	0.544	0.529	0.521	13.95	6.1	58.9	53.1	47.5	1,022	1,240	
Djibouti	..	..	..	0.476	0.485	0.49	0.516	11.75	3.1	49.5	51.8	53.9	2,377	2,178
Zimbabwe	0.55	0.579	0.645	0.654	0.613	0.541	0.513	25.06	20.1	61.1	48.8	36.6	2,876	2,038	
Togo	0.423	0.473	0.469	0.496	0.514	0.521	0.512	5.98	3.2	56.4	56.4	57.8	1,410	1,506	
Uganda	..	..	0.42	0.434	0.433	0.48	0.505	8.30	6.7	49.2	43.1	48.4	1,167	1,454
Gambia	0.29	..	..	..	0.436	0.472	0.502	1.95	2.4	46.3	52.8	58.8	1,580	1,921
Senegal	0.342	0.367	0.401	0.428	0.449	0.473	0.499	1.77	0.9	50.2	54.5	62.3	1,419	1,792	
Eritrea	..	..	..	..	0.435	0.459	0.483	2.87	2.4	45.3	50.9	56.6	880	1,109
Nigeria	0.321	0.378	0.391	0.411	0.432	0.445	0.47	5.06	3.9	46.3	45.2	46.5	853	1,128	
Tanzania	..	..	..	0.421	0.419	0.433	0.467	8.09	6.5	54.9	49.9	45.9	501	744
Guinea	..	..	..	..	..	..	0.456	1.54	1.5	44.4	50.5	54.8	1,934	2,316
Rwanda	0.337	0.385	0.403	0.34	0.33	0.418	0.452	11.21	3.1	43.7	31.7	45.2	885	1,206	
Angola	..	..	..	..	..	..	0.446	2.78	3.7	39.9	40.0	41.7	3,179	2,335
Benin	0.312	0.344	0.367	0.374	0.403	0.424	0.437	2.45	1.8	51.7	53.6	55.4	933	1,141	
Malawi	0.33	0.355	0.37	0.388	0.444	0.431	0.437	15.96	17.1	46.0	43.1	39.8	586	667	
Zambia	0.47	0.478	0.489	0.477	0.439	0.42	0.434	19.95	17.0	50.1	40.6	37.7	756	1,023	
Côte d'Ivoire	0.419	0.448	0.453	0.45	0.436	0.432	0.432	10.76	7.1	53.6	48.5	47.4	1,654	1,648	
Burundi	0.29	0.318	0.352	0.366	0.347	0.368	0.413	11.32	3.3	47.4	42.2	48.5	578	699	
Congo (DR.)	0.414	0.423	0.43	0.423	0.391	0.375	0.411	5.07	3.2	47.2	42.8	45.8	801	714	
Ethiopia	..	..	0.311	0.332	0.347	0.379	0.406	10.62	2.1	45.9	47.2	51.8	628	1,055
Chad	0.296	0.298	0.342	0.364	0.377	0.397	0.388	2.69	3.5	45.2	45.3	50.4	850	1,427	
CAR	0.35	0.371	0.394	0.398	0.39	0.394	0.384	13.84	10.7	49.0	44.0	43.7	1,166	1,224	
Mozambique	..	0.304	0.291	0.317	0.335	0.375	0.384	13.22	16.1	42.8	43.7	41.6	861	1,242	
Mali	0.245	0.268	0.272	0.296	0.321	0.352	0.38	2.03	1.7	44.1	47.1	53.1	753	1,033	
Niger	0.246	0.264	0.261	0.279	0.296	0.321	0.374	1.35	1.1	39.4	41.8	55.8	753	781	
Guinea-Bissau	0.267	0.271	0.3	0.322	0.35	0.365	0.374	2.50	3.8	40.4	43.8	45.8	678	827	
Burkina Faso	0.257	0.28	0.305	0.321	0.337	0.353	0.37	6.44	2.0	48.2	46.3	51.4	965	1,213	
Sierra Leone	..	..	..	..	..	..	0.336	2.99	1.6	39.1	39.2	41.8	448	806
Liberia	..	..	..	..	..	..	0.361	..	..	45.5	41.4	44.7	..	..
Somalia	..	..	..	..	..	..	..	..	..	43.9	42.1	47.1	..	..
North Africa															
Libya	..	..	..	..	..	..	0.818	0.05	<0.2	64.7	70.9	73.4	7,570	10,335
Tunisia	0.519	0.575	0.626	0.662	0.702	0.741	0.766	0.04	0.1	65.8	71.2	73.5	5,957	8,371	
Egypt	0.434	0.482	0.532	0.575	0.613	0.659	0.708	0.02	< 0.1	59.2	66.1	70.7	3,420	4,337	
Morocco	0.435	0.483	0.519	0.551	0.581	0.613	0.646	0.03	0.1	61.2	66.9	70.4	3,417	4,555	

Sources (i) UNDP (2008). http://hdr.undp.org/reports/view_reports.cfm (ii) UNDP 2006) Human Development Report 2006. UNDP, New York; (iii) UNDP (2001), Human Development Report 2001, UNDP, New York.

Table 7: Skilled Emigrants from Selected sub-Saharan African Countries by Source and Destination

Source	Total	Destination Shares		
		America	Europe	Asia/Oceania
Sub-Saharan Africa	961, 037	47%	44%	9%
South Africa	168,083	37%	32%	31%
Nigeria	149,494	64%	35%	1%
Kenya	77,516	45%	49%	6%
Ghana	71,309	56%	42%	2%
Ethiopia	51,392	78%	18%	3%
Uganda	34,085	45%	52%	3%
Congo, Dem. Rep of the	33,085	25%	75%	1%
Zimbabwe	32,675	28%	49%	23%
Tanzania	32,255	62%	34%	4%
Mauritius	23,043	22%	53%	25%
Cameroon	21,822	42%	58%	0%
Liberia	20,842	91%	8%	0%
Angola	20,449	12%	87%	1%
Sierra Leone	18,010	58%	41%	1%
Senegal	15,729	34%	66%	1%
Congo, Rep. of the	14,672	20%	79%	1%
Zambia	13,739	37%	45%	18%
Eritrea	13,144	74%	21%	5%
Cote d'Ivoire	12,088	35%	65%	0%
Madagascar	12,080	18%	81%	1%
Mozambique	10,696	15%	83%	3%
Cape Verde	8,128	53%	47%	0%
Togo	7,874	27%	73%	0%
Malawi	5,474	28%	65%	7%

Source: Docquier and Marfouk (2005) as reported in Easterly and Yaw (2008:8).

As examined in this section, a country's capacity is first and foremost a result of its own history and social, economic, cultural and political processes, as well as engagement with countries and forces beyond its borders. Its development involves the creation, maintenance and upgrading of fundamental human and social capital. Technical cooperation's potential and actual contributions to development should be viewed in that light. Weak capacity and underdevelopment is not necessarily the fault of failed TC, and strong growth trajectories will in most cases not be attributable in great degree to the successes of TC. Yet TC can and should be expected to contribute positively to existing capacity, and to interact constructively to support the larger forces that can transform a country.

4 Empirical Analysis and Results

The major focus of the large and still growing literature on aid effectiveness in the last two decades or so has been on economic performance (growth rate of GDP or per capital income), and whether the ability of aid to have positive impact on growth is dependent on good policies in recipient nations. The results of these studies have been mixed, just like results of most analysis on economic performance and its determinants in developing countries. Some studies reported positive and significant growth effect of aid (Hansen and Dalgaard: 2001), others find no significant growth effect (Boone, 1996; Easterly, 2003). Still others find that aid is associated with growth only if complimented with good domestic policies (e.g. Boone, 1996; Burnside and

Dollar, 1997, 2000). It is also possible for aid (targeted aid in particular), to have an effect on some aspect of human development (education, health, institutional capacity) without having any significant impact on growth, at least in the short run. Given this, a number of studies (Gormanee et al, 2005, Gormanee, Girma, and Morrissey, 2005, Mosley et al, 2004, Verschoor and Kalwij, 2006; Dreher et al 2006; Weber 2006; Mishra and Newhouse, 2007; Kabwena and Asiedu, 2008) have examined the effect of disaggregating aid into different components and analyzing impacts at the sectoral level in recipient countries. Beside these, very few empirical studies have been undertaken on how aid affects human development as defined by the UNDP; and little work too have been done in terms of examining how targeted aid affects development in specific sectors in sub-Saharan Africa (health, education, agriculture, etc). It becomes imperative to want to contribute to the literature in this direction.

We concentrate on technical assistance flows for reasons explained before. That is, TC is that component of aid flows specifically targeted at capacity development (*Human capital*) and therefore expected to on-lead to overall growth through enhanced state institutional capacity (*social capital*). A lot of interests have been directed in this direction by the Paris declaration on aid effectiveness (HLF2), the Accra Agenda for Action (AAA-HLF3), as well as the DOHA conference on financing for development of 2008. Given that the efforts of the UNDP since 1990 has been to broaden the issues of development in low income countries in particular to encompass the unlocking of potentialities of man and woman, boys and girls to live long and healthy lives and enjoy decent standard of living—as compacted in the human development index (HDI) and the Millennium Development Goals (MDG)—this is an important aspect of aid effectiveness that merits empirical investigation. In addition, we control for a number of additional regressors such as the policy environment in the effectiveness of technical assistance. Finally, our study uses panel data for sub-Saharan (majority of which are HIPC countries and ranked as low human development countries by the UNDP).

Following from related earlier studies (Michaelowa and Weber, 2006; Gupta et al, 1999; Bhalotra, 2007a,b; Mishra and Newhouse, 2007; Kabwena and Asiedu, 2008), but departing somewhat from the now too familiar studies based on the Harrod-Domar growth model developed by Chenery and Strout (1966) as well as the standard Barro (1991) type cross-country growth model, we estimate reduced form equations for the effectiveness of ODA (technical cooperation) using the human development index as outcome measure. As used by Kabwena and Asiedu, (2008), the general form of this equation is given as:

$$HDI_{it} = \alpha_0 + \alpha_1 TCG_{it} + \mathbf{x}\beta + \gamma policy_{it} + \epsilon_{it} + \delta_t + \epsilon_{it} \quad (1)$$

where HDI_{it} is Human Development Index, i stands for the countries in the sample and t denotes years ($t = 1990 \dots 2007$). As discussed, this is a preferred choice of development outcome since it tends to capture development in terms of command over commodities (decent standard of living—per capita income), educational attainment (potential to unlock human capabilities for state institutional capacity enhancement), and longevity (long and healthy lives). The term TCG_{it} measures ratio of technical assistance flows to gross national Income; \mathbf{x} is a vector of regressors that influence development (growth) outcome in a country; $policy$ is the policy environment in a country, α , β , γ are coefficients to be estimated, ϵ_{it} , δ_t and ϵ_{it} are country specific, temporal, and idiosyncratic error terms respectively. Variables contained in

the X vector are variables that have been used in the literature to explain development, human, and social capital outcomes. For instance, in line Lensink and Morrissey (1999), Levin and Renelt (1992), Sala-i-Martin (1997) and Gounder (2001), we used total investment to GDP to measure its impact on development. There is no doubt that the literature has alluded to the fact that aid and investment may be related, but on another note, aid may also have additional effect on growth via the level of efficiency (Levin and Renelt, 1992). Edwards (1998) and many early studies have also found that openness (exports) affect economic performance through increases in total factor productivity after including human capital and institutional factors.

The role of democracy and institutions in the process of economic development in Africa has been a source of considerable research over many years. In this paper, and as in Kormendi and Meguire (1985), Barro (1991), Barro and Lee (1994), Sala-i-Martin (1997), Moral-Benito (2009), among others, we also hypothesize that political rights and/or civil liberties in so far they can proxy for occurrence of free and fair elections and decentralized political power will significantly enhance institutional capacity and human development.

Finally, in terms of geography and fixed factors, there is the argument that differences in natural endowments, such as climatic conditions, oil and other mineral resources and so on can account for income differences across countries. Of course, there is also the natural resource curse and the Dutch disease arguments that argue otherwise. In this paper, and to avoid another round of debate in this direction, we have used the labour force participation rate as a fixed but not a geographic factor that could have an effect on economic and human development.

In its explicit form, equation (1) can be written as:

$$HDI_{it} = \beta_0 + \beta_1 stock_{it} + \beta_2 rgf_{it} + \beta_3 rta_{it} + \beta_4 INFRA_{it} + \beta_5 pspr_{it} + \beta_6 open_{it} + \beta_7 debt_{it} + \beta_8 health_{it} + \beta_9 exp_{it} + \mu_{it} \dots \dots \dots (2)$$

Equation (2) is estimated using Panel Least Squares estimation technique accounting for country specific and time invariant effects on annual data from 1990 to 2007 for 48 Sub-Sahara African countries.

4.1 Data and Data Sources

In this section a description of the various data used for the analysis is presented. Annual data spanning the period 1990 - 2007 for selected SSA countries was used for this study. The technical assistance flow to SSA was sourced from OECD DAC database; Freedom House database (for data on Political rights and Civil liberty); and the UNDP Human Development Report (for data on HDI). All other variables used in this study were extracted from World Bank World Development Indicators (WDI) 2009 online database. By taking this route, we were able to reduce the problem of random fluctuations in the data. One major problem encountered with the dataset is the issue of missing data points, particularly with respect to series from WDI. Given this problem we resorted to the use of variables for which consistent data are available for the period 1990 to 2007.

4.2 *Econometric Procedure*

This paper employed Panel Least Squares (PLS) using annual data for a group of 48 SSA countries between 1990 and 2007. In addition, for robustness check and to determine inter temporal effects of technical assistance on human development in SSA, the period 1990-2007 was sub-divided into three: 1990-1995; 1996-2000; and 2001-2007 and separate models were fitted for each of these periods. Also, we considered the interactions between technical assistance and some of the explanatory variables to determine the channel through which technical assistance will influence human development. In particular the interaction between technical assistance and variables like infrastructure development was considered. This is to determine the degree to which technical assistance had helped stimulate infrastructural development in SSA. The interaction between technical assistance and quality of instructions in primary and secondary schools were also considered. It is expected that other things being equal, technical assistance given to the educational sector should improve the quality of instructions in African schools. The quality of instructions at secondary and primary schools was captured using pupil-teacher ratios. The extent to which technical assistance had helped affected stock of human and physical capital was investigated by interacting technical assistance with these variables.

4.3 *Empirical Results*

Panel Regression results from the study are presented in this section. The relationship between human development and technical assistance inflow to SSA countries was investigated using Panel Least Squares technique for the periods 1990-1995; 1996-2000; 2001-2007 and 1990-2007. The result of the panel least square for the period 1990-1995, 1996-2000, 2001-2007 and 1990-2007 are presented in Tables 8, 9, 10, and 11 respectively. The idea behind this partitioning was to determine inter temporal effects of technical assistance on human development during the period under review.

Generally, the coefficients of multiple determinations in all the tables are high showing that identified explanatory variables explain between 85 and 95 percent of the variations in human development in SSA. The F-statistics and the associated p-values assessing the overall explanatory power (joint significance of all the explanatory variables in the model) of the models are robust.

Results presented in Table 8 show that in the early 1990s (i.e. 1990-1995) the effect of technical assistance on human development is mixed. While it has a positive and marginally significant effect on human development in model 2, the effect is significant but negative in model 4. The positive effect could be interpreted to mean that technical assistance had been beneficial in improving human welfare while the negative one depresses it. However, if technical assistance interacts with infrastructure development, it has a positive and significant effect on human development. This means that technical assistance directed at infrastructural development will improve human welfare in SSA. Similarly, technical assistance used to improve quality of instruction at the primary level is welfare improving while that used for secondary schools have positive but insignificant effect on human development. As expected, openness of the economy enhances human development while higher Under 5 mortality reduces human development. In a similar vein, political instability has negative and significant effect on human development. This may be connected with low human development rating often accorded African countries.

Table 8: Technical Assistance and Human Development in SSA (1990-1995).

Dependent Variable: (HDI)	1	2	3	4	5	6
Constant	-0.01 (-0.01)	0.48 (0.78)	-0.11 (-0.17)	0.62 (1.10)	0.01 (0.01)	0.76 (0.88)
Stock of human capital (lftot)	0.14 (0.24)	0.06 (0.13)	0.04 (0.05)	0.73 (1.37)	-0.32 (-0.58)	0.17 (0.28)
Stock of physical capital -rgfcf as %GDP	0.33 (1.30)	0.12 (0.40)	0.39 (1.26)	0.05 (0.20)	0.33 (1.31)	-0.05 (-0.12)
Real technical assistance (rta)	-0.15 (-0.81)	0.88** (1.96)	0.47 (0.23)	-2.13* (-2.70)	-0.44 (-1.52)	-0.97 (-1.35)
Infrastructure development (infra)	0.22 (0.49)	1.11 (1.44)	-0.01 (-0.02)	-0.01 (-0.03)	0.24 (0.45)	0.50 (0.87)
Political instability (pspr)	-0.13*** (-1.81)	-9.37 (-1.40)	-0.12 (-1.12)	-0.12*** (-1.83)	-0.12*** (-1.93)	-0.13 (-1.65)
Degree of openness (open)	0.24* (2.27)	23.17* (2.85)	0.19 (1.41)	0.21* (2.29)	0.21* (2.46)	0.20 (1.79)
Stock of external debt as % of GNI -(debtsergni)	0.98 (0.19)	0.02 (0.37)	4.87 (0.69)	4.11 (0.87)	2.16 (0.46)	2.61 (0.46)
Health status of people (u5mortrate)	-0.17* (-2.89)	-0.23* (-4.25)	-0.17* (-2.55)	-0.22* (-3.76)	-0.18* (-3.96)	-0.16* (-2.93)
Govt expenditure of social services (pseratio)	-0.18 (-1.48)	-1.78 (-1.30)	-0.11 (-0.65)	-0.12 (-0.86)	-0.10 (-0.65)	-0.10 (-0.73)
Interaction term (rta*infra)		-1.07* (-2.12)				
Interaction term (rta*pstratiosec)			-2.79 (-0.33)			
Interaction term (rta*pstratiospri)				3.96* (2.47)		
Interaction term (rta*lftot)					0.25 (1.53)	
Interaction term (rta*rgfcf)						0.18 (1.25)
Summary Statistics						
<i>Adj. R-Square</i>	0.86	0.88	0.85	0.88	0.87	0.86
<i>F-Statistic</i>	18.1	20.1	13.2	19.8	17.9	16.42
<i>Prob(F-statistic)</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Obsevation</i>	27	27	22	26	27	27
<i>Cross sections included</i>	20	20	17	19	20	20
<i>Estimation method</i>	PLS	PLS	PLS	PLS	PLS	PLS

t-statistics are in brackets,

* Indicates significant at the 1% level, ** significant at 5% level and *** significant at the 10% level.

Source: Authors' computations

In deed, improved human development may be hard to achieve in an environment characterised by political instability as witnessed in most African countries for the past few decades.

Moving to the period 1996-2000, the observed pattern of the effect of technical assistance on human development in the early 1990s with mixed results continued (see Table 9).

Table 9: Technical Assistance and Human Development in SSA (1996 -2000).

Dependent Variable: (HDI)	1	2	3	4	5	6
Constant	0.05 (0.16)	0.27 (0.64)	0.53 (2.14)	0.22 (0.62)	0.04 (0.15)	0.33 (0.50)
Stock of human capital (lftot)	0.17 (0.36)	0.09 (0.22)	0.73* (2.67)	0.27 (0.63)	0.30 (0.67)	0.25 (0.47)
Stock of physical capital -rgfcf as %GDP	0.39* (2.57)	0.30 (1.57)	0.17 (1.37)	0.31*** (1.87)	0.39* (2.86)	0.24 (0.72)
Real technical assistance (rta)	-0.02 (-0.12)	0.43 (0.87)	3.94* (4.80)	-1.28 (-1.79)	-0.24 (-1.33)	-0.34 (-0.60)
Infrastructure development (infra)	-0.52* (-2.00)	-0.27 (-0.74)	-0.57** (-1.98)	-0.56* (-2.29)	-0.59* (-2.40)	-0.45 (-1.55)
Political instability (pspr)	-0.17* (-2.19)	-15.44* (-2.14)	-0.23* (-4.38)	-0.15* (-2.07)	-0.17* (-2.36)	-0.17* (-2.13)
Degree of openness (open)	0.29* (4.52)	27.50* (4.39)	0.31* (5.75)	0.27* (4.57)	0.29* (4.92)	0.28* (4.20)
Stock of external debt as % of GNI -(debtsergni)	0.42 (0.09)	0.00 (0.09)	1.65 (0.62)	4.26 (1.14)	-0.17 (-0.04)	1.13 (0.26)
Health status of people (u5morte)	-0.25* (-5.98)	-0.29* (-5.48)	-0.29* (-6.71)	-0.27* (-6.58)	-0.28* (-6.69)	-0.25* (-5.88)
Govt expenditure of social services (pseratio)	-0.29* (-2.84)	-3.00* (-2.67)	-0.31* (-2.73)	-0.26* (-2.58)	-0.26* (-2.65)	-0.26* (-2.56)
Interaction term (rta*infra)		-4.24 (-1.19)				
Interaction term (rta*ptratiosec)			-1.64* (-5.27)			
Interaction term (rta*ptratiospri)				2.54 (1.70)		
Interaction term (rta*lftot)					0.23*** (1.86)	
Interaction term (rta*rgfcf)						0.75 (0.56)
Summary Statistics						
Adj. R-Square	0.88	0.88	0.95	0.90	0.89	0.88
F-Statistic	28.6	26.2	39.4	31.1	29.0	25.01
Prob(F-statistic)	0.00	0.00	0.00	0.00	0.00	0.00
Observations	35	35	23	33	35	35
Cross sections included	21	21	16	21	21	21
Estimation method	PLS	PLS	PLS	PLS	PLS	PLS

t-statistics are in brackets,

* Indicates significant at the 1% level, ** significant at 5% level and *** significant at the 10% level.

Source: Authors' computations

However, the expected positive effect of technical assistance on human development is now significant at 1 percent level. During this period, the relevance of international trade in improving the wellbeing of people is reinforced as the coefficients are generally significant at 1 percent level. Also, the negative effect of political instability on human development became more significant while under-five mortality rate continued to drag down human development in Africa. One puzzling finding from this study relates to the negative and significant effect of

government expenditure on human development. This could mean that in SSA most government expenditures on social services are not yielding desired results to the extent that the more the government spends on social services, the less human development in the region. The role of corruption in this regards can not be overemphasised. Finally, the interaction between technical assistance and quality of instructions at the secondary level became significant at 1 percent level during the period 1996-2000 although with negative sign.

The period 2001-2007 presents a different picture. Table 10 shows that technical assistance coefficients are generally insignificant but with mixed signs. While the signs are negative in models 1 and 2, its effects on human development are positive in models 3, 4, 5 and 6. Degree of openness that was positively significant in the models in the previous periods became insignificant. Infrastructural development is only marginally significant at 10 percent level as can be seen model 4 in Table 10. Yet, health status of people measured by Under 5 mortality rate continues to have negative and significant effects on human development. For the first time, technical assistance interacting with infrastructure became significant at 1 percent level in determining human development in Africa.

Looking at the whole sample period, 1990-2007, results presented in Table 11 depicts that technical assistance had mixed effects on human development similar to results interpreted for other sub-samples. Degree of openness consistent has positive and significant effect on human development while Under 5 mortality depresses human development.

In all, our results depict mixed effect of technical assistance on human development in Africa. However, it was demonstrated that interacting technical assistance with quality of instructions at primary and secondary schools, and infrastructure development can produce desired results of improving human development in Africa. Technical assistance not properly targeted may go into unproductive government expenditures with no or negative effect on human development in SSA. Health status of people must be adequately catered for if SSA's human development rating is to improve in the near future.

Table 10: Technical Assistance and Human Development in SSA (2001 - 2007).

Dependent Variable: (HDI)	1	2	3	4	5	6
Constant	0.30 (1.03)	-0.18 (-0.55)	0.32 (1.04)	-0.05 (-0.15)	0.26 (1.12)	0.05 (0.14)
Stock of human capital (lftot)	-0.22 (-0.88)	-0.44 (-1.33)	-0.20 (-0.43)	-0.32 (-1.21)	-0.24 (-1.62)	-0.36 (-1.23)
Stock of physical capital -rgfcf as %GDP	0.20 (1.55)	0.42* (2.88)	0.19 (1.19)	0.34* (2.49)	0.23* (2.42)	0.34 (1.71)
Real technical assistance (rta)	-0.14 (-0.54)	-0.46 (-1.85)	2.98 (0.73)	2.66 (1.70)	0.11 (0.41)	0.17 (0.40)
Infrastructure development (infra)	0.28 (1.27)	0.08 (0.50)	0.21 (0.63)	0.34*** (1.84)	0.31 (1.87)	0.26 (1.12)
Political instability (pspr)	0.80 (0.11)	2.74 (0.56)	-12.31 (-1.15)	0.59 (0.10)	-1.19 (-0.17)	-0.69 (-0.08)
Degree of openness (open)	0.92 (0.32)	3.73 (1.41)	7.68 (1.26)	3.05 (1.03)	0.10 (0.04)	1.34 (0.40)
Stock of external debt as % of GNI -(debtsergni)	0.70 (0.93)	0.77 (1.39)	1.59 (1.58)	0.75 (1.08)	0.57 (0.78)	0.56 (0.68)
Health status of people (u5mortrate)	-0.17* (-4.18)	-0.16* (-4.38)	-0.15* (-2.13)	-0.12* (-2.23)	-0.15* (-3.92)	-0.17* (-4.11)
Govt expenditure of social services (pseratio)	-0.37 (-0.84)	-0.43 (-1.03)	-0.78 (-1.05)	-0.16 (-0.33)	-0.45 (-1.09)	-0.58 (-1.05)
Interaction term (rta*infra)		1.30* (2.76)				
Interaction term (rta*ptratiosec)			-1.27 (-0.85)			
Interaction term (rta*ptratiospri)				-6.95 (-1.75)		
Interaction term (rta*lftot)					-0.27* (-4.55)	
Interaction term (rta*rgfcf)						-0.75 (-0.93)
Summary Statistics						
Adj. R-Square	0.92	0.94	0.87	0.94	0.95	0.92
F-Statistic	24.0	29.4	9.8	27.9	33.7	20.87
Prob(F-statistic)	0.00	0.00	0.04	0.00	0.00	0.00
Obsevation	19	19	14	19	19	19
Cross sections included	19	19	14	19	19	19
Estimation method	PLS	PLS	PLS	PLS	PLS	PLS

t-statistics are in brackets,

* Indicates significant at the 1% level, ** significant at 5% level and *** significant at the 10% level.

Source: Authors' computations

Table 11: Technical Assistance and Human Development in SSA (1990-2007).

Dependent Variable: (HDI)	1	2	3	4	5	6
Constant	0.13 (-0.51)	0.02 (0.06)	0.14 (0.58)	0.30 (1.00)	0.13 (0.50)	0.21 (0.55)
Stock of human capital (lftot)	-0.42 (-1.34)	-0.44 (-1.37)	-0.26 (-0.80)	-0.31 (-0.93)	-0.46 (-1.48)	-0.40 (-1.19)
Stock of physical capital -rgfcf as %GDP	0.31* (2.24)	0.36* (2.14)	0.29* (2.26)	0.24 (1.64)	0.31* (2.28)	0.27 (1.31)
Real technical assistance (rta)	-0.23* (-2.41)	-0.31* (-2.26)	1.92* (2.45)	-1.36 (-1.69)	-0.28** (-1.92)	-0.32 (-0.80)
Infrastructure development (infra)	0.14 (0.74)	0.06 (0.28)	0.18 (1.08)	0.08 (0.49)	0.12 (0.71)	0.15 (0.78)
Political instability (pspr)	-4.79 (-1.16)	-4.10 (-0.90)	-7.26 (-1.71)	-4.35 (-1.14)	-4.77 (-1.19)	-4.69 (-1.13)
Degree of openness (open)	7.41* (2.99)	8.24* (3.97)	9.31* (3.98)	6.90* (2.92)	7.60* (2.85)	7.25* (2.75)
Stock of external debt as % of GNI -(debtsergni)	0.07 (1.81)	0.07 (1.81)	0.07* (2.27)	0.09* (2.34)	0.07 (1.74)	0.07*** (1.84)
Health status of people (u5mortrate)	-0.19* (-7.25)	-0.18* (-7.43)	-0.18* (-5.84)	-0.21* (-8.13)	-0.19* (-8.38)	-0.19* (-7.20)
Govt expenditure of social services (pseratio)	-0.65 (-1.72)	-0.72 (-1.87)	-0.66 (-1.77)	-0.62 (-1.53)	-0.61 (-1.48)	-0.59 (-1.25)
Interaction term (rta*infra)		6.63 (1.06)				
Interaction term (rta*ptratiosec)			-8.60* (-2.77)			
Interaction term (rta*ptratiospri)				2.43 (1.36)		
Interaction term (rta*lftot)					0.05 (0.49)	
Interaction term (rta*rgfcf)						0.23 (0.26)
Summary Statistics						
<i>Adj. R-Square</i>	0.87	0.87	0.90	0.88	0.87	0.87
<i>F-Statistic</i>	46.7	42.1	40.5	45.2	41.6	41.34
<i>Prob(F-statistic)</i>	0.00	0.00	0.00	0.00	0.00	0.00
<i>Obsevation</i>	63	63	45	61	63	63
<i>Cross sections included</i>	26	26	25	26	26	26
<i>Estimation method</i>	PLS	PLS	PLS	PLS	PLS	PLS

t-statistics are in brackets,

* Indicates significant at the 1% level, ** significant at 5% level and *** significant at the 10% level.

Source: Authors' computations

5. Summary and Conclusions

The relevance of Technical Assistance (TA) for capacity development in developing countries has been a subject of intense debate in the past few decades. While Technical assistance was initially viewed as a process involving the simple transfer of knowledge or organisational models from the developed to developing countries, recent experiences point to the contrary. Given the critical political and social dimensions involved in capacity development, as well as countries' commitments to sustainable capacity development, *new emerging consensus* views capacity development as an endogenous process that needs to be driven from within a country with donors playing a supporting role⁷. Hence, one of the major items on the menu of current debate on global development issues is the need for enhanced capacity Development in order to accelerate progress towards achieving the Millennium Development Goals (MDGs) and other international targets in sub-Saharan Africa (SSA). However, results of efforts in this regards have mixed over the years—growth rates in Africa as a whole and in the respective countries remain far below desired levels, extreme poverty continue to be endemic and majority of African states are still classified as low human development countries by the UNDP. Hence developing countries and even the international development community have voiced their concerns about the development-credibility problem of the current aid architecture in general and the delivery of technical cooperation in particular. Apart from dwindling technical cooperation flows, a larger proportion of this fund is found to be used to service “consultants and experts” working in developing countries. This has consequently cast doubts on the continuing relevance of TC in Africa and has led to increased attention on how to make it more effective.

In this regard, the Paris Declaration on aid effectiveness that derived from HLF1 and HLF2 and the Accra Agenda for Action (AAA-HLF3) have mandated partner countries and the donor community to redirect their collective attention on a more effective delivery of aid and technical cooperation. This re-direction of attention to results-oriented, operational agenda of aid effectiveness has a number of elements that include among others: (i) Greater aid decision making by the partner countries around management arrangements that are increasingly collaborative; (ii) Greater expectations for partner country leadership and ownership of aid, with donors playing a supportive role; and (iii) Greater realization that creating partner country capacity to manage aid is the flip side of the principle of ownership and is key to the sustainability of most development co-operation.

Using panel data for the 49 sub-Saharan African countries, sourced mainly from World Development Indicators (WDI) Online and OECD DAC database for the period 1990-2007, the Freedom House database and the UNDP Human Development Reports, this paper examines the trend and pattern of technical cooperation. Also, the paper examines quantitatively the nature of the relationship that exists between the chosen indicator of development—the human development index (HDI)—and inflow of technical cooperation, incorporating relevant policy, institutional and other development enhancing control variables. In all, our results reveal mixed effect of technical assistance on human development in Africa. However, it was demonstrated that interacting technical assistance with quality of instructions at primary and secondary schools, and infrastructure development can produce desired results of improving human development in Africa. Technical assistance not properly targeted may go into unproductive

⁷ See the Joint Study report on Effective Technical Cooperation for Capacity Development: Ghana Country Case Study, Pp.6.

government expenditures with no or negative effect on human development in SSA. Health status of people must be adequately catered for if SSA's human development rating is to improve in the near future. Further, the results suggest that from aid research point of view, there is the need to examine more critically the different components of aid flows as we have tried to do in this paper, in terms of their effectiveness; as well as focus on the human development impact of aid as opposed to the current practice of investigating the overall growth effect of aggregate aid. This way, research outputs may help to distil the overall impact of the multifarious efforts of multilateral agencies such as the UNDP, the OECD, the non-DAC donors, as well as the different bilateral agencies. This may also help in providing empirical basis in support of the different aspects of the Paris Declaration on aid effectiveness (PD) and the Accra agenda for Action (AAA). In terms of general policy recommendations, the paper suggests that for technical assistance to be *'real'*, reform needs to be anchored in four underlying principles—putting recipient countries in the lead; giving them the freedom to choose their own development path; mutual accountability between donors and recipients; and country specificity.

References

- Addison, Tony, George Mavrotas, and Mark McGillivray, (2005), *Aid, Debt Relief and New Sources of Finance for Meeting the Millennium Development Goals*,” WIDER Research Paper No. 2005/09 (Helsinki, Finland: World Institute for Development Economics Research United Nations University).
- Addison T (ed.). (2003), *From Conflict to Recovery in Africa*. Oxford University Press for UNUWIDER: Oxford.
- Adelman, Carol, (2003). “The Privatization of Foreign Aid,” *Foreign Affairs*, Vol. 83 (6), pp. 9-14.
- Ajayi, S. Ibi, and Afeikhen Jerome, (2002). “Opportunity Costs and Effective Markets,” *Development Policy Journal*, Vol. 2 (Special Issue: Technical Cooperation), pp. 23-46.
- Baris, Pierre & Zaslavsky, Jean, (2001), *Reforming Technical Cooperation for Capacity Development, Review of Statistical Evidence (1969-1999)*, UNDP: New York.
- Akinkugbe, O. (2008). An Overview of Official International Development Assistance (ODA) for Capacity Development in sub-Saharan Africa. *Draft Report prepared for the UNDP RBA, African Human Development Report 2009*.
- Atkinson, A.B., (2005). “The Way Forward,” in *New Sources of Development Finance*, ed. By A.B. Atkinson (New York: Oxford University Press), pp. 238-46.
- Atkinson AB (ed.). (2004). *New Sources for Development Finance*. Oxford University Press for UNUWIDER: Oxford.
- Aryeetey E. (2002). A case for enhanced resource flow to facilitate development and reduce poverty, *Journal of African Economies*, 11: 282–307.
- Barro, R. (1991). Economic Growth in a cross section of Countries. *Quarterly Journal of Economics*, Vol. 106, pp. 407-444.
- Berg, E, (1993), *Rethinking Technical Cooperation: Reforms for Capacity Building in Africa* (New York: United Nations Development Program).
- Berg, E (2002). Increasing the Effectiveness of Aid: A Critique of Some Current Views, Paper prepared for Expert Group Meeting, Department of Economic and Social Affairs, United Nations, Jan 24-25.
- Berg, Elliot. (2000). “Aid and Failed Reform: the Case of Public Sector Management.” In Finn Tarp (ed.), *Foreign Aid and Development: Lessons Learnt and Directions for the Future*. London, UK: Routledge.
- Bhalotra, S. (2007a). Spending to Save? State Health Expenditure and Infant Mortality in India. *Health Economics*, 16(9), pp. 911-928.

- Bhalotra, S. (2007b). Income Volatility and Infant Death, Mimeo, University of Bristol, UK.
- Boone, P (1996). Politics and the Effectiveness of Foreign Aid, *European Economic Review*, 40 (2), pp. 289-329.
- Brautigam, Deborah and Knack, Steven. (2004). "Foreign Aid, Institutions, and Governance in Sub-Saharan Africa." *Economic Development and Cultural Change* 52, January.
- Brautigam, Deborah. (2000). *Aid Dependence and Governance*. Stockholm, Sweden: Almqvist & Wiksell.
- Burnside C, Dollar D. (1997). Aid, policies and growth, *Policy Research Working Paper* No. 1777, World Bank: Washington, DC.
- Burnside C, Dollar D. (2000). Aid, policies and growth, *American Economic Review* 90(4): 847–868.
- Burnside C, Dollar D. (2004). Aid, policies and growth: revisiting the evidence. *Policy Research Paper* No. O-2834. World Bank: Washington, DC.
- Chenery, H.B. and A. Strout (1966). Foreign Assistance and Economic Development, *American Economic Review*, Vol. 66, pp. 679-733.
- Chauvet L, Guillaumont P. (2002). Aid and growth revisited: policy, economic vulnerability and political instability. Paper present at the Annual Bank Conference on Development Economics on Towards Pro-poor Policies, June. Oslo.
- Commission for Africa (2005) *Our Common Interest: Report of the Commission for Africa*, London: Penguin Books.
- Dalgaard C, Hansen H. (2001). On Aid, Growth and Good Policies, *Journal of Development Studies* 37(6): 17–35.
- Dalgaard C, Hansen H, Tarp F. (2004). On the empirics of foreign aid and growth, *Economic Journal* 114(496): F191–F216.
- Devarajan, Shantayanan, David, R. Dollar, and Tony Holmgren, Eds., (2001). *Aid and Reform in Africa: Lessons from Ten Case Studies*, The World Bank, Washington DC.
- De Long, J. Bradford and Barry Eichengreen. (1991). "The Marshall Plan: History's Most Successful Structural Adjustment Program." NBER Working Paper 3899. Cambridge, MA: National Bureau of Economic Research.
- DFID (2006). *How to Provide Technical Cooperation Personnel. How to Note*, June.
- Docquier, F., & Marfouk, A. (2005). *International Migration by Educational Attainment (1990-2000) Release 1.1.*, update of World Bank Policy Research Working Paper 3381, World Bank, Washington DC.
- Dubarry, ramesh, Norman Gemmell, and David Greenaway (1998). *New Evidence on the Impact of Foreign Aid on Economic Growth*, Research paper No. 98/8, University of

- Nottingham, Centre for Research in Economic Development and International Trade, Nottingham, UK.
- Dreher, A., P. Nunnenkamp, and R. Thiele (2006). Does aid for Education Educate Children? Evidence from Panel Data, Kiel Working Paper No. 1200, Kiel Institute for the World Economy.
- Easterly, William (2003). Can Foreign Aid Buy Growth? *Journal of Economic Perspectives*, 17 (3), 23-48.
- Easterly, William (2005). “Reliving the 50’s: the Big Push, Poverty Traps, and Takeoffs in Economic Development.” Centre for Global Development Working Paper 65, Washington DC.
- Easterly, W and Yaw Nyarko (2008). Is Brain Drain Good for Africa? Global Economy & Development Working Paper No. 19, March, Brookings Global Economy and Development, New York.
- Easterly, W, Levine R, Roodman D. (2003). New data, new doubts: revisiting aid, policies and growth. CGD Working Paper No. 26. Centre for Global Development: Washington, DC.
- Edwards, S. (1998). Openness, Productivity and Growth: What do we really Know? *Economic Journal*, Vol 108, pp. 383-98.
- Gomanee, K., O. Morrissey, P. Mosley, and A. Verschoor (2005). Aid, Government Expenditure and Aggregate Welfare, *World Development*, 33(3), pp. 355-370.
- Gounder R. (2001). Aid-growth nexus: empirical evidence from Fiji. *Applied Economics* 33: 1009–1019.
- Gounder R. (2001). An Empirical Investigation of Development Assistance and Growth for the Case of Fiji, *International Journal of Social Economics*, 28 (3), pp. 278-294.
- Gounder R. (2002). Empirical evidence of the relationship between foreign aid and economic growth: the case of the Solomon Islands. In *New Perspectives on Foreign Aid and Economic Development*, Mak Arvin B (ed.), Praeger: Westport.
- Guillaumont P, Chauvet L. (2001). Aid and performance: a reassessment. *Journal of Development Studies*, 37(6): 66–87.
- Gupta, S., M. Verhoeven, and E. Tiongson (1999). Does Higher Government Spending Buy Better Results in Education and Health Care? IMF Working Paper WP/99/21.
- Gupta, Sanjeev, Erik Lueth, and Qiang Cui, (2004). “Is Less Technical Cooperation More? Freeing Resources for the Millennium Development Goals” (draft; Washington DC: International Monetary Fund).
- Gupta, S., Pattillo, C., and Smita Wagh (2006). Are Donor Countries Giving More or Less Aid? IMF Working Paper WP/06/1, IMF, Washington DC.

- Gyimah-Brempong K., and Elizabeth Aziedu (2008). Aid and Human Capital Formation: Some Evidence. Paper presented at the African Development Bank/UNECA Conference on Globalization, Institutions and Economic Development in Africa. Tunis, November.
- Hansen H. (2004). The impact of external aid and external debt on growth and investment. In Debt Relief for Poor Countries, Addison T, Hansen H, Tarp F (eds). Palgrave-Macmillan: London.
- Hansen H, Tarp F. (2000). Aid effectiveness disputed. *Journal of International Development* 12: 375–398.
- Hansen H, Tarp F. (2001). Aid and Growth Regressions, *Journal of Development Economics* 64(2): 547–570.
- Hudson J, Mosley P. (2001). Aid, policies and growth: in search of the Holy Grail. *Journal of International Development*, 13: 1023–1038.
- Japan International Cooperation Agency (JICA) (2008). Joint Study on Effective Technical Cooperation for Capacity Development, Ghana Country Case Study Report, Tokyo.
- Jenks, Bruce & Jeavons, Jessica, (1996). International Development Cooperation: Towards a new World of Partnerships, the Courier ACP-EU, No 156, March-April 1996:pages 65-66, DG Development.
- Karas, G. (2006). Foreign aid and Long-Run Economic Growth: In search of the Holy Grail, *Journal of Internal Development*, 18(1), pp. 15-28.
- Lensink R, Morrissey O. (1999). Uncertainty of Aid Flows and the Aid-Growth Relationship, CREDIT Research Paper, No. 99/3, University of Nottingham, UK.
- Lensink R, Morrissey O. (2000). Aid instability as a measure of uncertainty and the positive impact of aid on growth. *Journal of Development Studies*, 36(3): 31–49.
- Lensink R, White H. (2000). Assessing aid: a manifesto for the 21st century? *Oxford Development Studies*, 28(1): 5–18.
- Lensink R, White H. (2001). Are there negative returns to aid? *Journal of Development Studies* 37(6):42–64.
- Levin, R. and D. Renelt (1992). A Sensitivity Analysisi of Cross Country Growth Regressors, *American Economic Review*, Vol. 82, pp. 942-63.
- Levy, Brian and Sahr Kpundeh, (eds.). 2005. *State Capacity in Africa: New Approaches & Emerging Lessons*. Washington, DC: World Bank Institute.
- Lise Rakner, Nicolas can de walle, and Dominic Mulaisho (2001). “Zambia”, in Devarajan, Shantayanan, David, R. Dollar, and Tony Holmgren, Eds., *Aid and Reform in Africa: Lessons from Ten Case Studies*, The World Bank, Washington DC, Pp. 533-623.
- Lu S, Ram R. (2001). Foreign aid, government policies and economic growth: further evidence from cross-country panel data for 1970 to 1993. *International Economics* 54: 15–29.

- Michaelowa, K. and A Weber (2006). Aid effectiveness Reconsidered: Panel Data Evidence from the Education Sector, Hamburg Institute of International Development Working Paper No. 264.
- Mkandawire, T. (1998) 'Thinking about Developmental States in Africa', Paper presented at UNU-AERC Workshop on 'Institutions and Development in Africa', UNU, Tokyo, October.
- Mishra, P. and Newhouse (2007). Health Aid and Infant Mortality, IMF Working Paper No. WP/07/100. Washington DC, April.
- Moral-Benito E. (2009). Determinants of Economic Growth: A Bayesian Panel Data Approach, World Bank Policy Research Working Paper No. 4830, February, World Bank, Washington DC.
- Mosley, P., J. Hudson and A. Verschoor (2004). Aid, Poverty Reduction and the New Conditionality, *The Economic Journal*, 114, F217-F243.
- Morss, Elliot (1984). Institutions Destruction Resulting from Donor and project Proliferation in Sub-Saharan African Countries, *World Development* 12, No. 4, Pp. 465-70.
- Moss, Todd and Arvind Subramanian. (2005). "After the Big Push? Fiscal and Institutional Implications of Large Aid Increases." CGD Working Paper 71. Washington, DC: Center for Global Development.
- Moss, Todd, Gunilla Pettersson, and Nicolas van de Walle (2006). An Aid-Institutions Paradox? A Review Essay on Aid Dependency and State Building in Sub-Saharan Africa, Centre for Global Development, Working Paper Number 74, January. www.cgdev.org
- New Partnership for Africa's Development (NEPAD) (2008). Briefing on the NEPAD Capacity Development Initiative and Strategic Framework (CDSF), NEPAD.
- OECD DAC (2005). 'Paris Declaration on Aid Effectiveness: Ownership, Harmonisation, Alignment, Results and Mutual Accountability', OECD High-Level Forum, Paris, 28 February – 2 March.
- OECD (2006). Technical Cooperation : its role in capacity Development, OECD Issues paper, Istanbul, 12-13, October, www.oecd/25/57/37823356.pdf
- OECD (2008). "Capacity Development in Broad Strokes: Accra and Beyond", Thinking About Capacity on the Road to the Accra HLF, www.oecd.org/dac/governance/capacitydevelopment
- OECD/DAC (2008). "Accra Agenda for Action", 3rd High Level Forum on Aid Effectiveness, September 2-4, Accra, Ghana, www.oecd.org/dac/dataoecd/11/15/41380264.htm
- Olowu, Dele (2005). Rebuilding African State Capacity for better Governance and Sustainable Development, Draft Report, Governance Division, African Development Bank.
- Pedroni, P., "Critical Values for Cointegration Tests in Heterogeneous Panels with Multiple Regressors", *Oxford Bulletin of Economics and Statistics*, 1999, Vol. 61, pp 653-70.

- Ram R. (2004). Recipient country's 'policies' and the effect of foreign aid on economic growth in developing countries: additional evidence. *Journal of International Development* 16: 201–211.
- Sala-i-Martin (1997). I just ran two Million Regressions, *American Economic Review*, Vol. 87, pp. 178-83.
- South Centre (2008). Reshaping the International Development Cooperation Architecture: Perspectives on a Strategic Development Role for the Development Cooperation Forum (DCF). Draft Report, 15 January.
- Stephen Lister and Michael Stevens (1992). *Aid Coordination and Management*, World Bank, Washington DC.
- United Nations Development Group (UNDG), (2005), *Paris Declaration on Aid Effectiveness*.
- UN Millennium Project, *Millennium Project Report (2005): A Practical Plan to Achieve the Millennium Development Goals* (New York: United Nations).
- United Nations Economic Commission for Africa (ECA) (2009). *Economic Report on Africa 2009. ECA and the African Union*, Addis Ababa.
- UNCTAD (2008). *Handbook of Statistics 2006/2007*, UNCTAD, Geneva.
- Verschoor, A. and A. Kalwij (2006). Aid, Social Policies and Pro-poor Growth, *Journal of International Development*, 18 (4), pp. 519-531.
- World Bank (1997). *World Development Report, 1997*, World Bank, Washington DC.
- Wall, H. J., "Gravity Model Specification and the Effects of the Canada-US. Border", *Federal Reserve Bank of St. Louis Working Paper Series*, 20000-024A, 2000, St. Louis.
- Wohlmuth, K., (2005) *African Development Perspective Yearbook: Escaping the Primary Commodities Dilemma*, Vol. 11, 2005, VERLAG Munster – Hamburg – London.
- World Bank, *World Development Indicators*, (2009), retrieved from <https://publications.worldbank.org/register/WDI2009>
- World Bank (2005). 'Building Effective States, Forging Engaged Societies', Report of the World Bank Task Force on Capacity Development in Africa, Washington, DC.
- World Bank and IMF (2006). *Global Monitoring Report: Strengthening Mutual Accountability – Aid, Trade and Governance*, Washington, DC: World Bank and IMF.
- World Bank (2008). *Global Monitoring Report (GMR)*. World Bank, Washington DC.